

Interview: Nuno Arantes-Oliveira, President, P-BIO, Portugal

Portugal has good science, hospitals, doctors, institutes, but there is no niche of expertise. As a country or region, it is hard to attract big pharma investments unless you are clearly among the best in the world at something specific.

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Nuno Arantes-Oliveira, President of P-BIO, Portugal's Biotechnology Industry Organization, the country's sole association for biotechnology companies, discusses the state of the biotech industry today in Portugal, and the ways in which the industry can consolidate and attract overseas investment to stimulate growth.

After a harsh economic downturn over the past few years, what does the biotech sector in Portugal look like today?

It is a small but growing industry. Biotech typically refers to entrepreneurial companies developing new drugs and devices based on innovative technologies. In that sense, the sector is comprised of about 30 companies, the majority of which are within health, in areas like drug development, diagnostics, or devices. Most are very small and new academic spin-offs. Most companies have been started recently by people educated abroad in top research institutes and universities, many of whom wanted to return to Portugal but not to its academic setting.

The weakness of the biotech sector has been the companies' lack of capacity to grow beyond the early stages. A few years ago, there were some barriers to entrepreneurship for startup companies but that does not happen anymore. Portugal is objectively an entrepreneurial country, as the number of people who start businesses is very high. The issue is that most of that entrepreneurship is based on necessity: people start restaurants and shops, not so much opportunity-based entrepreneurship like high-tech industries. However, this is changing and it is relatively easy to start a technology-based company in Portugal. Today there are facilities, incubators, seed funding and venture competitions, which allow for creation—now the issue is growth. There are no large private venture capital funds that invest heavily in Portuguese biotech. Historically, there has been some state venture capital that dabbles in several industries and private generalist venture capital from banks. The recently created Portugal Ventures seems to be an example of the state rationally investing in specific fields including biotech, which historically has been a problem. Furthermore, there are only a few large companies investing in biotech innovation. And Portugal's largest companies in some

sectors are relatively small; in the pharma industry the largest, Bial, is mid-sized by international standards. They do not have the capacity typically required to acquire startups or start funds to invest in startups.

The sector has strong links to academia, spread between Lisbon, Coimbra, and Porto. Some companies are funded by business angels, state funds, European grants, and venture capital but to a limited extent. You do not have many cases of companies raising many millions of Euros, only hundreds of thousands or a couple million. There are not many alternatives for larger scale funding and growth for companies beyond that.

What could be done for Portugal to make it more attractive?

For angel investors and VCs, it is tricky. Specialized VC investors typically invest locally. Unless you are able to bring an office of a large venture fund to Lisbon, then it is difficult. If you are in Silicon Valley and you want to invest in a high risk startup, you will not invest in Lisbon, even if there are very good ideas. The geographic and cultural distance still makes a difference in this business. That does not mean that specific companies cannot attract deals if, for example, they are founded and headquartered in the US to attract money like we did with Alfama.

Portugal needs to create the conditions for those very best companies to be able to grow as well as if they had started anywhere else in the world, without barriers to growth. In general, there are stimuli that could be created and still do not exist now. For instance other countries have social security benefits; employers do not have to pay social security if they are an innovative company.

In terms of policy and organization, Portugal needs focus.

We need to identify niches where there is international demand and where we have potential and organize ourselves in those niches. Health Cluster Portugal is coordinating specialty clusters in areas such as oncology and neuroscience, identifying small niches and specific technologies where Portugal already has some potential. The vision is that, in three to four years, if a pharmaceutical company wants to invest in that specific disease or technology, Portugal will be the place.

Before the crisis, did the Portuguese government offer tax rebates for innovation?

It had some, and it still does to some extent, such as tax benefits to companies that produce R&D and intellectual property. Some of those incentives simply were not strong enough. For example, if you create an incentive that is meant for early-stage technology-based companies, and that incentive is based on income tax that is a fraction of that company's revenues, then it does not benefit companies before they generate revenue, where support is needed the most. Thus sometimes there are good intentions, but they are not really well adapted to each sector. Health innovation generally takes a long time. These companies take many years to become profitable but, if they do, many times the return is very high. You need to create incentives that are designed for pre-revenue companies. But you simply cannot speak today of things like tax cuts in Portugal.

We need to spin the issue around, and in some industries you can. You need to show the decision-makers that money can be made and jobs created in this sector if only a few barriers are lifted and a few good ideas are put into place.

More than asking for tax cuts, right now we need to demonstrate that, for example, clinical trials provide a substantial return on investment. In Portugal we do not have enough clinical trials because of bureaucratic and organizational barriers. There are opportunities for the state to have a return and help companies make money too if they just lift some barriers. And some of these opportunities can help Portugal gain a reputation as a country of innovation and cutting-edge science. The main

proposition should not be to cut a few taxes; it should be help us generate return for you and for us.

How does P-BIO communicate this proposition?

P-BIO is an association for an interesting but very small part of the Health sector, which must be remembered when dealing with authorities. We are not making claims of the type that large organizations might want to make. P-BIO talks to governments and ministries, focusing on specific themes. As an example, the association created the Orphan Drug & Rare Disease group, a specific group of very highly innovative multinational companies, which include entrepreneurial companies from the US and Europe trying to sell drugs around the world. This niche is relevant because they develop unique drugs for people with very specific problems. We have started talking to the authorities to discover what opportunities could come with these companies in terms of innovation, high growth, exports, FDI, reputation, clinical trials. This requires the removal of barriers and a different treatment from the pharma industry because orphan drugs target specific problems. We hope this can attract more investment to Portugal.

Could Portugal's entrepreneurship combined with its innovation be the country's competitive advantage?

The optimistic view would be to say yes. But we waste much time determining what the one factor that distinguishes Portugal is, and we are not alone in that. Rather than one factor, we have to combine some factors where we are strong. Portugal is entrepreneurial but out of necessity. Historically, we have been a relatively poor country most of the time. Many have tried to make it on their own but out of necessity. Not many have grown to make large companies. Some have, and those we should look at. The wealthiest people in Portugal today are entrepreneurs. Therefore, we should not waste this perfectly good crisis, since necessity is the mother of invention. In our sector, one issue is that scientists are not trained to be entrepreneurs; typically, they are not team workers, and are not so interested in material gains. There are usually many factors that make them choose a career in science over business, particularly in Europe. There are exceptions, and the US has proven that high value corporations can be started by scientists. Many Portuguese scientists now want to do something else. Expatriate postdoctoral students around the world may want to return to Portugal but not to academia, which belongs largely to the state and is not hiring. Now is the time to create alternatives for these people to come back to Portugal or stay here, not in academia but in business.

What is your vision for the sector in the short to medium term?

My vision is one of consolidation, focused on the creation of critical mass, which is not exclusive to biotech; rather they should be part of a movement to specialize the country in problem-driven objectives. In biotech, because some of our companies are at an early stage, they are flexible enough to go along with the trend. If it becomes logical that Portugal can be the best in the world in, say, one specific rare disease, perhaps there are several biotech companies that are developing technologies that could shift into that focus. Together with hospitals, big pharmaceutical companies, local companies and universities, we should really try to work together to find niches of opportunity for focus and consolidation. Then we might have ten companies that represent the entire value chain of this particular market, instead of 30 small companies working on all sorts of things. This kind of focus should be mirrored by academic research and science funding strategies.

Creating critical mass in certain market niches while taking advantage of quality research is not just an idea in my mind. Several entities are thinking about this and trying to do something about it. Portugal is trying hard to become a hub in health, but for that we will focus in specific areas. We are not fully sure what these areas will be yet, but hopefully this will become clear soon. At the same

time this type of smart specialization coincides with some of the strategies and goals of Europe's Horizon 2020. Each country or region should aim to become the best in a small set of areas, and Portugal can be that if it has the courage to be selective, and remain selective for as long as is needed for the vision to be implemented.

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