TIJUANA: The largest city in the state of Baja California sits at one of busiest land border crossings in the world. Together with San Diego, Tijuana is part of a dynamic cross-border metropolis where deep economic and cultural linkages result in the creation of value, jobs and exports. The unique dynamics of the region provide local companies with an important comparative advantage in the global economy.

In Tijuana, employment in global companies has grown steadily, with many workers engaged in STEM and R&D-intensive industries. The city has become a powerhouse in industries such as semiconductors, medical devices, aerospace, electrical equipment, and audiovisual and communications equipment. Quality universities and an attractive cost of doing business have supported the development of these high-growth industries, attracting more than $5.6 billion of foreign direct investment to the region since 2012.¹

On average, 135,000 people cross the border each day between San Diego and Tijuana.² Like the economy, people's lives exist on both sides of the border. Tijuana's vibrant cultural scene – with trendy coffee shops, world-class restaurants, museums, art galleries and a top-ranked soccer team – provides an enriching quality of life to residents. Nearby beaches in Rosarito and Ensenada, as well as the burgeoning Valle de Guadalupe wine region, attract tourists year-round.

### TIJUANA: ECONOMIC DRIVERS

The city's manufacturing ecosystem offers a combination of competitive factors such as 30 years of experience in the medical devices industry, world class quality, competitive labor costs, local supply chain and access to one of North America's largest labor pools in the industry.

<table>
<thead>
<tr>
<th>MEDICAL DEVICES</th>
<th>97 companies</th>
<th>$599M production value</th>
<th>KEY COMPANIES: BD · WelchAllyn · Thermo Fisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEROSPACE</td>
<td>$14.3K value added per worker</td>
<td>4X more concentrated than MX aerospace sector</td>
<td>KEY COMPANIES: Cubic · Honeywell · BAE Systems</td>
</tr>
<tr>
<td>AUDIO &amp; VIDEO EQUIPMENT</td>
<td>21K jobs</td>
<td>$419M production value</td>
<td>KEY COMPANIES: Samsung · Sanyo · Panasonic</td>
</tr>
<tr>
<td>AUTOMOTIVE</td>
<td>$10.3K value added per worker</td>
<td>3.3X more concentrated than MX automotive sector</td>
<td>KEY COMPANIES: Hyundai · Toyota · Goodridge</td>
</tr>
<tr>
<td>ELECTRICAL EQUIPMENT</td>
<td>$147M value added</td>
<td>2.9X more concentrated than MX electrical sector</td>
<td>KEY COMPANIES: Philips · Foxconn · Sanyo</td>
</tr>
<tr>
<td>SEMICONDUCTORS</td>
<td>20K jobs</td>
<td>71 companies</td>
<td>KEY COMPANIES: Plantronics · Kyocera</td>
</tr>
</tbody>
</table>

### PAPERS, PLASTICS AND METALS:
Tijuana has established industries in manufacturing of **basic goods** such as paper, plastic and metals. The prevalence of companies in these industries enable a simplified and **reliable supply-chain** process for the STEM-focused industries above, which rely heavily on the availability of basic goods for production.

Tijuana boasts a high-skilled and specialized workforce. The city has the highest concentration of talent in Mexico in medical device manufacturing and a host of other STEM-intensive industries. Strong universities and vocational high schools work closely with the private sector to prepare graduates for careers in advanced manufacturing and the service sector. Companies are supported by 8,000 professional, scientific and technical service providers, while a variety of incubators, accelerators and coworking spaces cater to startups and the tech and creative industries.

![Workforce Composition, 2015](image)

**Field of Degree**

<table>
<thead>
<tr>
<th>University level and higher</th>
<th>29%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health, Social Science, Humanities</td>
<td>45%</td>
</tr>
<tr>
<td>Finance, Marketing, Administrative</td>
<td>26%</td>
</tr>
</tbody>
</table>

**Number of graduates by degree type, 2014-2015**

<table>
<thead>
<tr>
<th>Degree type</th>
<th>Numer of graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>16,346</td>
</tr>
<tr>
<td>Bachelors</td>
<td>7,696</td>
</tr>
<tr>
<td>MA / PhD</td>
<td>777</td>
</tr>
</tbody>
</table>

**A DIVERSIFYING ECONOMY:** Tijuana is known historically as a global hub for advanced manufacturing – a reputation built by a talented workforce with established skills in manufacturing of medical devices, automotive parts and aerospace components. However, the rise of the innovation cluster in recent years is proof of Tijuana’s diversifying economy. Global biotechnology giant Thermo Fisher Scientific, with a massive training center in San Diego County, cut the ribbon on its worldwide software center of excellence in Tijuana in September 2016. Additionally, coworking spaces and incubators such as BitCenter and MindHub foster the entrepreneurial spirit of locals who are positioned to benefit from Tijuana’s proximity to California – the 6th largest economy in the world.3

Sources:
1. Baja California Ministry of Economy, 2015
2. Education Statistics and Information Department, 2015
Historically praised for its street tacos and nightlife, Tijuana has transformed into a burgeoning market for high-quality, locally sourced culinary experiences complemented by an up-and-coming craft beer scene. Leading this shift, the city is home to more than half of Baja’s craft breweries and some of the region’s most acclaimed chefs including Javier Plascencia and Martin San Roman. Top that off with an eccentric music and arts scene, Tijuana attracts weekend visitors and retirees from the U.S. who take part in a wide variety of activities including festivals, local artisan markets, shows and beachside fun.

**EAT + DRINK**
- Puerto Nuevo (lobster village)
- Caesar’s Restaurante (restaurant)
- Los Remedios (restaurant)
- Mission 19 (restaurant)
- Verde y Creme (restaurant)
- Plaza Fiesta (entertainment plaza)
- Cerveceria Insurgente (brewery)
- Border Psycho (brewery)
- Mamut (brewery)
- Cerveceria Tijuana (brewery)
- Telefonica Gastro Park (food park)

**LISTEN + LEARN**
- Centro Cultural de Tijuana (cultural center)
- Tijuana Inovadora (conference/festival)
- El Cubo (art gallery)
- El Foro (concert venue)
- Museo del Trompo (interactive museum)
- Museo de la Historia (history museum)
- Museo de las Californias (museum)
- Entijuanarte (music festival)
- Plaza Monumental (event venue)
- Avenida Revolucion (main street)
- Cinepolis 4DX (theater)

**TRAVEL + PLAY**
- Valle de Guadalupe (wine country)
- Club Campestre de Tijuana (golf course)
- Toros de Tijuana (baseball)
- Xolos de Tijuana (soccer)
- Zonkeys de Tijuana (basketball)
- Galgodromo Caliente (racetrack)
- Casino Caliente (casino)
- Parque Morelos (park, zoo)
- Mundo Divertido (amusement park)
- Surfing spots in Playas de Tijuana
- La Bufadora (geyser)
- Paseo Rosarito Ensenada (cycling event)

**QUALITY OF LIFE ON THE RISE:** Tijuana and surrounding cities in Baja California have become hot tourist destinations partly due to the innovative culinary scene driven by local chefs and wine and beer makers. National Geographic Travel named Tijuana as one of the best trips to take in 2016, and Anthony Bourdain and Rick Bayless have featured the region’s Baja Mediterranean cooking-style on TV.

GLObaL COnnECTiviTy

FOREIGN DIRECT INVESTMENT (FDI) + EXPORTs

**FDI by Country of Origin, 2012 - 2016**

- U.S.: 63%
- South Korea: 13%
- Netherlands: 10%
- Japan: 6%
- Spain: 4%
- Other: 10%

**Top Industries for FDI, 2012 - 2016**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Million USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport manufacturing (cars, trucks and aerospace)</td>
<td>$1,154</td>
</tr>
<tr>
<td>Computer and electronic product manufacturing</td>
<td>$722</td>
</tr>
<tr>
<td>Electrical equipment, appliance, and component manufacturing</td>
<td>$387</td>
</tr>
<tr>
<td>Plastics and Rubber Products</td>
<td>$347</td>
</tr>
<tr>
<td>Machinery Manufacturing</td>
<td>$333</td>
</tr>
<tr>
<td>Beverage and tobacco product manufacturing</td>
<td>$262</td>
</tr>
<tr>
<td>Paper Manufacturing</td>
<td>$186</td>
</tr>
<tr>
<td>Natural gas pipelines</td>
<td>$437</td>
</tr>
<tr>
<td>Retail and Department Stores</td>
<td>$174</td>
</tr>
<tr>
<td>Credit intermediation and related activities</td>
<td>$190</td>
</tr>
</tbody>
</table>

Total Foreign Direct Investment, 2012-2016: $5.6B

*Source: Ministry of Economy 2012-2016; calculations by the UC San Diego Center for US-Mexican Studies.*

**EXPORTS**

- Total exports, 2015: $38B
- 2nd highest export value of all states in Mexico


**FOREIGN DIRECT INVESTMENT:** Manufacturing industries account for 71 percent of Baja California's total investments by foreign-owned companies. Global giants including BD, Samsung and Panasonic, among others manufacture innovative products in Tijuana that are exported all over the world.

**CONNECTIVITY:** Tijuana's coastal geography and proximity to the U.S. border positions the region to expand trade and increase global connectivity. Among U.S.-Mexico border crossings, the Otay Mesa port of entry processes the third highest volume of trucks and value of commercial goods. The nearby Port of Ensenada has invested in infrastructure necessary for modern containerized shipping, while the San Ysidro border crossing is one of the busiest in the world. Many frequent border crossers are enrolled in trusted traveler programs which keep wait times down to under 15 minutes. In addition, Tijuana Airport passengers can enter the U.S. directly through the world's first cross-border airport terminal, the Cross Border Xpress.

**TIJUANA INTERNATIONAL AIRPORT**

- Nearly 3 million passengers in 2016
  - Fifth highest in Mexico
  - 31 percent increase since 2014
- 360 flights daily
- Service to more than 30 destinations across Mexico

**CROSS BORDER XPRESS**

- World’s first binational airport passenger terminal
- As of October 2016, 1.1 million passengers have used the bridge

TIJUANA: COST COMPARISON

Over the past decade, Mexico has risen to become a global manufacturing powerhouse - a reputation that can be largely attributed to its competitive wages, substantial productivity gains, energy costs advantages and stable exchange rates. China and Eastern Europe are historically recognized as top destinations for manufacturing - but slight gains in productivity in those regions have been offset by years of increasing wages and energy costs, allowing for shifts in the global manufacturing economy. In fact, Mexico now offers lower average manufacturing costs than China on a unit-cost basis, and foreign investment in Mexico is taking off.

Comparing the Top 25 Export Economies, Boston Consulting Group, 2014

Manufacturing cost index, 2014 (US = 100)

In 2014, the Boston Consulting Group developed the Global Cost-Competitiveness Index – a tool for analyzing a changing map of manufacturing centers across the globe. The results have driven many companies to rethink decades-old assumptions about sourcing strategies. Over the past decade, Mexico’s manufacturing cost structure has improved the most as compared to the top 25 export economies in the world.

When compared to China, Mexico is estimated to have 13 percent lower labor costs and an overall average direct manufacturing cost that is four percentage points cheaper than China.

REGIONAL MANUFACTURING: Tijuana has emerged as a center for low-cost manufacturing, giving many U.S. companies the opportunity to shift operations closer to home. Companies that transition from global manufacturing to regional manufacturing benefit from simpler and more efficient supply chain processes, fewer communication barriers and improvements in collaboration between teams.

Mexico has 44 Free Trade agreements; more than any other nation.¹

Average annual wage per worker by industry

<table>
<thead>
<tr>
<th>Industry</th>
<th>Annual Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace</td>
<td>$12,912</td>
</tr>
<tr>
<td>Precision Instruments</td>
<td>$11,254</td>
</tr>
<tr>
<td>Audio &amp; Video Equipment</td>
<td>$10,781</td>
</tr>
<tr>
<td>Semiconductors</td>
<td>$10,100</td>
</tr>
<tr>
<td>Medical Devices</td>
<td>$9,406</td>
</tr>
<tr>
<td>Electrical Equipment</td>
<td>$9,104</td>
</tr>
<tr>
<td>Automotive Parts</td>
<td>$8,209</td>
</tr>
</tbody>
</table>

TIJUANA: RESOURCES + INCENTIVES

A standard set of local, state and federal incentives exist to attract businesses and support expansion. Incentives can be accessed through government economic development organizations. Below are a few examples of partners and trade organizations in Tijuana.

GOVERNMENT

PROMEXICO is a federal government agency responsible for developing strategies to strengthen Mexico’s participation in the international economy, supporting exporting firms and attracting foreign investment. ProMéxico has an office in Tijuana.

Secretariat of Economic Development (SEDECO) reports to the Governor of Baja. SEDECO is involved in the permitting process, provides tax incentives to businesses and coordinates support from federal government entities.

Secretaría de Desarrollo Económico de Tijuana (SEDETI) is the municipal government entity in Tijuana which handles economic development matters. SEDETI engages in business attraction and retention and oversees local permitting and approval processes.

NON-GOVERNMENT

Tijuana Economic Development Corporation (DEITAC) is a member-based organization founded more than 25 years ago that is made up of professional service providers. Overseen by a board elected by members, its primary focus is business attraction and retention within the manufacturing sector in Tijuana.

CANIETI is the National Chamber of the Telecommunications and Information Technology Electronics Industry, its primary focus is to promote economic growth, innovation and global competitiveness of the industry.

CANACINTRA is a corporate body governed by the Law of Business Chambers that seeks the integral and permanent development of the industrial companies of Tijuana through active and organized participation of the members of the sector.

CANACO Tijuana is the regional chapter of the National Chamber of Commerce which supports companies in the commerce, service and tourism sectors.

Economic Development Council of Tijuana (CDT) was founded in 1997 to provide strategic vision and leadership for long-term economic development priorities. It receives funds generated through the state payroll tax and re-grants to organizations and projects through a competitive and transparent process.

BUSINESS INCENTIVES

Tax Incentives in Baja California

- Employee training subsidies
- Payroll tax exemption (25 percent - 100 percent) from 1-5 years for new projects or significant expansions
- Water connection fees exemption (20 percent to 50 percent)
- Access to funds from a special fund for infrastructure for strategic companies

National Tax Incentives

- “Maquiladora” partial income tax and business flat tax exemption and “safe harbor” transfer pricing rules
- 0% value-added tax for exporting activities
- Value-added tax exemption for the construction and/or sale of homes
- Immediate deduction of land for developers

The information presented in this document is based on data analyzed by the Center for U.S.-Mexican Studies. For more information and a full list of sources, please contact San Diego Regional EDC.

Kate Gallagher
Economic Development Coordinator
San Diego Regional EDC
ksg@sandiegobusiness.org

Last updated February 13, 2017.