

Conference Report

Swiss Biotech Day, 24./25. April 2023

Promoting Industrial Biotech through the Swiss Biotech Association

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1. Introduction

As part of its support for industrial biotech in Switzerland, the Swiss Biotech Association convened an excellent panel of experts from across the industrial biotech value chain at its annual Swiss Biotech Day in late April. Moderated by David Lyon from Pheida, the panel included senior representatives from investors, engineering companies, and consumer-facing companies.

Panel Members:

Vivek Dogra, Venture Partner, European Circular Bioeconomy Fund (ECBF); **Erika Georget**, Managing Director, ERIDIA GmbH; **Susanne Heldmaier**, Strategic Lead Basic Research and Technical Innovation, Mibelle Group; **Peter van Gelderen**, General Partner, Icos Capital



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2. Key Messages

The panel shared their experience and perspectives on the potential of industrial biotech in various sectors including chemicals, plastics, food, textiles, mining, energy, *etc.* There was a particular focus on what was needed for Switzerland to become an industrial biotech powerhouse in the same way as it is in ‘red’ biotech.

Switzerland is one of the global centers for medical biotechnology and is rated as one of the strongest countries for innovation, but industrial biotech has not taken off compared to other countries such as the Netherlands or Germany.

The discussion highlighted several key challenges and opportunities including:

2.1 Switzerland already has world-leading know-how and world-class companies in some industrial biotech sectors.

Aside from its globally recognized pharmaceutical companies, Switzerland already has market-leading companies in the fragrances, flavoring and food industries, as well as in the manufacture of critical small molecule APIs for the pharma industries.

The panel emphasized several particular technology strengths in Switzerland that are already being exploited commercially and that should be encouraged including specific products (*e.g.* cultured meat, specialty chemicals) as well the recovery and purification of substances from natural sources processes.

2.2 Innovation remains a key competitive advantage for Switzerland but Europe is falling behind China.

For its size, Switzerland probably has more top ranked universities than any other country and is regularly rated as one of the top few countries in the world for innovation.

Like many companies in other countries in Europe, Swiss companies have however been progressing development and manufacturing activities in Asia in order to benefit both from lower costs and access to large scale markets (as experienced by generics in pharmaceuticals).

Switzerland can respond to this trend by emphasizing the success of licensing-out models (as demonstrated by red biotechnology) that can be replicated in industrial applications. Furthermore, the deep know-how of existing industrial processes and products can be used to consider drop-in solutions (*e.g.* bioplastic vs. petrochemically based plastics) and then extending these to new applications and uses.

2.3 The environmental agenda is creating opportunities but the economics must work.

Industrial biotechnology reduces the environmental footprint and underpins the creation of a circular economy.

The panel was, however, clear that despite the potential environmental benefits of industrial biotech, it can only be developed and adopted if it offers financial benefits as well. The Swiss industrial biotech community can build a world leading position by integrating a long-term consumer trend for lower environment footprints (*e.g.* through LCA, carbon footprinting) with ensuring products are cost competitive. There is a potential to share experience in integrating environmental drivers into investment decisions and encourage communication and influence of NGOs or consumer organizations.

2.4 Investment in and shared access to enabling infrastructure would deliver significant benefits.

The Panel also highlighted the importance of identifying and communicating the need for key enabling infrastructure such as appropriate piloting facilities (such as those that exist in the Netherlands or Belgium) and building on the use of capacity in neighboring countries (*e.g.* Italy, Germany). At the simplest level, improving awareness of what infrastructure and resources are available and how to access them would help reduce the barriers to testing and scale-up, especially for smaller innovative companies.

2.5 Industrial biotech needs the investor strength and depth that red biotech has in Switzerland.

The Swiss pharma industry is globally recognized as a source of investment opportunities. The Swiss Biotech Association itself has a list of over 200 investors interested in Swiss ‘red’ biotech, but only a tiny fraction of these are interested in or capable of accessing opportunities in industrial biotech. Even those investors that are interested are often only interested in a subset of the opportunists (e.g. related to food) or a very specific stage in the business development.

Moreover, the risks in industrial biotech are very different and, unlike medical or ‘red’ biotech do not follow a common development pathway with well recognized milestones and so specific knowledge is often needed to assess the risks. There are investors around the world that are interested in industrial biotech – there is therefore a twin challenge of educating them as to the potential in Switzerland and ensuring that Swiss based investors can see the attractions in the sector.

2.6 Strengthening the ecosystem and network for industrial biotech in Switzerland should be a priority.

There is a wealth of experience and know-how in the industrial biotech community in Switzerland to be found in academia, major corporates and innovative start-ups as well as other key stakeholders.

The knowledge is, however, fragmented and valuable success stories or painful lessons are not shared. For example – large companies are not always aware of critical innovations, small companies do not know their market and investors may not be able to access expertise for due diligence or to strengthen management teams.

Improving awareness and communications within the community and with external stakeholders will create new opportunities and reduce risks for all parties. Even our own chance meetings at the Swiss Biotech Day itself demonstrated both the depth of talent and the difficulty of finding it.

3. ETH Students Show the Way



The session included a short presentation from three current ETH students about their BioIncubate Initiative (see www.studentbiolab.ch). This initiative aims to help Swiss companies hot-house solutions with students and experts from ETH and clearly show cases both the depth of innovation available at ETH (and other universities in Switzerland) as well as the potential value of teaming with companies to solve real world customer problems.

4. Participant Survey

Everybody attending the panel session was asked to complete a short survey asking about the opportunities in industrial biotech. The sample, although inevitably small, provided some valuable insights including the importance of creative workshops where companies and institutions with shared interests and complementary expertise are brought together; several responses highlighted

the existence of mutual problems where the Chapter will provide a valuable role.

5. The Industrial Biotech Chapter

Members of the panel together with several participants in the session and a number of people who had been unable to attend the session have committed to supporting the development of an Industrial Biotech Chapter within the Swiss Biotech Association

The Chapter will foster collaboration between industry participants and other stakeholders; accelerate commercially relevant innovation; and promote the industrial biotech industry in Switzerland.

The current draft Charter for the Chapter can be found at: <https://www.swissbiotech.org/industrial-biotech-2/>

With the excellent starting conditions based on medical biotechnology, excellent research capabilities, access to customers combined with a strong track record to integrating environmental considerations to both products and processes, Switzerland can become a leading country for Industrial Biotechnology. The Industrial Biotech Chapter of the Swiss Biotech Association can play an important role in achieving this.

6. For Further Information

For further information on the work of the Industrial Biotech Chapter or to get involved in making it a success, please contact either:



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