Interview: Lourdes de Cárdenas – Vice-President Operations, Latin America, Stryker, Puerto Rico



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Lourdes de Cárdenas, vice president of Stryker's Latin American operations, explains how she has revamped the Puerto Rican facility to become a more efficient operation and their current vision to continually improve and exceed expectations as a critical supplier of disposables for the company.

How do you find the Stryker brand recognition is received by healthcare professionals worldwide who use these products?

Stryker indeed maintains a strong brand. The founder, Homer Stryker, was an orthopedic surgeon who strived to make the work of doctors and nurses easier, as well as improve the quality of life of his patients. His son, who was the company's first CEO, was a salesman. Since the beginning, Stryker has been very strong in sales and marketing. The Stryker sales force is one of the strongest in the business.

You came to your current position in Stryker in 2012. What was the initial strategy to transform this affiliate?

The first strategy was to go back to the basics, since manufacturing facilities do not usually perform well when they forget about the basics. This includes a well-developed workforce and a cadent system not only for production but also for documentation and for project management to

make processes more robust, resulting in no accumulation of product, documents or delayed project milestones. You need the right infrastructure in the right state of repair with the right suppliers. Based on our analysis, we did not have the right infrastructure. We were repairing equipment again and again rather than modifying or replacing it. We also only had 40 percent of the spares we needed to operate. If something broke down we had to sometimes wait up to two weeks until the spare came from abroad, which translated to potential backorder situations. As such, this affiliate initiated a predictive maintenance program and now we are being considered for a global award on reliability engineering, and that team has done a wonderful job. Stryker Puerto Rico also developed a supplier development program in which we could help suppliers get to the right level, as we had over 200 suppliers and some of them were not performing well. Lastly, we have improved on the fundamentals of supply planning and manufacturing resource planning. Our forecast accuracies were very low, now they are improving. Our overall MRP metrics were not great and some were not even being measured. That is the brain of a facility. We are moving to a MRP class-A system.

Having the right people in the right positions is really the fundamental element. We have changed some leaders and it has made a tremendous difference, as an organization is the reflection of its leaders. I am in favor of diversity, but within that you must have unity and alignment in the vision. Manufacturing, as a routine- and cadence-based discipline, can sometimes seem deceivingly repetitive. It is important to fix problems rather than symptoms, and this can be achieved by understanding root causes and looking at the bigger picture.

Secondly, as a company we are now thinking outside of the box. We have begun to meet locally with doctors to test our products before they are even launched. Design is also an important facet of this affiliate now. According to the World Economic Forum report on country competitiveness, Puerto Rico is categorized as an innovation economy. This means salaries have reached a level in which there is no option but to add substantial intellectual value.

Perhaps the development side is becoming more important in Puerto Rico, which has been traditionally recognized only for its manufacturing capabilities.

The US is certainly not a low cost center, yet it is one of the most productive economies because people add intellectual value: an increase in production volumes does not necessarily require the addition of many people because processes are highly technological and automated; thus you can absorb increases or decreases in demand easily. One of our future goals is to continue to automate here. This poses a certain degree of difficulty because of the variety of products we manufacture but our approach to automation is not necessarily automating a process completely; it is

automating unit operations that repeat themselves among different processes. Here we focus on adhesion, welding, and packaging; once those technologies are perfected you can reproduce them across many different lines. Consequently, demand can be easily managed. Because Stryker Puerto Rico manufacturing has a huge manual component, increases in volume means bringing in and educating people. Our goal is not to reduce our workforce but use the workforce we have in tandem with automation to take on more.

Stryker acquired Pivot Medical earlier in 2015, which has brought more arthroscopy products to the company's portfolio. Given Stryker's aggressive inorganic growth and the fact that this is the company's biggest facility, how do you reprioritize in terms of rapidly integrating new products?

Actually, we are trying to develop a rapid manufacturing transfer scheme. We transferred our most recent two new products, from our sports medicine portfolio, in three and a half months after the design freeze. When I started in Stryker, this could have taken between 18 and 24 months. As a cash-rich company, Stryker will continue to acquire and we must develop that expertise to transfer very quickly to maximize utilization of existing manufacturing facilities.

Extra capacity is also important. As part of our effort to become a MRP Class-A company, we have opened 20,000 square feet of space for manufacturing, previously used for storing material. Because we are managing our inventories better, I firmly believe that a manufacturing facility should reduce "closet" (storage) space as much as possible, to dedicate it to revenue-producing operations. We must have a robust safety of stock, which can stay with the supplier, or the supplier can have built-in capacity to respond quickly to a demand increase. By managing our inventory in a smarter way, we can use these additional 20,000 square feet to expand assembly and molding capabilities to take on more in the same space, among other jobs.

This site is the only Stryker site that makes sterile disposable devices or plastics injection molding. How much does this facility contribute to the overall worldwide?

Stryker manufactures capital and base. As an example, we manufacture cutting tools and ablation devices used in arthroscopic or minimally invasive surgery. These devices are connected to a console, which provides the power and essentially sets up the operating speeds. Our devices tend to be mostly disposables, whereas consoles are more permanent. The big revenue in Stryker comes from either capital or implantable products. Our devices constitute the company's base business, which we must sell every day and which hospitals use every day. This represents about five percent of the global business; but this is a critical ten percent as the rest is dependent on it.

The base business enables sales of capital equipment, which is sold less frequently.

The pressure for manufacturing is greater for the base business. In capital, equipment is purchased less frequently, whereas base, disposable products are needed on a daily basis.

You established Stryker Puerto Rico's pilot plant and test lab for plastic resins, which helps evaluate products and processes for Stryker worldwide. How has this project panned out?

We are currently excelling in service but years ago we were not. Imagine having a backorder problem and trying to manufacture pilot lots for a new product that is not launched yet, but will need manufacturing time eventually. It was a very difficult endeavor, with commercial manufacturing always getting the first priority. We needed space in which we did not perturb manufacturing and bring operators in, and that is how the pilot concept came to life. Even when we had access to manufacturing the amount of experimentation we could do was limited. The pilot facility serves two purposes. We disrupt the manufacturing facility at a minimum during the development of a new product, and because you have unlimited time in a facility just for development purposes, you can spend time designing experiments to understand the device better.

We are also running cadaver labs at the University of Puerto Rico – Medical Sciences Campus. If we are testing a new surgical device for the knee for example, the university provides a knee from a cadaver. UPR doctors, our engineers, and even our operators and supervisors participate in these test runs with human tissue. Our people are extremely happy to participate in the cadaver labs, and to experience the product in a realistic setting. This is particularly important for devices in orthopedics. During early development stages, we use simulated bone tissue, but it is not the same. The ultimate test can only happen with real tissue because the feel, texture and geometry of human anatomy cannot be completely initiated.

How do you inspire innovation among your employees?

I have a bit of a scientific entrepreneur in me, always thinking outside of the box. I am not a micromanager; I believe you have to understand details, but go back to the "big picture". I usually talk about ideas with people, who respond well to this. Our people are very capable, but my job is to plant the seed and ask, "Have you thought about this?" They run with those new ideas.

What is left for you to achieve?

Our plan for the future is established. We will continue to expand and build upon technology and strengthen our manufacturing. Our biggest challenges are not internal to Stryker Puerto Rico, but created by Puerto Rico's macroeconomic situation and government over-spending, which have reached levels which require immediate and drastic actions. I represent multi-national corporations in the Puerto Rico Manufacturers' Association Executive Committee, and we must get involved. The private sector in Puerto Rico has to take on a bigger share of the pie in terms of the country's management. It will be easier for us, as we understand manufacturing, responsible for 48% of the island's GDP, and we do not have to respond to political pressures. We need to continue to partner with the government and influence our political leaders to share economic decision-making and promotion with the private sector in a much greater extent than in the past. The future of the island's well-being depends on this.

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