Michael Altorfer – CEO, Swiss Biotech Association



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19.04.2021

Tags: Switzerland, Swiss Biotech, Biotech, Association, Investment, European Biotech

Michael Altorfer, CEO of the Swiss Biotech Association, a membership organisation representing the interests of the Swiss biotech industry, discusses the evolution of the biotech sector in Switzerland, how the country's ecosystem has helped foster success stories like Actelion, and the multilateral work being done to improve intellectual property protection in China and the rest of the world.

Swiss Biotech works to secure favourable framework conditions and facilitate access to talent, novel technologies, and financial resources for the biotech sector. What type of companies are you interested in representing and supporting?

Our focus is not only on companies that develop their own products and technologies, but on the entire ecosystem, including the CROs, CMOs, highly specialized advisors, and investors in the field. A tightly knit network of specialists that operate outside of Big Pharma companies has surged in number. They now generate the majority of new products that are developed in life science. Pharma companies remain an important partner of that ecosystem because they are the powerhouses when it comes to global commercialization and distribution.

Many of the products that need to reach patients and practitioners around the world require these huge distribution networks that, typically, biotech companies do not build themselves. Collaboration is key because all investors in biotech count on that logic, that products that have been successfully developed and need to get market approval can use the network and

partnerships to bring the products to patients. It is where the money will be generated. Of course, sometimes, early acquisitions or selected licensing deals may generate revenues at an earlier stage, but the normal value creation comes with market approval and global distribution.

The Swiss Biotech Association is 23 years old. When was this approach of dealing with the entire biotech value chain first put in place and what is the status of Switzerland's biotech ecosystem today?

In the big picture, the original term "biotech" started back in the 1970s when companies like Amgen and Biogen were created and offered up antibodies and proteins that could become drugs. That was revolutionary at the time as the beginning of a new type of drugs, but it was also the beginning of something happening outside of Big Pharma. It was the first recognition that innovation can come from the outside.

Naturally, over the course of the next 20-25 years, we saw the emergence of collaborations like the Roche-Genentech alliance, which has worked very much to the benefit of both sides. This has been predominantly due to Roche being smart enough not to try to integrate Genentech into the way of working of Big Pharma, but rather keep innovation flowing, based on science, agility, and on the realization that we are talking about a number of different types of modalities. Whether it is ultimately a small molecule, a peptide, a DARPin, or an antibody, it really does not matter as long as it does its job to address medical need.

Today, we can add gene editing and cell-based products to this diverse toolbox that can be used to generate new therapies and solutions for patients. During those years, we started to first see Big Pharma companies willing to partner on the early stage of development, in the preclinical side.

Personally, I was involved in that process because I was working at Polyphor at the time, one of those companies that offered Big Pharma the opportunity to work together in hit to lead (H2L) optimization, oftentimes working in projects where there was no IP filed yet. The pharma companies were very cautious initially because not having protected IP was a sensitive situation and, like everyone else, they wanted to work with trusted partners only. All of this has evolved over the last 20 years; it has become very much a standardized process where pharma and external partners work together.

Some of the external partners have specialized in the CRO and CMO roles, some are mixed in the sense that they offer a new technology that they develop themselves but also offer it to Big

Pharma companies and other biotechs to collaborate.

That is why, when we look at the external innovation hub, we really do not limit ourselves to just the companies that develop their own portfolio. There are a number of interesting CROs and specialists with mixed business development structures.

In Switzerland, there are a host of organizations with around 20-25 years of existence which correlates with that change and emergence of a new industry.

It is interesting to observe those new companies because there are different ways in which new biotech companies can start. The classic origin story is to spinout from a university, but, particularly in Switzerland, several companies were founded somewhere else but moved to Switzerland to benefit from the ecosystem. If you want to be a biotech, at least half of your activity is happening outside of your company. You do activities in alliance with specialists, whether it is on the intellectual protection (IP) side, the CMC (Chemistry, Manufacturing and Controls) side, analytics, animal studies, or pre-clinical studies. The money invested goes to the company, but it is spent inside of the ecosystem.

The number of biotechs has grown in line with the number of suppliers and specialists and we now have a global system that recognizes these two spheres: the Big Pharma world and the external innovation hub. Many of the suppliers work with both.

In any given year, 30 to 40 new biotech companies are started in Switzerland. It is a number that not only includes biotechs but also new emerging technology providers such as artificial intelligence (AI) companies.

The Swiss are very proud of their health technology assessment (HTA) system but how good is Switzerland on translational science?

It is definitely one of our main strengths and Switzerland has invested in this area for many decades. This investment has come via big investments on the university side into both the education of talent in our field and academic research activities. From the start, the Kommission für Technologie und Innovation (KTI), now called Innosuisse, has always focused on fostering public-private parentships as the main driver through which the government is supporting and encouraging this translation of early, sometimes basic, research into applications that can be used by the industry. This transfer is almost exclusively happening through this public-private partnership forum.

The Swiss government does not want to interfere in the market and fund new emerging biotechs by itself. The model that Switzerland has followed has been very powerful and has engaged the private sector so they can play an active role. There has been an emergence of foundations and supporting organizations that cater to start-ups.

You mentioned 30 to 40 new biotech ventures being started per year. With such a number for a relatively small country, is there a shortage of mentors and talent for companies that might be eager to invest in the field?

No, I feel that this is an adequate order of magnitude. Looking at the overall picture, we have about 1,000 biotech companies in Switzerland. Out of them, about a third develop their own R&D portfolio, another third work in operational support and the remaining third are on brain and money.

We have about 350 R&D biotech companies in Switzerland and they alone increased their workforce by about 15% during the last three years. Over the same period about 100 new biotech companies were founded which corresponds to an increase of roughly 10%. This is not an exponential but sustainable growth and an expansion that we had been able to support with talents formed in Switzerland and talents that moved to Switzerland from all regions of the world.

If we look at the other side of the value chain, the Swiss biotech hub is also delivering a steady flow of larger M&A and licensing transactions.

While some clinical-stage companies are acquired by multi-national pharma and biotech companies an increasing part of the value creation is retained inside the industry which allows companies to grow. Some of them, like Helsinn, Debiopharm, Idorsia, Vifor or Sintetica, are developing an independent life and a situation where they can fund themselves independently. The tight collaboration between biotech and pharma companies remains however vital as there are dozens of others that are developing products that they know for sure they want to license and partner before they reach/enter the commercial phase.

The J&J-Actelion transaction, for example, has been meaningful in many different ways. It has shown that biotechs can generate tremendous value and be fast and diligent in building their own sales force. It was a classic situation where the acquirer was really interested in only some part of the company. J&J was not so eager to acquire the development and research side since they already have a global R&D organization. In this case, the biotech company was able to identify the

true interest and value it appropriately, carving out what the acquirer did not really want. The Idorsia spinoff is an example of how to retain innovation power that otherwise may have been lost and was an excellent transaction where a smart analysis of true interest was made.

What makes Switzerland the best environment for today's biotech start-ups?

Switzerland is one of the few biotech hubs that is very diverse and complete in its positioning. Looking at indication-specific research or different modalities, you will find activities, companies and research groups in all of them. The Swiss mentality is always combined with the international collaboration models; that makes the country special.

I always like to quote one of the general managers of a multinational company that has its headquarters in Switzerland; he says that they have tried internationalise their business from other countries before, but always struggled with the fact that the local market took up a disproportionate amount of attention and resources. However, the Swiss market does not serve as a distraction because, from a commercial standpoint, it is relatively small.

The country is poised to be successful on international collaboration. That is why, for many decades, it has kept an open mind. There is a continued interest in collaborating with everybody, whether in Asia, South America, Africa, or any other place.

Switzerland is one of the first European nations to have a bilateral agreement with China, we are closing an agreement with Indonesia, and we continue to have negotiations all around the world. We enjoy a good relationship with the US, UK, and although at times it can be difficult, the European Union.

It is really all about the reliability of processes and long-term sustainability. We cannot be in quick wins; we need to build on something that is sustainable and helps us to be strong in the future. That is why we always look at forward-looking indicators, one is the emergence of new companies, and the other is our patent portfolio. Last year we looked at the combination of biotech and AI patents as an indicator. The third indicator is related to the manufacturing side, understanding if we can manage these new modalities.

It is great that we have seen tremendous investments from Biogen, CSL Behring, and Merck, just to name a few. Of course, we are happy about Lonza, Novartis and Roche, but also about international companies that choose the country as a manufacturing hub.

Yes, you can build manufacturing in other places, but it can become challenging when you are not certain that you will have power, water, infrastructure, supply of talents or a stable political environment. That being said, Switzerland still needs to rely on talent and support from other countries.

With new capital investments coming from China and worry about IP protection, do Swiss companies need to develop a collective Asia strategy?

I believe that there are two elements to that question, the first one being the global framework of IP protection, the process of gaining new market approvals, and the second being the exclusivity and what happens during commercialization.

From the perspective of Switzerland, we work together with international biotech associations, often discussing those topics. From our conversations, I can say that it is evident that we have a common interest, we want to align the rules and terms around the world; nobody has an interest in having a different approval process and system in each country or uncertainty regarding the number of years of market exclusivity or how long patent protection will work.

The more we talk to Asian partners, the more they realize the logic and power of this system because, ultimately, if investors are not sure that if you have a successful product, you can also generate a return that is so substantial that allows you to deal with the attrition rate and the failed projects, then no one will invest. In my view, Chinese companies and the Chinese government are starting to recognize the importance and value of IP protection; I believe and hope that it is a transition period.

To answer the second point, yes, we need to develop a joint and open approach towards emerging partners. We are open to fostering exchange between partners. It is not that we are trying to organize an artificial system, we are trying to bring partners together.

As Asian partners establish themselves, growing and expanding their capabilities, the nature of what they offer and look for will change. Likewise, on our side, we will become more familiar with the opportunities that arise from this change.

It is a huge opportunity for us because Switzerland has always been looking left and right to partner. We, as an association, are helping them build platforms for this exchange, encouraging them and expressing the interest in collaborating.

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