

25 Jul 2022 | Analysis

'One Nation, One Cluster': The Unique Swiss Biotech Industry

by Ayisha Sharma

Offering a challenging but blossoming free market model, strong academic institutions and an excellent track record in patents, the Swiss Biotech industry is one to watch.

While [Novartis AG](#) and [Roche Holding AG](#) are the names that spring to mind when thinking of Switzerland, Swiss Biotech Association CEO Michael Altorfer argues that big pharma is just the tip of the iceberg.

The Swiss Biotech Association mostly represents start-ups and small and medium enterprises. "Switzerland has everything a young firm needs to do R&D ranging from strong universities and academic talent, specialized CROs, big pharma partners and global leaders to manufacturing and quality assurance capabilities across all sorts of modalities," Altorfer told *In Vivo* at the France Biotech conference on 7 July.

Indeed, Switzerland's major research centers are based in Basel, Geneva and Zurich and are all close to each other, making it easy to access expertise and services. "We often say we are one nation, one cluster because of this," Altorfer said.

The country also boasts a strong innovative spirit as reflected in its patent successes. Switzerland has the highest biotech patent market coverage in the world, a measure the number of countries for which protection has been obtained and their relative market importance, according to the Swiss Biotech Report 2022. Indeed, given the small size of the domestic market, the majority of Swiss firms conduct R&D with a view to commercialization and launch in other countries.

However, when it comes to investment, the Swiss government is rather standoffish and dedicates its funds to basic research and public-private partnerships rather than to biopharmaceutical firms themselves, Altorfer said. For instance, the Swiss National Science Foundation (SNSF)



ALTORFER HAS OVER 20 YEARS OF LIFE
SCIENCE EXPERIENCE

operates on
a

government mandate and supports academic research across a number of disciplines including medicine.

The lack of direct government support means businesses are challenged to be robust enough from their inception to prevail in the global market, Altorfer explained. “It’s a free market system that we’re pushing supported by strong collaborations with academic research groups, which is embedded in the successful public-private partnership model,” Altorfer said. The government’s innovation agency, Innosuisse, facilitates public-private partnerships by paying funds to academic partners meant to complement investment provided by biotech firms.

However, the process of translation between basic research and the intermediate stages of product development is yet to be streamlined. Florian Fisch, science editor at SNSF, said in the report: “It comes

down to the perennial problem of how to make scientists in academia and industry talk to each other.” He added formalized pathways must be established to allow for these conversations.

Despite these challenges, the Swiss Biotech industry saw a record-high revenue figure of CHF6.7bn (\$6.79bn) last year, the report highlights. The uptick was mainly driven by an increase in product sales, favorable one-time events from collaboration and licensing deals and general pipeline advancement.

Paving The Way For Personalized Medicine

There are several cases of Swiss Healthtech firms that have successfully developed and marketed their products. Lausanne-headquartered [SOPHiA Genetics SA](#) combines machine learning with patented algorithms to call, annotate and pre-classify variants from raw next-generation sequencing genomic data. Its patented platform is now used in more than 1,000 hospitals across dozens of countries. (Also see "[SOPHiA Genetics Combines In Vivo And In Vitro Cancer Analyses With Enhanced AI Platform](#)" - Medtech Insight, 24 Jan, 2018.)

Recently, SOPHiA worked with Italy’s Bambino Gesù Children’s Hospital to design an integrated solution for the analysis of genes associated with renal pathologies, which the hospital lab uses to process thousands of samples yearly. “SOPHiA focuses on the question of what is the best

possible treatment for a distinct individual based on the analysis of their genome and thus demonstrates Swiss capability in personalized medicine, which is a growing trend globally,” Altorfer said. SOPHiA’s multi-model datasets have the potential to improve diagnosis, therapy selection, analysis and drug development, he added.

One To Watch

On the biotech side, Swiss firms are in tune with the global popularity of precision medicines. Notably, designed ankyrin repeat protein (DARPin) technology was conceived by scientists in Zurich and is now under development by [Molecular Partners AG](#). DARPins are comprised of small, easily expressed artificial proteins that can bind to a range of antigens and could offer benefits over monoclonal antibodies. Following initial support and funding from Innosuisse, Molecular went public on the NASDAQ in 2021.

The firm has also cinched a collaboration with Novartis to develop, manufacture and commercialize its DARPin candidate, ensovibep, for COVID-19 treatment with a focus on non-hospitalized patients. (Also see "[Novartis and Molecular Partners’ Ensovibep Flunks In ACTIV-3 In Hospitalized COVID-19 Patients](#)" - Scrip, 17 Nov, 2021.) Jan Lucht, biotechnology head at trade association Scienceindustries, said in the report this collaboration demonstrates how the competencies of a small Swiss biotech firms complement the extensive research resources and broad experience of big pharma companies.