

Interview: Iván Lugo - Executive Director, INDUNIV, Puerto Rico



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Puerto Rico

is not only an important manufacturing hub, but is also positioning itself as a state-of-the-art center for R&D and clinical research. Iván Lugo, the executive director of the Industry University Research Center Inc. (INDUNIV), which brings together private sector, academia and government, discusses some of the island's most recent initiatives as well as future plans.

Could you please briefly introduce the activities of INDUNIV to our readers?

Created in 1985, INDUNIV is a non-profit organization managed by a board of directors with representatives from some of the most important public and private institutions of the island that brings together private sector, academia and government to create an ecosystem promoting innovation and knowledge sharing in life sciences in Puerto Rico. To do so, INDUNIV manages three clusters: the Pharmaceutical Industry Cluster (featuring manufacturers and suppliers), the Puerto Rico Bioscience Alliance (featuring five biotech companies present on the island) and the Puerto Rico Healthcare Council.

Through its Educational Infrastructure Committee and as an active member of the BIO's Coalition of States BioSciences Institutes, INDUNIV is also deeply involved in supporting local academic institutions to develop domestic technical and scientific workforce. The final objective: enhance the

island's competitiveness in the life science sector, locally as well as internationally.

How attractive is Puerto Rico as an investment destination in the life science sector?

The BIO Bioscience Report from the Battelle Institute indicates Puerto Rico has an impressive distinction in life sciences in the US that is shared only with New Jersey, with a high specialization in four of the five major industry subsectors: drugs and pharmaceuticals; medical devices; bioscience-related distribution; and research, testing, and medical labs. According to the Boston Consulting Group, the island is also positioned very well worldwide in relation to other life science hubs such as Singapore.

As a matter of fact, 46 percent of the country's GDP comes from manufacturing and 65 percent of that is from life sciences. This represents a total of 25 percent of the island's GDP. Some of the main advantages that over time have attracted investment in the sector are the island's manufacturing cost-competitiveness, unsurpassed incentives, its reliable infrastructure, human capital (every year over 18,000 students graduate in science), its status as a US jurisdiction but with fiscal autonomy, its Free Trade Zone, its proximity to the US and its excellent supply chain. As a result, today Puerto Rico is an important hub for the sector and exports an estimated USD 66 billion to more than 86 countries, with the US capturing nearly 80 percent of it.

What are some of Puerto Rico's latest initiatives with regard to life sciences?

Puerto Rico's model for the pharma industry is to attract new potential blockbuster products. To do so, we need to have highly skilled people, the best and latest technology and be able to develop, register and do technology transfer to launch products as fast as possible. INDUNIV has appointed itself the mission not only to promote manufacturing, but the whole value chain. As a result, we have supported the construction of innovation centers bringing together academia and the private sector for Phase II development. If we formulate and develop the process the product here, it is also very likely to launch and manufacturing will continue on the Island.

A further example is the development of the state-of-the-art Molecular Science Complex, a 154,000 square feet state-of-the-art transnational research facility with an entire floor dedicated to incubation, animal house and material characterization and analysis, featuring the most sophisticated instruments. Puerto Rico's Comprehensive Cancer Center, is currently under expansion with an investment of USD 90 million, which will help the island step up to the next level in cancer research. The 15,000sf BDTC (Biotechnology Development & Training Center incubates four Biotech startups. This newest addition to our life sciences ecosystem, coupled with the best incentives for R&D, makes Puerto Rico one of the most attractive hubs for the life sciences.

On the other hand, what challenges is the island facing today?

Recently the island has received negative media coverage, mainly due to the government's debt crisis. However, the local pharmaceutical industry does not depend solely on the government for its incentives. Between 2005 and 2010 the island received more than USD 4 billion in investments in biotech and hosts today the largest biotech manufacturing and development complex in the world, indicating the country's talent and unsurpassed incentives are highly attractive to the international investors' community.

Consolidation affects the footprint of the industry, not only in Puerto Rico but worldwide. When Pfizer acquired Wyeth, for instance, the company decided to divest some of the production plants it had in Puerto Rico. One of the plants was bought by the Mexican drug manufacturer Neolpharma, which decided to take advantage of local manufacturing, development and regulatory know-how to commercialize its products in the US and also provide contract manufacturing services. What was initially seen as something negative was actually a big move, which resulted in being a strategic choice for the company. This again demonstrates that Puerto Rico in addition to being a multinationals hub, is also being seen as attractive for small and medium size development and manufacturing companies.

What kind of benefits do the clusters bring?

At the clusters we have teams from different companies working together to develop strategies and plans to innovate and solve common technical problems, which impact not only local manufacturing, but the whole industry. For instance, recently we have worked on a project in the cleaning validation area, which requires a very tedious and expensive process that delays the drugs release. By sharing know-how through the clusters, we are able to validate direct measurement applications to improve cleaning tests, thus shortening product release times with the highest quality. We are also sharing knowledge in the development of continuous manufacturing with several success stories on continuous unit operation processing and real time release. These are some of the crucial changes Puerto Rico can bring to the world.

What has been your most important objective over the past few years?

We have been working hard to maintain Puerto Rico's leadership as a manufacturing hub, but also position it as an attractive location for product development and clinical research. We identify where opportunities and gaps were, as a result, we started developing more CRO's with capabilities from Phase I through IV and identifying and building a physicians/patients asset map to measure the capacity we have in clinical research. The objective here is to help attract more

clinical trials between Phase I and Phase IV. In addition, we will continue to support the development of world class infrastructure for research and development on the future Science City tax-free zone.

What do you see as Puerto Rico's positioning in the world 20 years from now?

Any economy in the world needs diversification as well as a focus; for the last 60 years the biopharmaceutical industry has been our anchor, and today Puerto Rico's focus continues to be in the life sciences. We continue to develop highly skilled scientific and engineering resources with regulatory knowledge in all areas of life science - pharmaceutical small/large molecules, medical devices, biotech as well as bio-agriculture and medical research - and we are putting together the best elements to foster competitiveness. Today we are a global leader in pharmaceutical manufacturing, but in 20 years from now we will also be a global leader in the development of new products and molecules and next-generation manufacturing launch platform to the world.

Puerto Rico is not just an island in the Caribbean. Many companies worldwide do not know about the competitive advantages Puerto Rico offers, so we have to continue promoting the island's capacities in a holistic way. I truly believe that the island is the best platform to develop, manufacture and commercialize products in the US - we need to be effective in communicating this message. We also need to continue building the capacity for small and medium-sized companies to develop here. I believe the future should be a fair balance between having big pharma and being able to attract small start-ups to become mid-sized companies, which can eventually turn into Puerto Rican companies; this is my vision. To accomplish this we have to continue to leverage the triple helix between government, private industry and academia to continue to be more attractive than the competition.

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