Succeeding In Mexico’s Automotive Industry

Inside Mexico’s Auto Industry Conference

MEXICONOW | MAY 2015
Discussion Topics

• Introductions

• 5 Key Megatrends Impacting the Automotive Industry

• Automotive Industry in Mexico
  • Key OEM Investments and Strategic Implications
  • Challenges Faced by Manufacturers in the Region
  • Success Drivers

• Framework for Profitable Strategy Development
Automotive Practice at a Glance

2,000+
Manufacturing & distribution clients

350+
Automotive clients

23
Offices

85+
Years of Industry Experience

Automotive Industry Expertise

- Senior automotive professionals averaging 20+ years of industry experience
- Substantial international expansion expertise
- Access to specialized knowledge through the Plante Moran Supplier Intelligence Center™
- Deep industry involvement
  - Original Equipment Suppliers Association (OESA)
  - Society of Automotive Engineers (SAE)
  - Precision Metalforming Association (PMA)
  - Automotive Aftermarket Suppliers Association

Comprehensive Services

- International Services
- Strategy and Operations
- IT Consulting
- Transaction Advisory Services
- Audit and Accounting
- Tax Compliance and Consulting
- Real Estate (Plante Moran CRESA)
- Investment Banking (PM Corporate Finance)
Automotive Strategy Leadership

**Daron Gifford**
- Partner, Plante Moran Strategy Practice
- Over 37 years working in the technology, manufacturing and automotive industries, with over 28 years in management consulting
- Prior leadership positions in the management consulting practices of Deloitte, KPMG, and A.T. Kearney

**Ted Morgan**
- Principal, Plante Moran Strategy Practice
- Over 15 years manufacturing experience with strategy, M&A, sales, product launch and financial background
- More than a decade spent working for manufacturers including Magna International and Meridian Automotive Systems, focusing on Mexican operations
Megatrends in the Automotive Industry

- Mass/weight reduction
- Fewer and combined vehicle architectures
- Mobility technology
- Next generation powertrains
- Targeted emerging market growth

Technology innovation and related capital requirements will drive increasing partnerships, joint ventures, alliances, and consolidation in the automotive industry.
# Mass/Weight Reduction

<table>
<thead>
<tr>
<th>Material</th>
<th>Cost As A Multiple of Steel</th>
<th>Weight As Percentage of Steel</th>
<th>Current</th>
<th>Projected 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel</td>
<td>1.0x</td>
<td>100%</td>
<td>52%</td>
<td>13%</td>
</tr>
<tr>
<td>HSS/AHSS</td>
<td>1.1-1.5x</td>
<td>80%</td>
<td>15%</td>
<td>38%</td>
</tr>
<tr>
<td>Carbon Fiber</td>
<td>5-10x</td>
<td>50%</td>
<td>&gt;1%</td>
<td>5%</td>
</tr>
<tr>
<td>Composites/Plastics</td>
<td>1-2x</td>
<td>80%</td>
<td>9%</td>
<td>15%</td>
</tr>
<tr>
<td>Aluminum</td>
<td>1.3-1.5x</td>
<td>60%</td>
<td>5%</td>
<td>12%</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>-</td>
<td>19%</td>
<td>20.5%</td>
</tr>
</tbody>
</table>

**Mass/Weight Reduction**

67% → 51% → 28.5%

Source: McKinsey/Plante Moran
Fewer and Combined Vehicle Architectures

Source: FCA
Fewer and Combined Vehicle Architectures

Number of Platforms to Support 80% of Volume

<table>
<thead>
<tr>
<th>OEM</th>
<th>BMW</th>
<th>Daimler</th>
<th>FCA</th>
<th>Ford</th>
<th>GM</th>
<th>Honda</th>
<th>Hyundai</th>
<th>Suzuki</th>
<th>RNA</th>
<th>Toyota</th>
<th>VW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Platforms</td>
<td>8</td>
<td>16</td>
<td>23</td>
<td>19</td>
<td>25</td>
<td>9</td>
<td>13</td>
<td>11</td>
<td>18</td>
<td>28</td>
<td>21</td>
</tr>
</tbody>
</table>

Source: IHS
Mobility Technology

- **Past - Passive Safety**
  - Designed to reduce damage in accidents
  - Included seatbelts, improved vehicle architectures, airbags, etc.

- **Present - Active Safety**
  - Sensor technology that helps the driver with awareness of surroundings
  - Includes forward collision warnings, adaptive cruise control, lane departure warning, etc.

- **Future - Connected Mobility**
  - Vehicles will be able to communicate with each other to optimize traffic and reduce collisions, vehicle autonomy

Source: Deloitte/Plante Moran
Next Generation Powertrains

Projected Global Volumes in Units

- ICE: 98%
- Full Hybrid: 0.2%
- Mild Hybrid: 0.3%
- EREV: 1.4%
- BEV: 8%

92% of vehicles will utilize ICE’s (CAGR=2.2%)

Source: Plante Moran/IHS
## Targeted Emerging Market Growth

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>22,117</td>
<td>30,598</td>
<td>8,481</td>
<td>9,240</td>
<td>5.9%</td>
</tr>
<tr>
<td>Brazil</td>
<td>3,740</td>
<td>4,557</td>
<td>817</td>
<td>2,245</td>
<td>2.9%</td>
</tr>
<tr>
<td>India</td>
<td>3,881</td>
<td>6,442</td>
<td>2,561</td>
<td>1,876</td>
<td>4.8%</td>
</tr>
<tr>
<td>Mexico</td>
<td>3,052</td>
<td>4,469</td>
<td>1,417</td>
<td>1,260</td>
<td>2.9%</td>
</tr>
<tr>
<td>Russia</td>
<td>2,175</td>
<td>2,728</td>
<td>553</td>
<td>2,096</td>
<td>1.8%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1,208</td>
<td>1,734</td>
<td>526</td>
<td>868</td>
<td>5.1%</td>
</tr>
<tr>
<td>Turkey</td>
<td>1,125</td>
<td>1,368</td>
<td>243</td>
<td>820</td>
<td>1.9%</td>
</tr>
<tr>
<td>Thailand</td>
<td>2,410</td>
<td>3,064</td>
<td>654</td>
<td>387</td>
<td>4.1%</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>1,085</td>
<td>1,127</td>
<td>42</td>
<td>198</td>
<td>1.7%</td>
</tr>
<tr>
<td>Argentina</td>
<td>780</td>
<td>1,009</td>
<td>229</td>
<td>612</td>
<td>3.0%</td>
</tr>
<tr>
<td>Slovakia</td>
<td>823</td>
<td>932</td>
<td>109</td>
<td>96</td>
<td>3.1%</td>
</tr>
<tr>
<td>S. Africa</td>
<td>545</td>
<td>620</td>
<td>75</td>
<td>350</td>
<td>1.9%</td>
</tr>
</tbody>
</table>

*Vehicle production in thousands of units

Source: World Bank, IHS
OEM’s Heavy Investments in Mexico

GM to Double Mexico Production Capacity, Invest $3.6B in Plants - Automotive News

Ford Picks Mexico for $2.5 billion Engine Investment - Detroit Free Press

BMW to Invest $1 Billion in new Plant in Mexico - Automotive News

Automaker Kia to build $1B assembly plant in Mexico - Automotive News

America’s car capital will soon be … Mexico - Forbes
Evolution of Vehicles Produced in Mexico

2005

- Nissan Sentra
- Mercury Milan
- Pontiac Aztec

Current

- Audi Q5
- Dodge Ram
- BMW 3-Series

* Production to begin in 2018
Mexico – A Leader in Low Cost Manufacturing

- Analysis of Top 25 Exporting economies from 2004-2014 considered labor costs (adjusted for worker productivity), energy cost and currency fluctuation
- Mexico showed greatest improvement among all 25 economies driven by:
  - Competitive labor – modest wages increases with significant productivity gains
  - Energy costs – Decreasing natural gas costs with cont’d gov’t support to improve
  - Currency – Stable Peso compared to the US Dollar

Source: BCG
Mexico’s Favorable Long-Term Outlook

- Currently the 7th largest producer of automobiles in the world
- Future growth driven by
  - Continued growth in **North America**
  - Favorable **trade agreements with 42 countries** sets stage for significant growth outside of North America
- Mexican government support
  - Significant incentives at state level to promote new investments
  - Continued funding to improve infrastructure
  - **Workforce development programs** to develop skills relevant to automotive suppliers

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**North American Vehicle Production**

- **United States**
- **Mexico**
- **Canada**

<table>
<thead>
<tr>
<th>Year</th>
<th>United States</th>
<th>Mexico</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>17.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>16.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>12.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>17.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>18.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total units (millions)**

- **United States**: 17.7, 16.3, 12.0, 17.2, 18.2
- **Mexico**:        |        |
- **Canada**:        |

Source: IHS
Challenges in the Region

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Description</th>
</tr>
</thead>
</table>
| Availability of Labor    | • **Difficulty finding and retaining local management teams**  
                          | • Manufacturers based outside of Mexico have to balance appropriate level of **support of their management teams at Mexican plants**  
                          | • **High attrition rates within hourly work** force due to wage sensitivities and low unemployment rate of 4.8%                                |
| Supplier Infrastructure  | • Tier 2 and other **downstream suppliers are slow to set up operations** (Tier 1 suppliers in Mexico imported $38B of components, raw materials, tooling, and other resources to support $79B in sales in 2014)  
                          | • **Difficulties to obtain capital** for smaller domestic and international manufactures (mostly Tier 2 and 3 suppliers) to fund Mexican operations |

Source: Automotive News. National Institute of Statistics and Geography
# Challenges in the Region

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</table>
| Changes in Tax Policy      | • **Companies struggle to keep up with the changing tax landscape**  
• Implementation of VAT certification process in 2015 (IMEX & Maquiladoras **entities must be VAT certified** or be subject to VAT on imports)  
• Recent changes to **tax law increased effective taxable income rates by more than 100%** at Maquiladoras (initially 3% tax was changed to 6.5% of expenses and/or 6.9% of assets) |
| Safety & Security          | • **Safety conditions still remain a concern** for business travelers despite recent improvements in safety  
• Travel plans should be made to avoid dangerous areas and avoid traveling alone if possible (common sense approach) |

Source: Automotive News. National Institute of Statistics and Geography
Success Drivers for Mexico Automotive Industry

- **Manufacturing launch efficiency** will be critical each year. As the number of vehicle introductions increase each year, the importance to OEM sales grows...leading to more extensive supplier technical support.

- **Fewer and combined vehicle architectures** will drive up production volumes for suppliers, but reduce the number of suppliers...investing in targeted vehicle platforms will be critical to long term growth.

- **Commercial relationships** must be more effective and efficient ...especially in areas including engineering and technical support, pricing and costing transparency, warranty responsibility, transportation and delivery.

- **Innovation and technology** will dramatically change the automobile...supplier products and technical knowledge can add critical value to the OEM.

- **Focus on the labor force** by implementing programs to facilitate the development of employees as well as having strong collaboration between executive and local management teams.
Strategy Development
Effective Strategies for Profitable Growth

Market Dynamics
- Market Attractiveness
- Competitive Position

Company Assessment
- Capabilities
- Plans
- Performance

Strategy Synthesis

Alternative Business Models

Product/Technologies
- Production/Supply Chain

Core Competencies

Strategic Plan
- Actionable Plans
- Progress Monitoring
Automotive Strategy Leadership

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