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## NTN Swiss Biotech A Look at Support Measures for Dynamic Start-ups

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**Abstract:** The Swiss biotech landscape seems to be on a healthy footing: There are many imaginative start-ups, we have first-class hospitals, highly advanced clinical research and the availability of a great deal of capital. But we have no reason to rest on our laurels as countries like the USA lead the field. We must lay down the tracks today to remain an attractive country and maintain our ranking among the 10 best locations.

**Keywords:** NTN Swiss Biotech · Red biotechnology · Start-up

Let's face it: We are not the star performers we like to think we are in the biotech domain. Experts believe that in Europe it takes much longer to launch a product of red biotechnology on the market than in the USA. In the highly fragmented European market companies are confronted with various authorities and have to overcome numerous regulatory hurdles.

### We have to compare ourselves with the best

To have one foot in the door, swissnex in Boston acts as a nexus for knowledge exchange devoted to connecting Switzerland and North America in science education, art and innovation. "Driven by the innovation ecosystem in Boston, start-ups often have their origins in institutions like MIT, Harvard University or Boston University among many others. For example, postdocs at MIT receive entrepreneurial training in order to bring their research to market in the form of a start-up", explains Dr. **Felix Moesner**, Consul and CEO. Among the accelerator programmes, MassChallenge has found an extremely successful way to bring start-ups from Boston and around the globe together for a four-month boot camp. "A record 2225 start-ups from all over the world applied to the MassChallenge 2015 programme, and 218 finalists have been chosen for their campuses in Boston and London. They include seven Swiss start-ups!" The secret: unlike other accelerator programmes, MassChallenge does not take any equity, and no strings are attached for the participating start-up. They can draw on a rich pool of mentors and VC organizations. Felix Moesner takes stock: "Once again mature start-ups find an excellent environment at Lab Central (shared laboratory space) or CIC (among the world's largest co-working spaces). At swissnex Boston we also offer two programmes for Swiss start-ups: the US Market Entry programme (supported by The Commission for Technology and Innovation CTI) and the Venture Leaders programme."

### Tailor-made Start-up Support

Let's return to the bend in the Rhine where the BASEL INKUBATOR sets a good example by actively bringing together young enterprises in their set-up phase. This is a joint initiative of the University of Basel, the University of Applied Sciences and Arts Northwestern Switzerland (FHNW), Erfindungs-Verwertung AG EVA and AWA (Office of Economy and Labour) Basel. The initiative addresses product-oriented young entrepreneurs in the high-tech segment from natural sciences, medicine, computer and engineering sciences. Mentoring and coaching provided by experienced professionals help the soon-to-be managers, for instance, to prepare presentations, draw up a financial plan and grow and develop their unique business concept. It is not about having experts do the arduous work instead of the company founders, but rather showing them how to set up their start-up themselves. For this purpose, BASEL INKUBATOR offers workspaces and laboratory places on favourable terms.

BASEL INKUBATOR is complemented by EVA – the Basel life sciences start-up agency that builds a bridge between research, business ideas and the market. Besides private investors, the Basler Kantonalbank and the Basellandschaftliche Kantonalbank are the major shareholders in this private enterprise, which has been supporting start-ups since 1996. EVA is especially interested in helping start-ups bring research results and technology developments to market maturity, commercialise intellectual property and protect it against copycats and, last but not least, establish young enterprises and accompany the start-up phase. With its relationship network, EVA is a competent partner for projects in chemistry, biotechnology, molecular biology and medicine and even high-tech applications in nanotechnology.

Financial assistance is provided by the BioValley Business Angels Club (BioBAC), which attracts private investors and offers them interesting participation opportunities. BioBAC evaluates the management team, market opportunities and the growth potential stage as well as other factors.

### Three 'Hats', but One Single Strategy

The driving force behind these support actions is Dr. **Peter E. Burckhardt**, CEO of EVA and BASEL INKUBATOR and simultaneously president of BioBAC, someone who is fully motivated to give start-ups a helping hand. "The first steps are challenging for a young enterprise in life sciences because of the complex structure that demands different skills, the considerable systemic risk and the massive financial requirements", explains Peter Burckhardt. "That's why EVA offers coaching and an efficient network and grants start-up funding." Since 1996, EVA has founded 32 companies, 22 of which are still active, while 12 are part of the EVA portfolio. Also the BASEL INKUBATOR has proved successful, particularly at the University of Basel and the FHNW where 25 start-ups are located. And Peter Burckhardt has a knack for finding investors: "Start-ups in Life Sciences are firmly anchored in the Basel Region. We have about 30 members, who have invested 50 million Swiss francs recent years", he proudly comments. "We certainly look for innovative and suitable companies. But for good projects sufficient capital



In a CTI project, the start-up Insphero AG developed an innovative plastic sheet to produce tissue and to drive forward production methods for microtissues of liver, heart, brain, and kidneys. Insphero is today a leading supplier of 3D microtissues for *in vitro* drug testing. Photo CTI.

is always available.” He already has ideas on how to attract even more investors: “A more attractive tax environment would be helpful”, he admits. “We could also support young entrepreneurs with appropriate loans to cover their wage bill and ensure that the investors’ capital goes directly into development activities.”

## The Best Brains from Academia and Industry

For many years, the biotechnet Switzerland – which together with the Swiss Biotech Association has managed the CTI-supported NTN Swiss Biotech since 2013 – has been a well-functioning network in Switzerland that benefits research institutions and industrial partners. It relies on innovation to ensure that Swiss biotech remains internationally in the frontline of excellence. The scientists within this network are specialists in removing bottlenecks or solving problems in biotechnological processes with their biotech excellence and expertise. As Prof. **Daniel Gygax**, President of biotechnet Switzerland explains: “The network and its members from academia are very committed to collaborating together with start-ups, especially in the domain of drug discovery, as these companies are increasingly placed in the role of innovation drivers within the biotech ecosystem.” Biotechnet is a one-stop shop for innovation biotechnology, as explains Daniel Gygax: “Companies can benefit from a wide spectrum of services of research and development, including networked research projects, consulting on bioprocesses and product development and gaining access to state-of-the-art technologies.”

But start-ups have to withstand harsh environments, according to **Zaki Sellam**, Founder and CEO of Avicenna Oncology GmbH, a start-up dedicated to the development of a new generation of antibody drug conjugates (ADC) toxic payloads. These ADCs combine the principle of targeted therapies using highly specific antibodies that carry a toxic small molecule payload to a desired target, *e.g.* a cancer cell, such that the cancer cell is specif-

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4-Antibody – Agenus in Basel has a powerful fully-human antibody drug-discovery technology platform, generating an emerging pipeline of antibody therapeutics focused on immuno-oncology. The company carries the ‘CTI Start-up Label’. Photo 4-Antibody.

ically killed by the toxic payload, upon binding and internalization of the ADC into the cancer cell. "The main restrictions today are the regulatory constraints, which make the development of therapeutic programmes within biotech increasingly expensive." In addition to the difficulties in accessing seed funding, they have been dealt a severe blow with the expulsion of Swiss start-ups and SMEs from the research programmes of Horizon 2020: "It's extremely frustrating for a dynamic young company like ours not to be able to assume project leadership. This makes it very difficult for us to fully profit from such global opportunities for collaborations with the best players in our field." Fortunately, BASEL INKUBATOR is on hand: "Peter Burckhardt and his crew give us great support", comments Zaki Sellam, who has himself supported several biotech start-ups from their creation to their financing and partnering activities. "We also believe in the real benefit of CTI and biotechnet, but to date we have not asked them for assistance." With years of professional training in France, he can make comparisons with Switzerland: "In France, which manages to stay ahead of other countries in this respect, start-ups have access to non-dilutive and institutional seed funding, but these financings are usually associated with many constraints that prevent a healthy efficient development of the companies. By contrast, start-ups in Switzerland can grow efficiently with far fewer constraints, although there is a lack of seed funding."

### Forging Effective Partnerships

The NTN Swiss Biotech works closely together with the Swiss Commission for Technology and Innovation (CTI). True to its motto –'It's better to be active than on a government-fed drip' – the CTI uniquely examines the bottom-up proposals of a team comprising an academic and an industrial partner in respect of its value-added and technological content and provides financial support, giving responsibility to the industrial partner. But this support is far from a 'home game' as companies must have a strong international focus.

The 'Life Sciences' domain of the CTI falls within the competence of Prof. **Beda Stadler**, former Director of the Institute for Immunology of the University of Berne. The exclusion of Switzerland from Horizon 2020 prompted him to intervene at the level of the Federal Council, in order to allow the CTI to take supportive measures. "The CTI is not allowed to support companies

within Switzerland. But when Brussels is involved, the money is available!" He also has his specific viewpoint regarding non-tariff barriers, mentioned in our article 'High Added Value – but many Stumbling Blocks along the Way: NTN Biotech Identifies where the Shoe Pinches' on page 113 of this issue. "Such barriers to trade are often created for the competitors or in response to the wishes of consumers", Beda Stadler says. "The Non-Governmental Organizations (NGOs) were part of the group and in the front row, for instance, with the evidence that the use of child labour is excluded for production."

### A Glimmer of Light on the Horizon?

But is the CTI aware of the fact that today's economic environment is not only marked by increasing global competition but – above all – by intensified regulation and thus growing cost pressure? "The CTI is well aware of the situation", admits Beda Stadler. "But for the time being rapid modifications are not to be expected." Today, the CTI is enjoying great popularity as an efficient partner for innovation: the R&D projects are constantly growing, the start-up sector is expanding, know-how and technology transfer is paying off and international competencies are increasing. "The change from CTI to INNOSUISSE, with – hopefully – more self-responsibility on a new legal basis, is expected soon", says Beda Stadler with quiet optimism. "As a result, new financing opportunities could be within our grasp. But this may need a certain pressure from industry. One could conceive of a scenario where start-ups join forces with associations and politicians to exert direct pressure on the government. This procedure may be more successful than attempts from inside the CTI."

Note: The interviewees have reviewed and accepted all statements made in the interview.

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