Roman Badik – CEO, Enantis, Czech Republic



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Roman Badik, CEO of Enantis, the first biotechnology spin-off from Masaryk University in the Czech Republic, shares his vision of turning the company's research breakthroughs into a self-sustaining business. Badik breaks down the business model of Enantis based on its proprietary protein stabilization platform and its lead compound FGF2-STAB with applications in stem cell culture, healthcare and cosmetics.

After working at the Central European Institute of Technology (CEITEC) and heading the Research Office at Masaryk University, you decided to join Enantis as CEO in April last year. What drove you to join this small but promising biotechnology company?

At CEITEC, I was mainly helping large basic research projects obtain national and international grants. Similarly, at the Research Office of Masaryk University, we were supporting researchers across different fields, in obtaining the funding necessary to make their breakthroughs and become leaders in their area. However, I personally felt I was not moving forward: I wanted to go one step further and help translate research breakthroughs into profitable commercial applications.

What strategy have you put in place since you joined Enantis to translate the company's research breakthroughs into commercially viable products?

Enantis is the first biotechnology spin-off from Masaryk University, created in 2006 by two professors, Jiří Damborský and Zbyněk Prokop. As a university spin-off company, public research grants were the main source of income. Back in 2016, Enantis won the prestigious Horizon 2020 SME Instrument Phase 2 grant. Only four percent of applicants receive the grant, and Enantis was the first Czech biotech company to ever obtain Phase 2 funding. It was a great startup package to help us finance our research project. We need to use this opportunity and build the company on solid foundations. My goal is to make Enantis self-reliant by growing the business and generating profits that can be reinvested into research.

What business opportunities are you pursuing?

Enantis focuses its research efforts on the stabilization of proteins from the Fibroblast Growth Factors (FGF) family based on our own protein engineering platform. Thanks to the Horizon 2020 funding, we developed a stable version of FGF2 which we named FGF2-STAB. While in its natural state, the half-life of biological activity of FGF2 is only nine hours at 37 degree Celsius, FGF2-STAB retains full biological activity even after twenty days. FGF2-STAB has applications in three main fields: stem cell cultivation, healthcare, and cosmetics.

In stem cell cultivation, FGF2 is an essential component of the culture media preparation as it helps maintain stem cells in their pluripotent state. Improved stability of FGF2 makes daily changes of media unnecessary and since less protein is needed, it makes stem cell cultivation cheaper and less labor intensive. In October 2018, we signed an exclusive distribution agreement with a major player in the cell culture market, thus launching our FGF2-STAB globally. We produce the protein ourselves at our facility in Brno. However, as part of the agreement, the distributor is re-selling FGF2-STAB as their own product. As a result, nobody knows it is produced by Enantis in Brno, Czech Republic. We are currently discussing the licensing agreement with our distributor and we push to be able to disclose the fact that Enantis is the one making the product, which would be a game changer.

The second application is in the cosmetics industry, where FGF2-STAB has great potential to be used as an active ingredient in cosmeceutical preparations. We are currently developing the formulation and negotiating with cosmetics companies.

Thirdly, FGF2-STAB has huge potential as a therapeutic for wound healing. Pre-clinical tests have shown positive and promising results, so we would like to move it to the clinical Phase I by putting together a group of experts to define the final formulation. As we are still a small company, we are

gathering data to determine how far we can go in the clinical development process with our own resources, a decision we should come to by the first half of this year.

In addition to FGF2-STAB, we are working on developing stable versions of several other FGFs. Our product pipeline is already set for the next years to come. We have already managed to stabilize one that will enter the market soon. For the moment, with FGF2-STAB, we focus on developing applications related to skin, but in the future, we want to develop new stable FGFs in other therapeutic areas such as oncology and neurology.

We also offer contract research services based on our protein engineering platform, which several companies have already used, providing solutions to make enzymes more stable. Finally, we are now building a portfolio of protein engineering software which was originally developed by Loschmidt Labs of Masaryk University and we offer it to potential customers as well.

How do you plan to find a partner on the healthcare side to help you develop and bring your potential treatment to the market?

We are not actively looking for a partner in this field now as we want to offer the product as a package once we gather enough data proving it can make a difference. With the help of experts that we invited, we want to know by the middle of this year, to which stage of drug development we can go on our own and when exactly we will need venture capital or external partner to step in.

When do you hope these business opportunities to generate enough income to make Enantis self-sufficient?

While we are profitable, we are not yet in the position to be independent from public research funding. The distribution agreement in the cell therapy market already generates revenue and it should grow in the next two years. We are currently negotiating the license agreement which should give us the longer-term stability. To be fully profitable, we need to listen more to the market needs, adjust our portfolio accordingly, protect the generated IP and react fast. Although it sounds trivial, it is not often the case in university spin-offs.

Regarding healthcare, we wish to keep the IP here, so the added value stays in the Czech Republic for as long as possible. This is difficult because there is no public funding available for clinical trials as they take years to conduct and have a high risk of failure. We as a small company with not

enough profits to cover all phases of clinical trials would not be able to do it without external help. Of course, we can also license the product to a Big Pharma company which will make the lion share of profits.

What do you see as the main business challenges of running a biotechnology company in the Czech Republic?

Czech universities generate very few spin-off companies compared to their EU-15 counterparts. Masaryk University has only produced a dozen for the past fifteen years, whereas Western European universities spawn tens of spin-offs per year. The whole start-up scene is progressing dramatically in the last couple of years, especially here in Brno region thanks to the South Moravian Innovation Centre support. But this doesn't apply to biotech, unfortunately. Since the biotech ecosystem is underdeveloped, outsiders may not be confident in the prospects of Czech companies in this field. The only way to persuade them otherwise is with our products and expertise. And we work hard to break this glass ceiling.

I also hope that recently introduced Innovation Strategy of the Czech Republic, providing opportunities for start-ups and spin-offs, will help not only Enantis but also other highly innovative companies grow and conquer foreign markets.

Finally, what keeps you motivated as the CEO of the company?

I truly believe that from the initial idea that was developed at Masaryk University, we can build a successful biotech company with global impact. The success of Enantis would then motivate other researchers to establish their own companies and create a thriving university spin-off ecosystem.

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