Interview: Barry Heavey – Head of Life Sciences, IDA, Ireland

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08.09.2016

Tags: Ireland, Investment, Life Sciences, Pharma, Pharmaceuticals, Manufacturing,

Barry Heavey, Head of Life Sciences at IDA Ireland, Ireland's inward investment promotion agency, discusses IDA's focus on acting as a catalyst for B2B collaboration in converging industries like connective health solutions and innovative drug delivery devices, their focus on advanced manufacturing, and his mission to make IDA Ireland the best investment promotion agency in the world.

Can you provide an overview of IDA Ireland's mandate in the life sciences?

IDA Ireland is an investment promotion and development agency with the mandate of attracting foreign direct investment (FDI) to Ireland. Our current strategy, as outlined in Winning FDI: 2015-2019, is centered on Advanced Manufacturing, Global Business Services and R&D Operations. Fundamentally, we want IDA Ireland to be the catalyst to support the growth of strong sectors such as biopharma, medtech and tech and then position Ireland as a global collaborative hub for convergence between these strategic sectors.

This goes beyond the generous financial incentives we offer. Our most important asset is the relationships we have cultivated with our clients across the spectrum of sectors within IDA's portfolio. This affords us unique access to companies, which helps us to glean valuable insights. There is a lot of convergence occurring within the life sciences industry and with our experience, connections and technical expertise, we are uniquely placed to build linkages. We have been

successful throughout our history precisely by leveraging our links with industry to spot groundbreaking ideas or trends, whose development we try to support in Ireland.

This background also means we can be proactive in approaching companies. As a recent example, when an American biotech company published their Form 10-K (the annual report filed with the U.S. Securities and Exchange Commission), one of our recently hired employees saw that it mentioned the setting up of an office in Dublin. The very next day, a North American branch of IDA Ireland approached the company to offer support. The CEO was very impressed by the fact that a government agency had noticed this tiny detail and been proactive enough to approach them. We are now discussing a fairly significant investment opportunity for this company to expand in Ireland. The need for this sort of on-the-ground work is also why I am very happy that we have been given additional resources to expand our workforce by 10 percent in the past years.

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What are the key priorities of this winning strategy?

We are placing more emphasis on supporting business-to-business (B2B) collaboration under our new strategy. The healthcare and life sciences industry is very much moving towards cross-industry collaboration. For instance, the pharma and medtech industries are exploring next-generation drug delivery systems. The life sciences industry is also collaborating with the tech industry in two main areas: Factory 4.0 – smart, digitized factories – and also connective health solutions like smart delivery devices and remote patient monitoring.

A great case study would be in diabetes, where we are beginning to see elements of this cross-industry collaboration, as well as relevant activity building up in Ireland. We have Sanofi making their diabetes drug Lantus in Waterford; Nypro, West Pharma and Becton-Dickinson producing the delivery systems here; IBM establishing a Watson health center in Dublin, and Intel developing “Internet of Things” sensors and IT devices which can be used in connected health applications. Ireland is therefore uniquely positioned to be a hub for collaboration in these areas of convergence.

Previously, we have emphasized industry-academia collaboration, with the National Institute for Bioprocessing Research and Technology (NIBRT) being a paramount example, along with the Synthesis and Solid State Pharmaceutical Center (SSPC). The new B2B approach does not exclude academics; on the contrary, academic communities provide a neutral venue for these industry collaborations. Science Foundation Ireland (SFI) works closely with IDA and the academic community in supporting this. We have organized networking events and information days centered on themes like drug device combination and smart devices, catering to clients from the

pharma, medtech and tech sectors.

Within the B2B space, we also want to support relationships between the pharma and medtech industries, and the vendor companies providing products and services to them. We have the likes of Thermo Fisher, Waters Corporation, Sartorius and GE Healthcare working with NIBRT to enhance their visibility here in terms of the value and expertise they can provide.

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In line with the national strategy of regionalization, we are also promoting life sciences investment outside the traditional hotspots of Dublin and Cork in regional locations. That is especially relevant to the pharma industry because they have always been very willing to move into regional locations. The fact that we can offer the industry a diversity of geographic locations along with a skilled regional workforce is a huge benefit.

Ireland has traditionally supported a very strong pharma, medtech and life sciences sector, but as the industry landscape changes, how is IDA Ireland continuing to support them?

One critical trend is the increasing convergence between the pharma and med tech companies, driven by the fact that many pharma companies are becoming increasingly dependent on medical devices to differentiate their products. Medtech manufacturing is moving onto the critical path of a successful product launch.

Building on NIBRT's resounding success, we are now planning to invest in a similar entity, the Advanced Manufacturing Center (AMC). This will have a particularly strong but not exclusive focus on medtech manufacturing, capitalizing on the existing medtech ecosystem. This will be based on an existing research center called the Irish Manufacturing Research (IMR), which has been very successful thus far on a virtual model and a small budget. They conduct their research through their partners' facilities, and facilitate networking and best practices sharing. Given their set-up, however, there are limits to what can be achieved. The idea behind AMC is to provide a playground where further innovation and advancements can be made!

As most of the top companies are already present here, our efforts to support existing companies' needs is at least as important to us as attracting new entrants. For instance, we have supported small molecule manufacturing sites, such as Lilly, to add biopharma investment. We can help orthopedic companies pivot into 3D printing, support medtech companies to adopt collaborative robotics in production lines, and assist manufacturing facilities to upgrade Factory 4.0 to decrease

costs and optimize efficiency.

A pre-eminent example is Bristol-Myers-Squibbs (BMS). Fifty years ago, they were in Ireland for API manufacturing, and now they are investing in commercializing their immuno-oncology drugs from Ireland, with NIBRT helping them develop their biomanufacturing capabilities here. In fact, while their new biologics facility at Cruiserath is being constructed, their manufacturing science & technology team is being incubated at NIBRT. When they move out after the completion of the facility, we hope that another company will take their place.

Now, Ireland has always been known as a manufacturing hub but it has done very little clinical research or basic research. Are these priority areas for IDA Ireland?

On a medium-term horizon, we are considering how to position Ireland more prominently within the clinical research space. There has always been a couple of hurdles for Ireland in this space. Our small patient population is a big hurdle, and of course the recent economic crisis has also forced the Irish healthcare system to cut back on research activity and focus more on service delivery.

Faced with these challenges, it is clear that establishing Ireland as a hub for clinical trials will take time and effort. We have been very focused on growing manufacturing investment as it plays to our traditional strengths and provides a strong and near-term economic dividend. That said, we do see great opportunities for Ireland to leapfrog in specific niches like smart or next-generation clinical trials. These involve extensive use of data analytics and technology for patient monitoring – centered on the “Internet of Things” idea, or “internet of patients” if you will. Ireland can become a European hub for the rollout of smart clinical trials, because these are preexisting capabilities in pharma, medtech and all the technology involved: cyber security, social media, data analytics. Dublin and Cork are very strong contenders for companies setting up multilingual, pan-jurisdiction clinical trials.

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The pharma industry has traditionally been slower to adapt to innovations, e.g. in automation, partly due to the stringent regulatory environment. What lessons do you think it can learn from other industries?

The medical devices industry offers the best lessons for the pharma industry because they are more analogous than say, the aerospace or automotive industries. Most notably, they are both very highly regulated and in similar ways. But medtech manages to stay more agile, partly from necessity: their period of exclusivity on their products is not as long. The strength of the pharma

industry’s intellectual property and their long periods of exclusivity in the market offers a weaker incentive to constantly innovate in areas such as process R&D. Couple this with the regulatory stringency and the gap between the two industries is very understandable.

But the pharma industry has begun to realize that this needs to change; approval rates of new drugs are increasing, the innovation life cycle is shortening and price pressures are increasing. In 2014, for instance, many pharma companies were very excited about the commercial potential of specific small molecule drugs in their oncology portfolios until BMS came up with the game-changer, Opdivo, and Merck launched Keytruda, both of which changed the playing field in oncology. Couple that with heightened competition with generic companies, and it becomes clear that the pharma industry cannot rest on its laurels.

On the commercial side, the pharma industry could re-engineer their commercialization model based on what tech companies do. The traditional model of a significant outside sales presence on the ground visiting healthcare professionals in every market has a lot of embedded inefficiencies, and this has only been compounded by the trend towards ultra-personalized medicines. Companies may now have a portfolio of 25 nichebusters for specific patient subpopulations instead of, say, five blockbusters. This portfolio diversity & complexity makes it much harder to build a competent sales force. Tech companies tend not to rely on large outside sales network but manage their external sales from a centralized hub, relying on technology, communication and data analytic tools to generate efficiencies and drive performance. Again, Ireland’s existing capabilities makes it a very attractive hub for companies to explore this. Notably, Novartis has set up a global business services office here employing over 600 people to support their global sales force. We believe Ireland is a great location for more of these kind of investments as the industry model shifts.

IDA has the ambition of being the best investment promotion and development agency in the world. What does that mean for you? What is your mission for the next few years?

The first priority is for IDA to successfully act as a catalyst to promote Ireland as the location of choice for the sorts of investments & collaboration I have discussed. We have a great track record of working with companies and sectors on a one-to-one basis, but now we need to push beyond that and position Ireland as the global hub for industrial collaboration in the life sciences. We have all the elements: existing expertise, culture, government support, talent pool, innovation and respect for IP and confidentiality.

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like artificial hips or biologic drugs.

More broadly, we also want to influence policy and attitudes within Ireland itself at all levels: academic, business, the political system and the everyday citizen. An area very close to my heart is the relevance of manufacturing for Ireland. Conventional wisdom has long been that developed countries would move away from manufacturing, which is moving East, and the solution is to move up the value chain into areas like services and basic research. Admittedly, a lot of manufacturing did leave Ireland in the 1990s, but we need to be clear that manufacturing is not a homogenous industry.

What we focus on is zero-defect manufacturing, characterized by high-value products, embedded IP, tight regulation – industries where companies really do not want a recall, like artificial hips or biologic drugs. This is as high up the value chain as it can get! Ireland cannot be competitive in all types of manufacturing but we can – and have been – highly successful in this niche. Despite our achievements in winning many external investment in high-value manufacturing, awareness is still lacking about the importance of this sector in the economy. We need to be unashamedly proud and supportive of our activities in the manufacturing space!

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