Entrada Group

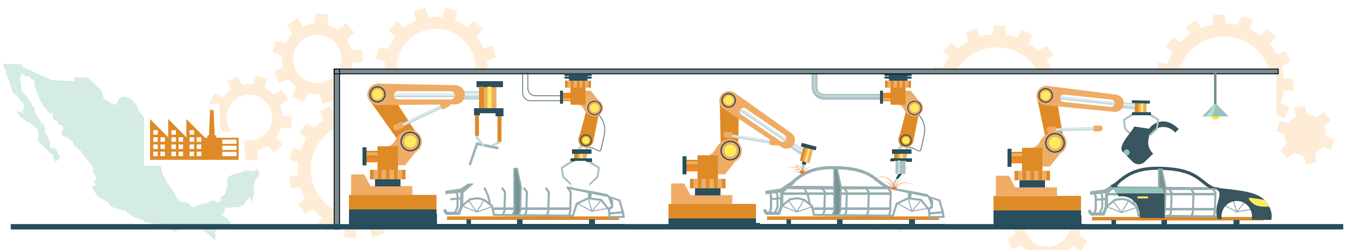
WHITEPAPER

Why Mexico Needs More Proven Auto Suppliers

Nine out of the top ten global automakers now manufacture light vehicles in Mexico, which is the world's seventh-largest producer in that category[1].*

According to Mexico's automotive sector trade association, AMIA (Asociacion Mexicana de la Industria Automotriz), in 2017, auto plants established in Mexico manufactured more than 3.7 million cars and light trucks, and exported 3.1 million of those vehicles. Each figure represents a new record high and growth of 9% and 12% throughout 2016, respectively. The AMIA forecasts Mexico's auto sector will crank out 4 million cars in 2018, 10% higher than 2017[2].

While these superlatives are impressive and the horizon looks promising, there is a glaring area of concern in Mexico's auto manufacturing sector that hinders future expansion. Mexico's supply base, particularly beneath the Tier One level, needs help. Quality and reliability of Mexico's supply base is relatively uneven, several common key production processes are frequently hard-to-find, and lack of in-country availability and know-how necessitates importation or a reliance on external expertise. That said, these gaps represent tremendous opportunity for international auto suppliers contemplating their first Mexico operation, as long as they are prepared and strategically positioned to fill the need.



Industry analysts peg investment by OEMs alone into new or expanded production facilities for Mexico's auto sector as high as $40 billion throughout the past two decades. The list of large Tier One auto suppliers present in Mexico is also impressive (see "Global Suppliers Abundant in Mexico," below). Data from Mexico's Ministry of Economy shows that 23% of total foreign direct investment (FDI) into Mexico during 2017 went to the manufacture of automobiles and auto parts, totaling US$ 6.86 billion. The industry's presence is far and wide across the country (see our full page map "Mexico's Automotive OEM Landscape," below). According to AMIA, light vehicle manufacturers have a total of 20 production facilities located in 12 states of Mexico, where they perform activities that range from assembly and armoring, to casting and stamping of vehicles and engines. Currently, more than 50 car and light truck models are produced in Mexico.

(text continues on page three…)

* The only holdouts are Groupe PSA (Peugeot, Citroen, Opel).

[1] International Organization of Motor Vehicle Manufacturers; 2017 statistics; www.oica.net

[2] Ibid.

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Mexico's Automotive OEM Landscape

www.entradagroup.com

Access webinars, podcasts, case studies and whitepapers on our website:

AUDI

San Jose Chiapa, Pue.

- Audi Q5, SQ5
- 6,800 staff

BMW

San Luis Potosi, S.L.P.

- BMW 3-Series. Expected capacity of 150,000
- 1,500 staff

GM

Ramos Arizpe, Coah. (3)

- Chassis, paint, motors; Chevrolet Sonic, Cruz
- 4,700 staff (between 3 plants)

San Luis Potosi, S.L.P.

- Assembly, transmission, stamping; Chevrolet Aveo and Trax
- 1,800 staff

Silao, Gto.

- Truck motors, transmissions; Chevrolet Cheyenne, Silverado, GMC Sierra
- 3,000 staff

Toluca, Edomex

- Aluminum foundry, motors
- 220 staff

HONDA

Celaya, Gto.

- Transmissions; Honda Fit, HR-V
- 3,200 staff

El Salto, Jal.

- Components; Honda CR-V; motorcycles
- 2,250 staff

KIA

Monterrey, N.L.

- Kia Forte
- Up to 14,000 staff, at full capacity
- 83,000 units annually

NISSAN & DAIMLER AG

Aguascalientes, Ags.

(COMPAS coop.)
- Infiniti QX50, Mercedes Benz/Smart
- 4,800 staff

NISSAN

Cuernavaca (Civac), Mor.

- Nissan NP300 Frontier, NV200 and Versa. Exports to 49 markets.
- 2,815 staff

A1 Aguascalientes, Ags.

- Powertrain plant: engines; produce Nissan March, Versa, NOTE, Kicks, Sentra
- Nissan's A1 & A2 plants export to a total of 25 countries, with over 3,300 staff

A2 Aguascalientes, Ags.

- Produces Nissan Sentra

TOYOTA

Tijuana, B.C.

- Tacoma truck, transmissions
- 3,300 staff

Celaya, Gto.

- Tacoma truck
- 1,100 at launch

FCA GROUP

Ramos Arizpe/Saltillo, Coah. (4)

- Engines, stamping, truck and van assembly; Ram trucks, chassis, body panels
- 9,400 staff

Toluca, Edomex. (2)

- Assembly, stamping; body panels; Dodge Journey, Fiat Freemont, 500 and Jeep Compass
- 6,250 staff

FORD

Hermosillo, Son.

- Stamping and assembly; Fusion/Hybrid, Lincoln MKZ
- 3,650 staff

Chihuahua, Chih.

- Gasoline and diesel engines
- 1,580 staff

Cuatitlan Izcalli, Edomex

- Stamping and assembly; Ford Fiesta
- 2,130 staff

MAZDA

Salamanca, Gto.

- Mazda2 and Mazda3; Yaris for Toyota. Annual capacity for 250,000 vehicles.
- 5,200 staff

VOLKSWAGEN

Puebla, Pue.

- Stamping, painting, mounting and chassis; assembly: Jetta, Tiguan
- 14,305 staff

Silao, Gto.

- Engines
- 1,000 staff

(…text continues from page one)

Mexico's Supply Base – Inconsistencies Remain

While auto industry superlatives at the macro level are clear, life on the ground presents challenges. For instance, a 2016 report by Entrada Group based on a survey of 100 auto suppliers reveals that while the presence of a reliable Mexico supply chain is paramount, quality concerns remain. Ninety percent of respondents currently producing in Mexico said that a strong Mexico supply chain is "very important," but 23% of that same group labeled Mexico's supply base as "Poor." Shortages emerged along Mexico's local supply chain, and the disconnect between the weight manufacturers place on supply chain and the reliability of that supply chain is a commonly cited issue.

Source: Entrada Group 2016 survey of 100 auto manufacturers with Mexico operations

1/9

Mexico produces one of every nine light vehicles bought by US consumers.

Source: AMIA, Mexico's auto industry association

"It is unfathomable that we still have a situation where 70% of Tier Two components are imported mostly from the U.S.," Osterman told *Plastics News* in 2015. "That's a situation that sits not very well with the Mexican government.… It's a situation that doesn't sit well with the major OEMs in Mexico, and it's a situation [on which] the major Tier Ones in Mexico are getting increasing pressure from the OEMs."

For example, Mexico sources most of its resin from the U.S. and Europe, and lacks access to some of the more sophisticated processes more readily found in more mature auto-producing and supplying countries. Particularly, Mexico faces a shortage of Tier Two and Tier Three suppliers, including suppliers of injection-molded parts. About 70% of Tier Two and Tier Three basic components used in Mexico are imported into the country, according to Dietmar Ostermann, PwC's global automotive advisory leader. That includes some $6.5 billion in injection-molded components.

Juan Manuel Solana Morales,
Consul of Mexico in Detroit

"We saw the amount of investment that has gone into Mexico. [Despite that, it] means that we have huge holes of Tier Three and Tier Two products that are not being produced in Mexico that we need."

Shortage Equates to Opportunities for International Suppliers

Every year, the Mexican government slowly ratchets upward the percentage of local value-add required in Mexico for NAFTA (now slated to be USMCA) compliance, and OEMs and Tier One suppliers have a big incentive to source as much content locally as possible (see "USMCA: What Auto Suppliers Need to Know About the New NAFTA," below). In addition, the more this happens, the more the OEMs and Tier Ones will save on U.S., Canadian or European labor, not to mention transport to Mexico.

Many of the big players are resorting to any tactics they can – ranging from cajoling to strong-arming – to persuade their top Tier Two and Tier Three suppliers to establish their own Mexico operations. A survey of about 100 attendees (most with manufacturing operations in Mexico) at a recent Management Briefing Seminar hosted by Michigan's Center for Automotive Research (CAR), indicates "following a customer" is the top factor pushing suppliers into Mexico, because an automaker sets up a plant in Mexico and wants its suppliers nearby.

"Quite often we hear, simply, that my customer told me to be there," says Bernard Swiecki of CAR. "That this product needs to be shipped locally, it's either fragile or there's some reason, and the automaker told the supplier that, 'I need you there in Mexico.'"

In a recent Entrada Group podcast, Daron Gifford, Management Consulting Partner with advisory firm Plante Moran, elaborated on the urgency. "The OEMs have identified their launch program and they have their timing and cadence in place," Gifford explained. Once a new model is announced in Mexico, suppliers typically have a two-year window to be up and running, which can be a race against the clock. "If you're a supplier to that vehicle and to that plant, you need to be online and you need to be through all of your certifications, your PPAP, and APQP processes, and make sure your parts are ready to go when that vehicle is supposed to roll off in the production line on job one. It's very expensive to miss those kinds of deadlines."

USMCA: What Auto Suppliers Need to Know About the New NAFTA

In October 2018, the U.S., Mexico and Canada reached agreement on USMCA, formerly known as NAFTA. While the three administrations agreed in principle to the key terms of the pact that governs more than $1.2 trillion worth of trade among the three countries, the deal won't go into effect right away. Most of the key provisions don't start until 2020 and will be phased in through 2023, following final approvals from all three countries.

Approval and enactment of USMCA looks promising as of this writing, though a new U.S. Congress and new government in Mexico has yet to assure passage. Overall, there aren't major changes to the original pact, which was implemented in 1994 and was overdue for modernization. Yet the auto sector, in particular, was closely scrutinized throughout negotiations on USMCA and many will follow the final details as the pact proceeds to ratification in 2020.

Entrada Group sees these three aspects of USMCA and its negotiation as potentially being the most significant for the auto sector:

1. **75% of automobile components will have to be manufactured in either Mexico, the U.S., or Canada to qualify for zero tariffs (up from 62.5% under NAFTA). While definitions of "local content" from one of the three countries are still being finalized, trade negotiators have indicated those definitions will be simplified by the time the pact is ratified.**
2. **40-45% of the total value of the vehicle must be made by workers earning $16 per hour by 2023. While this percentage will be calculated differently than it had been under NAFTA, experts predict this requirement will not be overly onerous.***
3. **Perhaps most importantly, union representation of Mexico's labor force will likely change. While not part of USMCA itself, this concession, which gives workers in Mexico broader access to collective bargaining in the workforce, was stressed by the Trump administration as necessary to finalize the agreement.**

These changes to the pact and negotiated terms are substantial, yet they shouldn't materially affect Mexico's overall competitiveness in the auto sector.

*** To learn more about how vehicle value-add percentage will be calculated, contact Entrada.**

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Mexico Can Be Risky for Small/ Medium Suppliers, Even with a Client Identified

As compelling as the strengths and potential rewards of Mexico are, fundamental challenges of doing business in a foreign country remain, particularly for smaller and midsize suppliers. Even if a customer invites them or encourages them to jump into Mexico, many struggle with the essential question – Will we be able to make it work and will just one customer be enough to make Mexico sensible financially? The urgency to get to Mexico may be created by OEM and Tier One customers, but the cost, risk and lack of know-how may prove too great for many smaller suppliers.

Committing to Mexico operations for just a single client may entail assuming more risk than most midsize suppliers are willing to bear, according to Gifford. "We would not advise people to take on the 'build it and they will come' strategy," Gifford says. "Getting to [the initial] customer [in Mexico] is key to getting that initial capacity established, getting the operation moving, and getting revenue into the business. But very quickly they need to diversify, and expand and look for other customers that they can supply those components or materials to. The sooner they can do that even before they launch production, the better off they're going to be."

A Mexico facility requires capital as well as an opportunity cost – committing to the country may mean foregoing expansion in the US/Canada or elsewhere. In addition, such suppliers also need to clarify their operational needs, evaluating the expertise, equipment and resources for plant equipment and tooling necessary for a successful Mexico operation. This only covers the setup phase, however. They also have to address the successful management of ongoing, high-quality production in a foreign country (in time for their customers' deadline) as well as future growth.

In a nutshell, all of this requires Mexico expertise, capital and a willingness to incur risk. Midsize suppliers need to be aware of all of these elements before engaging in Mexico.

GLOBAL SUPPLIERS ABUNDANT IN MEXICO

Investment in Mexico isn't limited to the world's OEMs. Large tier one suppliers also have a substantial presence in the country. Global auto supplying giants in Mexico include:

- Delphi
- Nemak
- Magna International
- Continental
- Lear
- ThyssenKrup
- AutoLiv
- Sanluis Rassini
- Johnson Controls
- Valeo
- Metalsa
- Siemens
- Bridgestone

Source: Pro Mexico

PROCESSES IN DEMAND

In the past year, our clients have expressed the greatest need for processors situated in Mexico to perform the following production activities:

- Assembly or manufacture of sensors and electronic components
- All forms of plastic and rubber injection molding
- Precision stamping
- Fiberglass parts
- Cold and hot forged parts
- Extrusion of polymers with metallic insertions
- Flocking finishing
- Aluminum die casting up to 450 tons
- High-strength steel
- Stainless steel
- Welding
- Steel casting
- Stainless steel casting
- Deep stamping
- Dies and mold carrier for body parts

Source: "Mexico Automotive," 2015, Pro Mexico

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Different Routes to Mexico

There are several different ways for small- to mid-size suppliers to launch their Mexico footprint. For most, the option of greenfielding a facility on their own is cost prohibitive. This "go-it-alone" strategy is typically only possible, both financially and in terms of Mexico knowledge, for the OEMs and Tier Ones. Contract manufacturing may be a viable path to Mexico for some smaller suppliers, as it requires less financial commitment. The tradeoff in risk to intellectual property and control of production quality may be too great for many suppliers though. Often with contract manufacturing, the customer is the one that discovers defective product or damage due to transport – and by then it is too late to make modifications, with critical deadlines having been missed. Future expansion options may also be limited with contract manufacturing.

A third alternative for mid-market suppliers entails working with a trusted Mexico partner like Entrada Group, which takes full responsibility for all general and administrative support functions, leaving the supplier free to focus on product quality. This route gives the supplier access to economies of scale and expertise on Mexico, along with less risk. Gifford describes this type of manufacturing support platform offered by providers like Entrada Group as "a very reasonable entry point for a mid-market supplier to get into Mexico and see how it really goes, rather than trying to greenfield their own operations."

See also Entrada Group's whitepaper "Different Routes to Mexico Manufacturing" on our website

Opportunity Over Risk

Mexico can represent a new phase of growth for mid-size suppliers, if managed correctly and carefully with the insight of an experienced partner. Mexico's status as arguably the most open trading partner in the world (free trade agreements with 46+ countries) make it compelling from the standpoint of new market penetration. Entrada's experience throughout the years has shown that most customers enter Mexico conservatively before expanding manufacturing footprint and headcount over the years. In fact, throughout the past decade, Entrada's clients manufacturing for the automotive sector have consistently grown their total headcount and manufacturing footprint significantly, while producing at one of Entrada's manufacturing campus.

Mexico's auto sector has grown in leaps and bounds throughout the past two decades. Despite substantial investment, however, shortcomings remain in several key areas up and down the supply base. These gaps yield considerable expansion oopportunities for mid-market suppliers that are able to enter Mexico and manage their own operations.

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About Entrada Group

Entrada Group guides manufacturers in establishing and running their own cost-effective Mexico operations, enhancing their global competitiveness. Our manufacturing platform reduces risk and supports long-term growth, giving small- and medium-sized foreign companies a production footprint in Mexico, and empowering them to anticipate needs and deliver solutions to their clients, in an accelerated way. On behalf of the manufacturer, Entrada Group assists with the strategic, legal and practical requirements of setting up operations in Mexico, and also provides ongoing production support (General & Administrative) services. This leaves producers free to focus fully on their key competency: manufacturing great products.