

2016

Manufacturing in Tijuana and Mexico

*Advantages of Nearshoring in Mexico,
Key Highlights and 2016 Industry Overview*

WHITE PAPER



Co-Production International, Inc.
www.co-production.net

May2016

WHY ARE MANUFACTURERS EXPANDING TO MEXICO?

Mexico has rapidly become a top global destination for manufacturing. The entire California and Baja California is known as the “CaliBaja Mega Region” with the manufacturing hub of Tijuana boasting an over 50 year-old history in manufacturing activities.⁹ Executives and trade organizations cite major cost savings and ease of doing business benefits in Mexico, including:

- **Low-Cost, Highly-Skilled Workforce**
- **Proximity to Major Markets (US, Canada)**
- **NAFTA, Free Trade Zone**
- **Maquila Duty-Free Temporary Imports**
- **Strong Intellectual Property (IP) Protections**
- **Established Infrastructure**

This white paper will assist executives in understanding the benefits of expanding operations nearshore by analyzing Mexico as a potential site for manufacturing activities. Important factors such as proximity to major markets, infrastructure, labor cost and supply, transportation and ease of doing business, will be covered.

SECTION 1

Mexico: Manufacturing Global Powerhouse

How Nearshoring is Outshining the Offshore Competition

Even a decade ago, offshore locations such as China were considered the de facto destination for US manufacturers seeking to reduce overall costs. Attention is now returning to the United States’ southern neighbor, due to not only lower-than-China labor costs, but the stones throw proximity to major North American markets. Nearshoring operations is now considered the most cost effective strategy for the most lucrative cost reduction.

Tijuana and Baja California Leading Mexico

Manufacturing activities in Mexico are flourishing, from central states like Querétaro; to the border states like [Baja California](#). Above and beyond the long list of benefits to manufacturing in these northern border states, it’s the proximity to major North American markets in the United States and Canada that remains the top reason for expanding or moving operations to the nearshore country.

Though products that are produced in Mexico are bound for locations across the globe, it’s the northern border states just south of the US that are the most attractive to US executives. For example, in Baja California alone, **84.6% of all exports are bound to the United States.**¹

EXPORTS SPOTLIGHT

\$80 billion

Mexico’s Electronics Exports in 2014¹

SECTION 2

NAFTA Advantages for Manufacturers in Every Industry

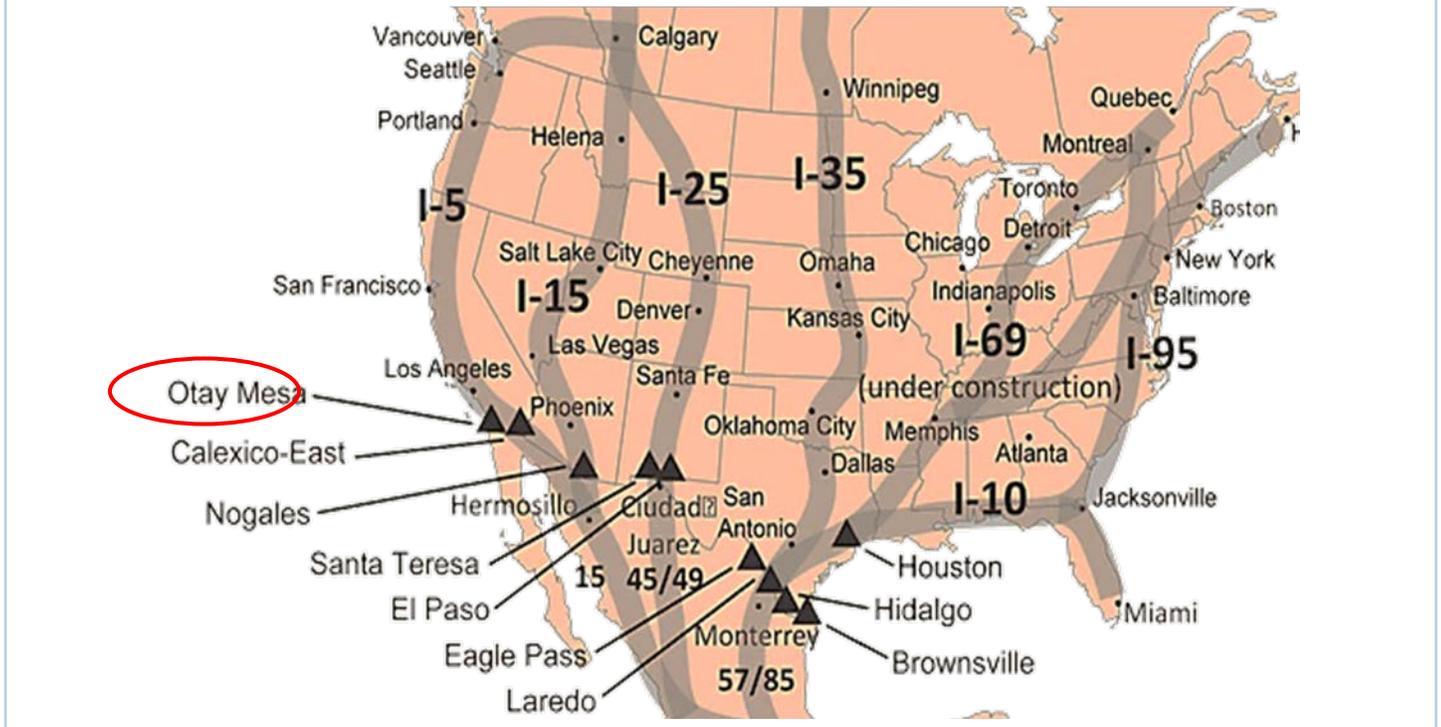
Welcome to an Effortless, Free Trade Zone

During the last 15 years, Mexico’s foreign trade policy has focused on establishing strong commercial trade partnerships with other countries. Mexico has entered into 13 major free trade agreements giving preferential treatment to 51 markets on three continents.

Despite multiple strong agreements with the European Union and Latin America, it’s the North American Free Trade Agreement (NAFTA) that remains the most attractive to North American companies selecting Mexico for their next facility. Signed by the United States, Canada and Mexico in 1994, NAFTA created one of the largest trade zones in the world with more than 160 million consumers within its borders.²

“Mexico has a free market economy in the trillion-dollar class,” according to a KPMG report, with trade to the US and Canada nearly tripling since it’s signing in 1994.⁷ NAFTA has proven to be a successful 20-year global case study on how lucrative trade agreements can be, especially between neighboring countries.

NAFTA Corridor & Major Commercial Routes



NAFTA Free Trade Zone

NAFTA's main purpose is to gradually reduce or eliminate trade barriers between its three member nations, with 99% of imports currently duty-free in Mexico, and the remaining 1% benefiting from preferential duty. In very few cases where NAFTA does not apply, the Mexican government established programs such as IMMEX and PROSEC to fill these gaps.

From Buy American to "Buy NAFTA"

The United States Government's Buy American Act includes acquisitions by the U.S. Department of Defense and restricts purchases from suppliers whose products do not contain a minimum of 50% national produced content. As this directly conflicts with NAFTA provisions banning protectionist legislation such as the Buy American Act, Mexico and the United States intend on signing a Memorandum of Understanding (MoU) that will exempt Mexico from this Act.³

IMMEX Program for Temporary Import

This program is ideal for manufacturers who are looking for [low cost manufacturing](#) and assembly solutions that also shorten the supply chain to major markets. Under the Manufacturing Maquiladora and Export Service Decree, the IMMEX Program allows for goods, raw materials and components to be imported into Mexico on a temporary basis, duty-free and VAT-free, as long as they are returned abroad within the established timeframes (most are 18mos).

TPP: Benefits for Manufacturers in Mexico

The establishment of a free trade zone for 12 countries under the Trans Pacific Partnership in 2016 will open up NAFTA-style preferential tariffs or liberalization of tariffs. The member states include the USA, Canada, Mexico, Peru, Chile, Australia, New Zealand, Japan, Malaysia, Singapore, Vietnam and Brunei. Ratification is expected by 2018 and is expected to boost exports in strategic sectors such as vehicles & auto-parts, aerospace, medical devices, electric equipment, cosmetics, tequila, mescal, beer, avocado, beef, pork and orange juice.¹⁵

IP Protections

Mexico is regarded as having strong IP protections and enforcement. Two main Mexican laws govern intellectual property. The Industrial Property Law, enforced by the Mexican Trademark Office (IMPI), and is mainly for inventions, trademarks, industrial designs, and appellations of origin. The second is the Copyright Law enforced by the Mexican Copyright Office (INDAUTOR), and is primarily for literary, musical, artistic, photographic and audiovisual works.

Both of these laws were modeled after international standards set by the World Intellectual Property Organization (WIPO) and carry similar legal provisions for IP protection and enforcement as seen in the United States. The Mexican Patent and Trademark Office will cooperate with its counterparts in other countries to reduce the local examination process for patents that have already been registered in other countries.

SECTION 4

Mexico's Low Cost, Highly Skilled Workforce

Expect Employees to be University Educated and Technically Trained

[Mexico's workforce](#) is well-educated, plentiful and reliable. Graduating around 115,000 engineering and technical students nationally per year, Mexico produces roughly three times more graduates per capita in the field than the United States.⁴

The Baja California's state university (UABC) is located in most major urban centers of the state and offers Bachelor of Science degrees in Aerospace, Electronics, Electrical, Mechanical, and Industrial engineering fields. Tijuana's workforce is extremely reliable with a low average turnover rate of 2.6% reported in 2011.² additionally; executives cite benefits of the closer cultural ties with the mostly bilingual workforce versus difficulties observed in offshore locations like those in the Asia-Pacific. The manufacturing industry in Tijuana represents 47% of the permanent private jobs in the city.⁹

Education: Highly Skilled & Highly Trained

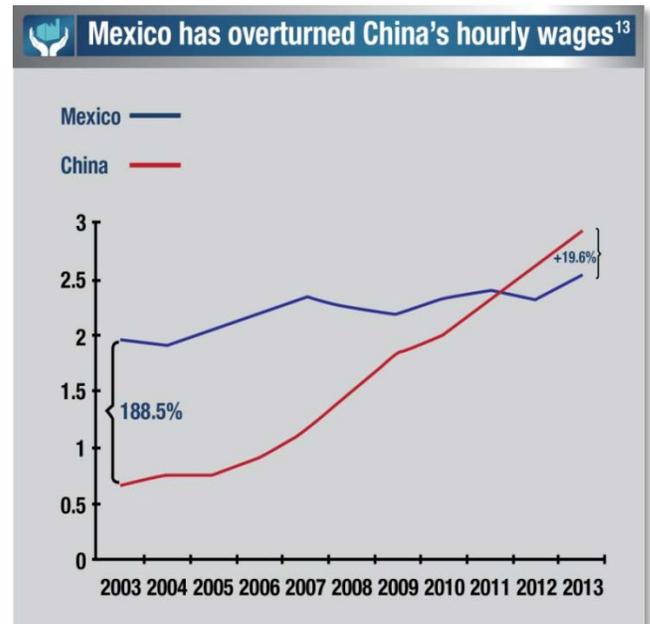
Baja California is home to 35 universities and 14 technical schools offering over one hundred professional degrees including Biotechnology, Physics, Oceanography, Digital Geothermal Technology, Astronomy, Aerospace, Electrical Engineering, and Sustainable Energy.⁵ Most universities and technical schools are located in major urban centers such as Tijuana (35) and Ensenada (12) and many participate in direct education exchange programs with the leading universities in Southern California and San Diego.^{5,9}

Under Graduate	40,963
Technical Training Students	6,434
Graduate Students	3,215
Total (estimated):	50,612

Globally Competitive Labor Rates

In the high growth markets, total labor costs account for approximately 30 percent of total location-sensitive costs in manufacturing and approximately 65 percent of total location-sensitive costs in service operations. Labor costs are lowest in India, China, and Mexico.¹

In the last 10 years Mexico has significantly closed the gap in labor costs compared to its offshore competitor, China. Adding in transportation and logistics time and cost, companies are finding nearshore operations in Mexico dramatically less expensive, even with the growing gap in labor costs.



Close Cultural Ties to the United States

Strong cultural, economic and familial ties have existed between Tijuana and San Diego for decades, some would say as long back as when California was still a part of Mexico. With over 59 million northbound crossings from Tijuana to San Diego a year, executives find that the region is not only largely bilingual, but also engrained with many American customs. Additionally, the US Dollar is a widely accepted and used form of currency, especially along Northern border regions and in city metropolises. It also the main currency for most commercial trade.

SECTION 5

Mexico's Commercial Trade & Logistics Infrastructure

Quick Access to Major North American Markets in the US and Canada

Baja California is Mexico's most western state located just south of California. The Tijuana/San Diego border region is one of the largest in the world for both tourism and commercial trade. With the enactment of NAFTA, Mexico has invested significantly in infrastructure improvements to maintain existing, as well as attract new commercial trade to the region.

Highways & Transportation

Tijuana and the Otay Mesa Commercial border crossings are located just minutes south of San Diego, California, giving commercial transportation access to all major North American trade corridors and highways. Baja California has a strong network of well-maintained highways with Highway 1 as the major artery connecting the entire state to the US via San Diego. Running east from Tijuana, Highway 2 provides direct connection to eastern commercial land ports of entry like those in Nogales and El Paso.

In addition to several thousand miles of highways and railways used to move raw materials and finished products throughout the region and to major North American markets, Baja California also has one deep water port located in Ensenada. A mere 63 miles south of Tijuana/San Diego, Ensenada's deep water port is directly linked to over 60 major international commercial ports, including the global hubs of Los Angeles, Long Beach and Hong Kong.

NEW, FASTER PROCESSING: Otay Mesa Commercial Crossing

Otay Mesa is located just 15 minutes east of Tijuana and 20 minutes south of San Diego, California. Designated as the only commercial crossing in all of Southern California, Otay Mesa sees more than 1.4 million commercial trucks crossings into the United States a year.

A new facility located at the Otay Mesa port of entry was recently completed in 2013 by the Mexican government and has customs officers from both the U.S. and Mexico. From laboratory rooms and cold storage, to state of the art inspection equipment, the purpose of joint operation is to speed processing of produce coming into the US. It's these types of investments in infrastructure and import/export process improvement by the Mexican government that continue to prove the country's dedication to increasing efficiency in trade and commerce for its region.

In the summer of 2013, US Customs and Border Protection began two new pilot programs at the Otay Mesa commercial crossing for empty trucks heading both north and southbound. These pilot programs are meant to help ease traffic and wait times. Now, the northbound import facility will open at 5am (instead of 6am) and the southbound export facility will open at 7am (instead of 8am). Investments by the US in these types of pilot programs also show the importance of the commercial trade relationship with Mexico.

	'14 Q1	'15 Q1	'16 Q1	Trend
Total Available Industrial Space <i>(Million SF)</i>	4.97	4.48	2.89	↓
Vacancy Rate %	8.06%	7.00%	4.40%	↓
Asking Lease Rates Class A, \$/SF/month	\$0.45	\$0.45	\$0.46	↑
Under Construction (SF)	497,327	800,556	833,242	↑

Facilities & Real Estate

The Tijuana industrial real estate market offers more than 57.3 million square feet of pre-owned and new buildings throughout the city. From Class A to Class C facilities, companies will find shell, semi-finished and built-to-suit options, as well as inexpensive land for new facility construction. Tijuana has over 60 industrial parks making it one of the top four industrial markets in Mexico. Lease rates throughout Baja California vary depending on term, averaging \$0.36 USD to \$0.44 USD, per square foot.⁶

Utilities Infrastructure

Utility costs include electricity and natural gas costs and represent up to 8 percent of total location-sensitive costs. Mexico has very low utility costs when compared to other major growth markets.⁹ For example, the capital of Baja California, Mexicali, lies just east of Tijuana, supplies most of its inhabitant's electricity from hydroelectric power provided by the Colorado River.

Within the last 2 years Mexico also made the electrical infrastructure for new facility sites easier to obtain by streamlining procedures, offering training opportunities to private contractors, using a geographic information system (GIS) to map the electricity distribution network and increasing the stock of materials.⁷

A majority of the water supply for Tijuana is obtained from the Colorado River. The Baja Californian State Water Commission (CESPT) opened two new water treatment plants in Tijuana in 2010 for recycled water meant specifically for industrial use.⁵ These two new facilities were certified by the North American Bank.

Supply Chain & New Exposure

All manufacturing sectors have not only identified the financial benefit in overhead reductions of by expanding or moving operations to Mexico, but have keyed in on additional features of locations such as Tijuana. In addition to lowering costs, manufacturers also enjoy the lucrative nature of being geographically located right next to the United States, giving them access to new clients and new suppliers in North

America. In Tijuana alone, industrial supply demand totals \$11B USD annually, with a majority in [electronics, medical products, automotive, aerospace and defense](#) amongst major industries.⁹

SUPPLY SPOTLIGHT

\$11 Billion

Tijuana's Annual Industrial Supply Demand⁹

For example, companies like Eaton Aerospace, Gulfstream and Honeywell have found that their proximity to other aerospace manufacturing and assembly operations opened themselves up to new suppliers and a new supply chain. For Honeywell, who first established operations in Mexico in 1947, the country "has played an important role in Honeywell's globalization initiative over the past decade, greatly expanding the company's manufacturing base and shared services operations. The country is making a big contribution to the company's success by increasing domestic sales, exports and the production of aerospace, automation and control, and turbocharger products."⁸

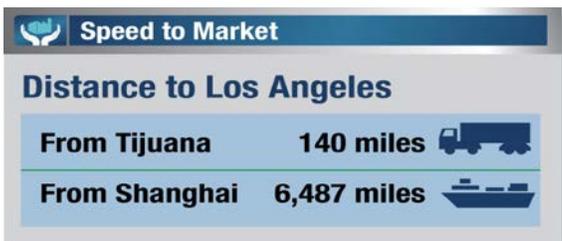
SECTION 7

Nearshore vs. Offshore

World Bank: Mexico Top-Ranked Global Destination for Doing Business

Mexico is ranked 38 under the "ease of doing business" category, surpassing all the BRIC countries including Costa Rica (58), China (84), Brazil (116), and India (130), according to the World Bank's annual report "Doing Business 2016," which compares business regulations for domestic firms in 185 countries.¹⁹ This represents a marked improvement of Mexico's rank of 48 in 2012.

Mexico's pro-business government made notable improvements including eliminating minimum capital requirements for LLCs, and reducing the number of times a company pays taxes from 27 to 6 times a year.



Manufacturing in Mexico Savings

A study by KPMG shows that Mexico has the lowest operation costs in equipment and component manufacturing in the Americas, with 14.6% savings in the cost of electronics assembly, compared to the US.² Within five years, higher manufacturing exports due to a widening cost advantage over China and other major economies could add \$20 billion to \$60 billion in output to Mexico's economy annually.⁶

Nearshore Logistics Savings

The cost to transport materials and products represents anywhere from 30-40% of your total logistics costs. Contributing directly to your bottom line and the product's final cost, logic dictates having your manufacturing activities as close to your market as possible. Tijuana is only 140 miles from Los Angeles making it 46 times closer to North American markets than the global commercial logistics hub in Shanghai.

SECTION 8

Getting Started in Mexico

It Doesn't Get Any Easier!

Starting or expanding your business in any foreign country can be a daunting decision process for any sized business. Fortunately, it couldn't be any easier than it is in Mexico. In addition to the long history of social and cultural ties between the Mexico and the United States, the two countries have also mastered a mutually beneficial and supportive environment for trade and commerce.

An Industry at Your Service

Considering close geographic proximity, over 20 years of NAFTA, and an established network of industry support services, executives exploring Mexico for their next facility can rely on organizations whose sole purpose is to facilitate or handle it all for you.

Not only are there many companies such as [Co-Production International](#), to facilitate your operations in Mexico, but also government organizations waiting to get you through the legal steps so you can get up and running as soon as possible.

Security & Safety in Mexico

One last consideration by executives is the safety and security of the country they are considering to do business in. Much of the news reports of unrest in Mexico, especially along the US/Mexico border, have been shown to be exaggerated.

Co-Production International has an expanded paper for executives interested in learning more about issues of security and safety in Mexico. For your free copy of *Security First in Tijuana, Mexico*, visit CPI's [website](#) or contact CPI at (877) 230-7989.

Mexico: A New State of Manufacturing

Executives and companies consider a handful of factors when exploring new facilities for manufacturing activities. Most frequently considered are the cost-effectiveness of production (labor & materials), the proximity to major markets, trade and commerce infrastructure, and ease of doing business.

Years ago businesses wouldn't hesitate to cite offshore countries such as China as the hands-down lowest cost option for manufacturing. **After examining various factors crucial to a low cost, efficient and lean manufacturing supply chain, Mexico has emerged as a global leader for the electronics manufacturing industries.**

2016 EVENT HIGHLIGHTS

Baja Manufacturing Tours

Tijuana, Baja California

Want to see it first hand?

Get a chance to see manufacturing in Mexico up close! Tour includes visits to manufacturing OEMs, industrial park and sites, and meetings with government officials specializing in setting up operations in Mexico.

Contact us today to set up a tour date that works for you!

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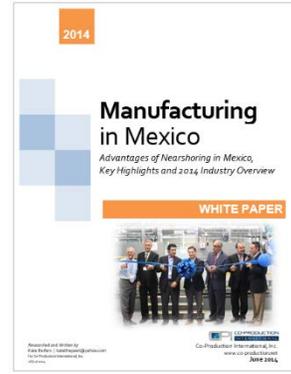
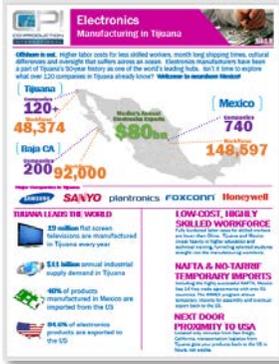
References and sources provided for further information. This is not a legal document. Co-Production International, Inc. does not guarantee claims made by sources used in this paper. Every effort to be accurate has been made at the time of publication. Corrections to data or errors should be sent to CPI.

FURTHER READING

CPI invites you to read more about manufacturing in Mexico with its series of White Papers on the following industries. Requests

NEW! Industry Fact Sheets 2016

- Medical Device
- Aerospace & Defense
- Electronics
- Automotive & Auto Parts



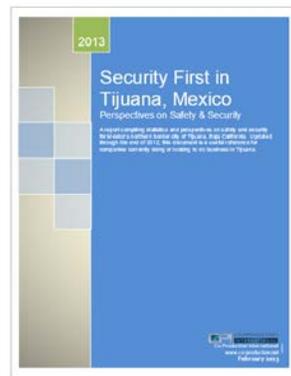
Manufacturing in Mexico 2016

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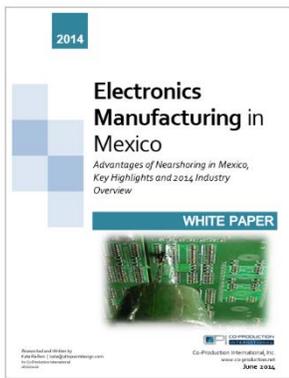
Aerospace & Defense Manufacturing in Mexico 2016

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Security First in Tijuana, Mexico 2013

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Electronics Manufacturing in Mexico 2016

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Medical Device Manufacturing in Mexico 2016

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