AUTOPARTS MANUFACTURING CAPABILITIES

AUTOMOTIVE SECTOR IN QUERÉTARO

QUERÉTARO AUTOMOTIVE CLUSTER

2014
Querétaro has a tradition in the automotive industry that dates back to the beginning of the 60s. After more than 50 years of experience the State has lived colossal changes that have promoted the industrial development which has not only impacted the automotive sector but also other sectors. Labor force specialization, the development of a strong supply chain, the industrial infrastructure growth, these are some examples of the Automotive legacy to Querétaro society.

With the foundation of the Automotive Cluster in June 2013, the key players of this sector have found the right channel to boost their efforts. This integration has made stronger the already successful relationship between private sector and the State Government and has aligned the hard work the universities and R&D centers had built during the years.

Thanks to this association it is possible to accomplish new projects like this mapping that will enhance the consolidation of the Automotive Sector. this document presents the evolution that this Sector has had, we can recognize the technological development from metalworking processes with intensive labor force to the development of electronic vehicle systems, manufacturing of safety components and the consolidation of engineering centers within the companies. This document reveals the exponential growth we have experienced over the past 5 years which has encouraged the arrival of new investments to the entity.

We trust that this project will offer information that will guide you through your decision making based on the productive capabilities of autopart manufacturers that have been identified and will allow you to take advantage of the conditions that Querétaro and México are currently experiencing regarding the automotive sector.
The Automotive Cluster of Querétaro, A.C. is an organization specialized in the development and consolidation of the automotive sector in the entity; its actions and activities have both regional and national impact. This cluster was created in 2013, with the participation of major state companies, universities, research centers and the State Government.

Since its creation and up-to-date, the Cluster promotes the increasing competitiveness of the sector in the region through projects and actions that have impact the development of human resources, the integration of local companies in the supply chain and the generation of strategic information to facilitate business decision making.
SUPPLIERS DEVELOPMENT
HUMAN RESOURCES DEVELOPMENT
OPERATIONAL EXCELLENCE
PROMOTION OF BUSINESS OPPORTUNITIES

Querétaro Automotive Cluster acknowledges and appreciates the National Institute of Entrepreneur and the Secretariat of Sustainable Development of Querétaro the support for the development of this document.
AUTOMOTIVE SECTOR IN MEXICO

- Generates 3.5% of National GDP and 19.8% of Manufacturing GDP.
- Impacts 23 industrial sectors in the country.
- Ranked 8th place in produced units and 6th place in exported units worldwide.
- 3 million units produced in 2013 and an estimated 3.4 million units for 2014.
- 18 assembly plants and more than 300 Tier 1 suppliers.

Light vehicles
- General Motors, USA
- Ford, USA
- Chrysler/Fiat, USA, Italy
- Nissan, Japan
- Mazda, Japan
- Honda, Japan
- Toyota, Japan
- Volkswagen, Germany
- Audi, Germany
- BMW, Germany
- KIA, Korea

Heavy vehicles
- Daimler, Germany
- Scania, Sweden
- Volvo, Sweden
- Dina, Mexico
- Kenworth, USA
- International, USA
- Volkswagen, Germany
- Man, Germany
- Hino Motors, Toyota, Japan
- Isuzu, Japan
- Giant, China

Engines
- Cummins, USA, Canada
- Detroit Diesel
- Volkswagen, Germany

Source: AMIA, June 2014 & SEDESU
## FOREIGN DIRECT INVESTMENT 2008-2013

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>2008-2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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Amounts in Millions USD

Source: AMIA
START UP BY PLANT

QUERÉTARO AUTOMOTIVE CLUSTER

Source: AMIA, June 2014 & SEDESU
PRODUCED LIGHT VEHICLES 2014

Amounts in Millions USD

GM
- Ramos Arizpe #2: Cadillac SRX (GMT196)
- Ramos Arizpe #2: Chevrolet Captiva Sport (GMT131)
- Ramos Arizpe #2: Chevrolet Sonic (G12C)
- Ramos Arizpe #2: Chevrolet Axle (TB5G)
- Ramos Arizpe #2: Chevrolet B-CUV (GM1C)
- GMC Granite (G105)
- Chevrolet Silverado HD (K15DZ1)
- GMC Sierra (K15G)

Salamanca
- Mazda 2 [J364X]
- Mazda 3 [J36C]

Salamanka
- Toyota EFC [381A]

Tijuana
- Toyota Tacoma [B35N(2)]
- Toyota Tacoma [B35N]

Queretaro
- Automotive Cluster

Saldillo
- Ram 1500 [DS]
- Ram 2500/3500 [DJ]
- Ram E-Van [DK44]
- Fiat 500 [312]
- Jeep B-CUV [TYPE169]
- Dodge Journey [JC49]
- Fiat Freemont [JF]

Cuantitlan
- Ford B-CUV [B299N]
- Ford Fiesta [B299N]
- Ford Fusion [CD391]
- Lincoln MKZ [CD533]

Hermosillo
- Volkswagen Jetta [VW391]
- Volkswagen Jetta SportWagen [VW392]
- Volkswagen New Beetle [VW364]
- Volkswagen New Beetle Convertible [VW365]
- Volkswagen Polo [VW395]
- Volkswagen Jetta SportWagen [VW392]

Puebla
- Volkswagen Jetta [VW391]
- Volkswagen Jetta SportWagen [VW392]
- Volkswagen New Beetle [VW364]
- Volkswagen New Beetle Convertible [VW365]
- Volkswagen Polo [VW395]
- Volkswagen Jetta SportWagen [VW392]

San Luis Potosi
- Chevrolet Aveo [T250]
- Chevrolet B-CUV [G1US]
- Gmc Granite [G105]
- Chevrolet Silverado HD [K15DZ1]
- GMC Sierra [K15G]

Silao
- Chevrolet Silverado HD [K15DZ1]
- GMC Sierra [K15G]
- Nissan Sentra [X12F]
- Nissan Micra [X02A]
- Nissan Note [X02C]
- Nissan Versa [L12B]
- Nissan Tsuru [S1]

Tulancingo
- Ford Fiesta [B299N]
- Ford Fusion [CD391]
- Lincoln MKZ [CD533]

Toluca
- Ford B-CUV [B299N]
- Ford Fiesta [B299N]
- Ford Fusion [CD391]
- Lincoln MKZ [CD533]

Aguascalientes
- Nissan Sentra [X12F]
- Nissan Micra [X02A]
- Nissan Note [X02C]
- Nissan Versa [L12B]
- Nissan Tsuru [S1]
- Nissan Versa/Tiida [B11P]
- Nissan Versa [L12B]
- Nissan Frontier [N12]
- Nissan Frontier [MD1]

Cueraveca
- Toyota Tacoma [B35N(2)]
- Toyota Tacoma [B35N]

Salamanca
- Toyota EFC [381A]
HEAVY VEHICLES PRODUCTION SITES

- PLANT MEXICALLI: Heavy Duty Trucks
- PLANT SALTILLO: Heavy Duty Trucks, Busses, Chassis Bus
- PLANT ESCOBEDO: Heavy Trucks, Trucks, Chassis Bus
- PLANT GARCIA N.L: Heavy Duty Trucks, Busses, Chassis Bus
- PLANT S.L.P: Engines
- PLANT CD. SAHAGÚN: Heavy Duty Trucks, Chassis Bus
- PLANT PUEBLA: Chassis Bus
- PLANT TULTITLÁN: Buses
- PLANT SAN MARTIN: Heavy Duty Truck
- PLANT TULTITLÁN: Chassis Bus, Trucks, Busses
- PLANT SANTIAGO TIANGUISTENGO: Chassis Bus, Busses, Heavy Duty Trucks

Source: ANPACT, SEDESU
PRODUCED HEAVY VEHICLES 2014

**DIA**
- Chassis Bus: Models, LINNER, RUNNER, PICKER y OUTSIDER
- Tractor: Model HUSTLER TR57

**FAW**
- Heavy Duty Truck: GF 900, 3600 y 6000

**HINO**
- Heavy Duty Truck: Models 500 1524/151 ton. 500 1727/151 ton. 500 1013/10.4 ton y 1727

**IRIZAR**
- Buses: Models 8.150 y 9.150
- Chassis Bus: Model R39

**ISUZU**
- Heavy Duty Truck: Model ELF 600 y FORWARD 800
- Chassis Bus: Model ELF 600 BUS

**MAN**
- Buses: Models PB i6

**INTERNATIONAL**
- Chassis Bus: Models K420B4X2NB y K380B4X2NB
- Trucks: Model R340LA4X2NA
- Buses: Models P380CA8X4HZ y P380CB8X4EHZ

**MERCEDES-BENZ**
- Heavy Duty Trucks: Model M
- Trucks: cascadia, Model C, F y G
- Construction: Model M

**RENAULT**
- Heavy Duty Trucks: Models T370, L700, T800, PB320, T270 y T370
- Trucks: Models T800 y T680
- Construction: Models T460 y T680

**VOLVO**
- Buses: Models 7300, 9700 y B7R

**FREIGHTLINER**
- Heavy Duty Trucks: Model M
- Trucks: cascadia, Model C, F y G
- Construction: Model M

**KING LONG**
- Buses: Models MBO, 055001826, OH1523/S2, OH1623/S2L y OH1626/30L
- Chassis Bus: Model OF119/41, OF1319/44, S2, MB01019/44, MB01219/52 y MB01419/60

**QUERÉTARO AUTOMOTIVE CLUSTER**
AUTOPARTS MAKERS DISTRIBUTION

NORTHWEST REGION
198 Plants
Products / systems: Air conditioning, automotive systems, plastic parts, electrical system parts, engine parts and machining.

NORTHEAST REGION
70 Plants
Products / Systems: Air conditioning and heating System, interior components, automotive systems.

Source: PROMÉXICO, Industria de Autopartes, 2013
AUTOPARTS MAKERS DISTRIBUTION

QUERÉTARO AUTOMOTIVE CLUSTER

72
TIER 1 COMPANIES IN QUERÉTARO

CENTRAL REGION
101 Plants
Products / systems: seats, air conditioning, bottle type hydraulic jacks, interior components, engine parts, electrical systems, suspension and stamping.

BAJIO REGION
142 Plants
Products / systems: Stamping, electrical components, brake parts, rubber products, engine parts, steering, exhaust system, tires, wheels, transmissions, shock absorbers, steering wheels, bags and air curtains brake systems.

Source: PROMÉXICO, Industria de Autopartes, 2013
More than 300 companies related to the sector.
More than 48'000 jobs in the State.
Qualified workforce at all levels.
A strong local supply chain in the region.

1
OEM National Distribution Center

4
OEM Trucks

72
Tier1 Suppliers

200
Tier2 Suppliers
### Origin of Investment

#### Auto Parts Makers

<table>
<thead>
<tr>
<th>Country</th>
<th>Plants</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>USA</td>
<td>27</td>
<td>27%</td>
</tr>
<tr>
<td>México</td>
<td>19</td>
<td>19%</td>
</tr>
<tr>
<td>JAPAN</td>
<td>19</td>
<td>19%</td>
</tr>
<tr>
<td>GERMANY</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>FRANCE</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>OTHERS</td>
<td>12</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: ProMéxico with data from Automotive News.
GERMANY 20 PLANTS

Amounts in Millions USD
USA 15 PLANTS

Source: SEDESU
JAPAN 14 PLANTS

Source: SEDESU
OTHER PLANTS

Source: SEDESU
OTHER PLANTS

2 PLANTS

Johnson Matthey

OLSA

LG Innotek

TMD Friction

ZANINI

QUERÉTARO AUTOMOTIVE CLUSTER

Source: SEDESU
START UP OF A LOCAL TIER 1

60’s
1. TREMEC
   - QUERÉTARO

70’s
5. CARDANES
4. FORJAS
4. ENGRANES CÔNICOS
   - KOSTAL
   - TREMEC
   - P. ESCOBEDO

80’s
4. clarion
4. faurecia
4. HARADA
4. Rassini

90’s
22. ABC group
22. MANN+HUMMEL
22. HI-LEx
22. brose
   - Technik für Automobile
   - BENITO JUÁREZ
22. TRW
   - SISTEMAS DE DIRECCIONES

AFTER NAFTA - 17

Source: SEDESU
START UP OF A LOCAL TIER 1

2000 - 2008

2009 - 2014

30%
ELECTRICAL SYSTEM

10 SUPPLIERS / 12 AUTOPARTS

- Alternator Voltage Regulator
- Battery
- Alarm System
- Alternator
- Headlights
- Headlamp
- Horn
- Front Turn Signal
- Starter
- Wiring
- Automotive Harnesses
- Cruise Control
- Auto Ignition Switch
- Fuse Box
- Window Motor
- Rear Turn Signal
- Sunroof Motors
- Electric Antenna
- Stereo Speaker
- Power Mirrors Motor
- OLSA
- Valeo
- Nexteer
- TRW
- PRETTI
- PCB Assembly
- Horn Gauges
- Instrument Panel Switches
- CAR STEREO
- CAR STEREO
- INTERIOR LIGHTS
- PRETTI
- Electric Power Steering
- Electric Power Steering
- ALTERNATOR
- Alternator Voltage Regulator
- Battery
- Alarm System
FUEL SYSTEM

- Fuel Injectors
- Fuel Pressure Regulator
- Air Cleaner
- Evaporative Emission Control Canister
- Fuel Pump
- Muffler
- FUEL OPENER CABLE
- Valve for Fuel Tank
- FUEL TANK
- Turbo
- FUEL FILTER

CATALYST SYSTEMS AND CATALYST CONVERTORS

EXHAUST SYSTEMS

6 SUPPLIERS / 5 AUTOPARTS

QUERÉTARO AUTOMOTIVE CLUSTER
TRANSMISSION

- CV Joint
- Clutch Pedal
- Clutch
- CABLE FOR AUTOMATIC TRANSMISSION
- TRANSMISSION
- GEAR SHIFT ASSEMBLIES
- Transmisión Bell
- DRIVE SHAFT
- UNIVERSAL JOINT CROSS
- YOKES
- RING GEARS
- CONICAL GEARS
- CARDAN
- Differential

4 SUPPLIERS / 9 AUTOPARTS