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More Than Just Maquiladoras

Innovation and collaboration are defining the next generation of cross-border business opportunities

By Elias Terman

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Eddie Taylor, business planning manager for Sony's Home Products Division, has followed the rise of Sony's Mexico operations.

At a recent employee appreciation event celebrating Sony's new North American headquarters in Rancho Bernardo, Sony's Q-RIO Robot dances the salsa to the delight of a cheering crowd, upstaging Mayor Dick Murphy. Across the Pacific, in a subway deep beneath downtown Tokyo, a process engineer from Sony's Tijuana plant exchanges glances with a marketing executive from San Diego. Upon arriving at Sony's Tokyo office, they both plug in to the company WAN and it is as if they were home. Next month, design engineers from San Diego, Tijuana and Japan will begin collaboration on the next line of Grand Wega televisions.

But it wasn't always this way. Sony started manufacturing televisions in Mexico in 1987 with initial production limited to "basic assembly" — a defining characteristic of first generation maquiladoras.

The Spanish word maquiladora has its origins in colonial Mexico when the "maquila" was the fee a miller collected for processing other people's grain. The term has been used to describe companies that process, assemble, or transform components imported into Mexico — generally for immediate export back to the United States.

Begun in 1966, the promise of Mexico's maquiladora program was the generation of employment opportunities, technology transfer and investment along Mexico's northern border. In return, U.S. companies would have access to cheap labor and tax credits.

Eddie Taylor, business planning manager for Sony's Home Products Division and a graduate of UCSD's highly regarded Graduate School of International Relations and Pacific Studies, has followed the rise of Sony's Mexico operations.

"In the late 1990s, when Mexico started to produce larger CRTs (cathode ray tube monitors) there was some question if Mexico was up to the task. Contests were held between the Mexican, Japanese and U.S. plants. Mexico has proved they can produce anything. They've

taken on every challenge with the result almost always being success.”

In 1997, Sony established the “Azteca” design center supporting 80 percent of North American and Latin American production. Today, Sony’s Tijuana and Mexicali plants are some of its largest in the world, employing 7,500 people and producing more than 5 million displays a year including computer monitors, flat screen televisions, HDTVs and rear projection televisions.

From TVs To Biomedical Devices

Results from a UCSD San Diego Dialogue survey on Baja California electronics and automotive manufacturing surprised many critics of Baja’s manufacturing prowess: More than a quarter of the plants surveyed engaged in research and development, one-fifth did product design, more than one-tenth had developed a patent, and more than one-third had ISO 9002 Certification.

If Baja can create so many “third generation” and world-class plants in the electronics and auto parts industries, then perhaps the same phenomena could eventually take hold in the life sciences industry — fueled in part by taking advantage of one of San Diego’s greatest areas of strength.

It is already starting to happen.

Over the last decade, Mexico has become a leading producer in biomedical devices with more than 208 FDA-registered facilities. That’s more than Israel, and more than Ireland and Australia combined. Tijuana-based Producen counts 60 Biomedical Products firms in Baja California, 40 of which have U.S. parent companies. Of these, nearly one-third (13) have a San Diego affiliate. These San Diego-related biomedical product firms include Alaris Medical Systems, Breg, Continental Laboratories, DJ Orthopedics, Molecular Bioproducts and Sunrise Medical.

In the late 1990s, Medtronic (best known for inventing the pacemaker) bought a 50,000-square-foot building in an east Tijuana industrial park. Soon after, Medtronic shut down its manufacturing plant in Anaheim and moved key staff to San Diego to help manage the Baja operation. At first, 10,000 square feet were dedicated for clean-room manufacturing. Later, as production ramped up, the plant was expanded to 84,000 square feet and every available space (including a training room and lockers) was converted for clean-room usage. The company manufactures and tests there a variety of products used in heart surgery, including oxygenators and filters.

BMP, a San Clemente-based medical device firm, bought 80 acres seven miles south of Ensenada. Its 60,000-square-foot plant draws water from a well that is then purified using reverse osmosis. BMP has 11,000 square feet of clean-room space. Eventually, it may move some of its molding operation to Ensenada, build a sterilization facility (for its own products and to provide an outsourced service), and someday hopes to attract other biomedical firms to the property.

Pharmaceuticals Could Be Next

UCSD’s San Diego Dialogue reports that pharmaceuticals could be the next area of opportunity for San Diego-Baja collaboration. There is already a significant informal cross-border trade of both pharmaceuticals and medical devices in the border regions. A 2003 border survey shows citizens of both San Diego and Baja make at least 100,000 “medical-related” border crossing trips each month. Cross-border health insurance services from Blue Shield, Health Net and PacificCare already take advantage of the strengths of health care systems on both sides of the border.

Considered one of the most developed Latin American markets for pharmaceuticals, Mexico’s regulatory infrastructure has encouraged the growth of pharmaceutical manufacturing. About 170 manufacturing plants in the country are operating nearly 400 facilities, including most of the industry’s big names: Pfizer, Janssen-Cilag,

GlaxoSmithKline, Schering-Plough, and Bristol-Myers Squibb among them. However, 80 percent of all facilities are located in and around Mexico City.

Although R&D in biopharmaceuticals in Mexico is currently limited, opportunities exist for stimulating additional capacity through cross-border collaboration, including increased San Diego-Baja clinical trials. According to one estimate, conducting clinical trials in Latin America can reduce costs by as much as 40 percent compared to similar U.S. and European studies.

Software Outsourcing Next Door

In addition to health care-related services, software development is another service sector where collaboration with Mexico can reap huge benefits.

Just ask Silicon Space co-owner Dema Zlotin. In July, Zlotin formed a strategic alliance with the Tijuana-based software development firm Arkus.

“The quality of their staff and process is the same or better than organizations in India,” Zlotin says. “When all is said and done, it’s just easier to work with folks who are 10 miles away as opposed to 10,000 miles away. San Diego has a geographical advantage over other cities in the U.S. with regard to this type of outsourcing. It has not been explored to its full potential, but maintains a strong promise for companies on both sides of the border.”

The San Diego-Baja region will continue to become more globally competitive in key science and technology sectors. Potential opportunities include cross-border research partnerships and high-value economic clusters that link regional R&D capabilities with manufacturing and service industries across the entire San Diego-Baja megalopolis. Now that’s certainly much more than just maquiladoras.

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