Felix Negrón – VP Puerto Rico Operations, Medtronic

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Felix Negrón, VP of Puerto Rico Operations for Medtronic, the largest life sciences company on the island, explains their unique footprint in Puerto Rico and what the company has learnt in dealing with natural disasters to guarantee a continued supply of products. Moreover, he discusses his strategy to continue growing in Puerto Rico, since the territory is responsible for 18 per cent of Medtronic's global revenue, and the enduring importance of public-private partnerships.

Could you start by introducing the extensive manufacturing footprint of Medtronic on Puerto Rico?

This year we are celebrating our 45th anniversary on the island. Medtronic is the largest life sciences company in Puerto Rico, with four manufacturing locations as well as commercial operations. Our footprint overall is over 900,000 sq. feet between the four sites and more than 5,000 employees. Around 18 percent of the company's global revenue comes from products that are manufactured in Puerto Rico.

Medtronic's operations are divided into four business units: Cardiac & Vascular Group, Minimally Invasive Therapies Group, Restorative Therapies Group, and the Diabetes Group. A unique aspect of our operations in Puerto Rico is that our facilities touch the four business groups we have in Medtronic. This is the reason why we call Puerto Rico a shared center for excellence. Our largest business unit is Cardiac & Vascular.

During your career, you have managed sites all around the world. From this standpoint, what would you highlight as the competitive advantage of Puerto Rico compared to other manufacturing hubs?

A unique aspect of Puerto Rico is that there is access to a vast pool of technical resources. The market here is very strong in the life sciences, which is the main focus from an early level in education. The local universities have focused on this sector as well. Puerto Rican students are thinking about the FDA and GMP regulations from a young age.

Moreover, if you look at the labor costs, it is more affordable than the US mainland. As a US territory, Puerto Rico has many logistical advantages. Everything made in Puerto Rico is considered made in the US, which is also an advantage when it comes to exporting. Lastly, there are very good incentives in Puerto Rico for companies to come and develop their activities here.

How has the cost competitiveness of Puerto Rico evolved since 2015?

Overall, there has not been much change, we have done a good job when it comes to the costs as we have brought them down. This is mainly due to the strategies that we have implemented and not necessarily because of the environment. For us, having the key suppliers close by is very important. If we lose them, it will be a drawback.

Medical devices have a lower margin than pharmaceuticals. The key difference between the two is the product lifecycle. The product lifecycle in pharma is very low, once you produce a drug typically

you lose the patent in 10 years. In the case of devices, the lifecycle is shorter due to the high competition and faster introduction of new products. Companies in the sector change products roughly every two years.

The incentives from the government have been important to us and we maintain a close relationship with them in this regard. I believe there should be more incentives for technology in order to promote tech transfer and have new products coming to Puerto Rico. There is a need for more incentives from the government although this is probably challenging for them given the current economic situation of Puerto Rico. It is all about presenting a strong business case with fast paybacks for them.

For the medical device sector, the incentives are very important since this can be a means of leverage for the affiliates with the headquarters to bring new products. This is a reason why the cost is down because we are very active in introducing new products directly to Puerto Rico. Moreover, we have been able to bring new products without adding footprint by optimizing space, thus bringing overhead costs down.

Back in 2015, Medtronic acquired Covidien which also had manufacturing on the island. Back then, you said the integration would take three years to complete. How successful was the integration? What were the challenges along the way?

Covidien is now fully integrated into Medtronic. We integrated by creating the Minimally Invasive Therapies Group (MITG), which is legacy Covidien. There are some areas where we are still working on integration such as systems.

There have been a lot of challenges during the integration process. We had to standardize, and this brings resistance. Because the two companies were so different in terms of quality systems, payroll, benefits and so on, standardizing was not an easy task. It was especially challenging here in Puerto Rico as both Medtronic and Covidien had a manufacturing presence. It was hard to align the payrolls and benefits for all employees to be the same.

One of the main risks for manufacturers in Puerto Rico is that the island is located in the hurricane alley. After Hurricanes Irma and Maria, how well have you recovered, what lessons have you learned and what changes have you implemented to ensure the continuity of your production?

Professionally, this was the largest learning experience that I have encountered. Medtronic's facilities were recovered but island-wide there is still work to be done. One of the biggest learnings was that even though we had a business continuity plan, we uncovered holes in it. We were not as prepared in the communications area. Nowadays, we have better systems in place, and we implement what we call "n+1", meaning that we need to have redundancies to make sure we are covered. If we have generators, we need extra capacity. In terms of communication, we have invested a lot. We not only have a provider that supports us with mobiles and landlines, but we have satellites that give us an extra plan in case the other options do not work.

At the time, our leadership team decided to support our employees above all. We made sure that, even if it took two or three more weeks to recover, that all of our employees had everything they needed. We saw that the efforts at the time made a positive impact on the company as a whole. We produce surveys each year that measure the engagement of our employees and the levels before and after Maria are significantly different. I am happy to share that after two years from the hurricane we have maintained high levels of engagement from our employees.

Finally, it was a lesson for Medtronic globally. We added structure to support the business continuity plan by creating a new position at the executive level. This new position overseas the business continuity plan around the facilities of Medtronic globally as we can experience natural disaster anywhere in the world.

Another challenge is the high cost of electricity. We see many pharma manufacturers are investing in energy projects such as co-generation plants, not only to reduce their energy bill but also to reduce their dependence on the grid. Is Medtronic doing the same?

We have several projects in place in order to look for alternative energy sources. For example, we have a solar farm that supports around 40 percent of the energy in our Juncos campus. The remaining balance comes from the energy company.

In our Villalba facility, we are partnering with the local government for a project in renewable energy, including solar and hydroelectric power generation. Villalba is a very special case because we are the only facility located there as compared to the other Medtronic locations which are located near other facilities. This project will help us build redundancy and be better prepared in the location as it is in-between the mountains.

Manufacturing in all sectors is undergoing a transformation and entering a new phase dubbed Industry 4.0, focused on interconnectivity, automation, machine learning, and real-time data. How advanced is Medtronic on this journey to Industry 4.0?

In terms of new technologies, we have a strong base, but not as advanced as we would like. We are aware of the new transformation that is happening, and we are creating strategies that will drive us into it. In Medtronic Puerto Rico, excluding the site that is legacy Covidien, we have invested significantly in new systems. All of our systems from a manufacturing standpoint are connected through Manufacturing Execution Systems (MES). We cannot touch a part without having MES approving where we can move it or not. In terms of everything that we do with manufacturing, it is very controlled. Our supply chain systems are on SAP and we have invested fully on SAP. We have this system inter-connected with our MES.

Our next step will be doing machine learning with Artificial Intelligence (AI). We have invested and we have collected a lot of data from manufacturing for continuous improvement. We have identified potential on how we can collect information in real-time and how we can learn from that data to automatically drive improvement. Although we are not there yet, we are working towards it as a company. It is a long process and it starts with a strategy from the top that identifies key pilots and implementation processes.

What is your vision for Medtronic when we return to PR for our next report in 2024?

We have a strategic plan which is updated every year. We have what we call breakthrough goals that are based on five pillars. Our five pillars are the following: our quality and patient focus, our ability to service our patients, our innovation from technology, our cost-competitiveness and profitability and, lastly, our foundation which is organizational excellence formed by a combination of talent and continuous improvement. Our goal is to achieve excellence in those five key elements.

We have a strategic plan that is composed of two elements for each of the five pillars. When working on the strategic plan we ask ourselves questions such as: What is it that we need to do specifically? Where do we want to go? From the answers to these questions, we establish a strategic plan that lasts for three years.

Looking into each of the five aspects, when it comes to quality, we have a strategy here at Medtronic which is: “Quality Begins with Me”. We aim to transmit to our workers that the piece of metal they are working on is going to affect someone’s life. It is important that they make the connection because when doing large scale operations this could be easily forgotten.

In order to improve our service, we use innovation and new technologies. We are optimizing our supply chain in Puerto Rico. Looking into our transportation strategy and how do we connect with our patients.

We use innovation to bring new products to the market as well. We have a robust system for introduction of new products. The purpose of this system is to align strategies between R&D and manufacturing so when a new product is deployed it can be an efficient process. It is about getting connected so when the product is ready to be launched and manufactured, all the elements are in place to make it happen most efficiently.

In terms of costs, our goal is to drive down cost every single year net of headwinds, such as an increase in energy costs. Thinking in terms of “costs net of headwinds” forces you to think outside the box, such as how to optimize space.

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