DESIGN, ENGINEERING AND ADVANCED MANUFACTURING IN MEXICO
Where was this designed?

- Fusion 2013 (Ford)
- Corvette’s transmission (Chevrolet)
- Minnesota’s train (Bombardier)
- Mastretta
- Sponge iron
- A340/737 interiors (Volare Engineering)
What is advanced manufacturing?

About Advanced Manufacturing

- Describes businesses which use a high level of design or engineering skills to produce technologically complex products and processes.
- Because of the specialized requirements involved, the associated goods and services tend to be of high value.
• In 2002, technology exports from emerging markets were only ¼ of the G7’s.
• By 2011, this figure has grown to half of the G7’s.

A high degree of economic complexity

Mexico ranks in the top 20 of Harvard and MIT’s Atlas of Economic Complexity

- Recognizes that our country holds vast amounts of productive knowledge.
- We manufacture and export a large number of sophisticated goods.

### Medium and HighTech Exports as a percentage of GDP (2011)

<table>
<thead>
<tr>
<th>No.</th>
<th>Country</th>
<th>% GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Germany</td>
<td>28.2%</td>
</tr>
<tr>
<td>2</td>
<td>South Korea</td>
<td>27.2%</td>
</tr>
<tr>
<td>3</td>
<td>Mexico</td>
<td>19.3%</td>
</tr>
<tr>
<td>4</td>
<td>China</td>
<td>18.3%</td>
</tr>
<tr>
<td>5</td>
<td>France</td>
<td>13.1%</td>
</tr>
<tr>
<td>6</td>
<td>Canada</td>
<td>11.6%</td>
</tr>
<tr>
<td>7</td>
<td>Japan</td>
<td>10.6%</td>
</tr>
<tr>
<td>8</td>
<td>Italy</td>
<td>10.5%</td>
</tr>
<tr>
<td>9</td>
<td>United Kingdom</td>
<td>9.9%</td>
</tr>
<tr>
<td>10</td>
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<td>7.0%</td>
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<tr>
<td>11</td>
<td>United States</td>
<td>5.5%</td>
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<tr>
<td>12</td>
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<td>13</td>
<td>India</td>
<td>4.0%</td>
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<tr>
<td>14</td>
<td>Brazil</td>
<td>3.5%</td>
</tr>
<tr>
<td>15</td>
<td>Russia</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

**Medium Technology (MT):**
- Specialty Chemicals
- Machinery, Equipment, Appliance
- Electrical Industrial Machinery
- Motor Vehicles & Parts Total
- Motorcycles & Transport. Equipment
- Railroads & Equipment

**High Technology (HT):**
- Aircraft & Spacecraft
- Advanced materials
- Computers & Office Machinery
- Communication Equipment
- Medical, Precision & Optical

Source: IHS Data – Global Insight; ProMéxico’s Analysis. Data in USD Real terms, 2005.
Manufacturing Trends of Growth Markets

Medium Technology Exports

High Technology Exports

Mexico vs. LATAM

LATAM’s tech Exports (2011)

Medium Tech Exports
- Mexico: 70%
- Rest of LatAm: 30%
- MT: 0%

High Tech Exports
- Mexico: 80%
- Rest of LatAm: 20%

Source: IHS Data – Global Insight; ProMéxico’s Analysis. Data in USD real terms, 2005.
Sectors with advanced manufacturing

AEROSPACE
• Exports by 4.3 billion dollars.
• 6th supplier of US aerospace industry.
• The number of aerospace companies grew 4x since 2005.
• Member of the Wassenaar Arrangement.

MEDICAL DEVICES
• Leading exporter in Latin America and main supplier to the US.
• 5th largest exporter of medical instruments globally.

AUTOMOTIVE AND AUTOPARTS
• 8th vehicle producer and 5th exporter.
• Mexico’s automotive exports (by value in USD) are 3 times larger than Brazil and India combined.
• 19 global OEMs already established.
• 84 of the top 100 autoparts companies already in Mexico.

ELECTRIC-ELECTRONIC
• Largest flat screen TV exporter in the world.
• First exporter of two-door refrigerators with freezer.
• 4th exporter of computers.
• World’s 6th exporter of home appliances.
Map of Mexico’s Advanced Manufacturing

- Automotive
- Autoparts
- Aerospace
- Electric-Electronics
• Mexico is the 7th supplier in the aerospace industry to the USA.

• Mexico has recorded almost 20% annual growth in the last 7 years.

• 249 companies and support entities. Employ more than 31,000 high level professionals.

• By 2011, exports from the Mexican aerospace industry reached a value of 4,337 Billion Dollars.
Formalize with the international community the security and confidence that exists in the Mexico works, as well as opening up new trade areas, and exploit the enormous potential of Mexico's economic and technological development activities in the defense industries, including:

- Research
- Design
- Development
- Manufacturing of software and product
- Supplier of services associated with the industry
The Japanese aerospace companies that visited Mexico in 2012 declared to be “most impressed by the capabilities of the Mexican aerospace industry”. Mr. Kobayashi, Chairman of the Society of Japanese Aerospace Companies declares:

- “Seeing is believing. Specially, the productivity improvement based on automated manufacturing and lean production system were beyond my expression.”
- “I foresaw that Mexican aerospace industry shall expand […] through the skillful workers and engineers.”
Mexico: an excellent business case for advanced manufacturing and more

<table>
<thead>
<tr>
<th>Company/Technology</th>
<th>Image</th>
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<tbody>
<tr>
<td>Jetta Bicentenario (VW)</td>
<td><img src="image" alt="VW Car" /></td>
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<tr>
<td>Skyworks</td>
<td><img src="image" alt="Skyworks Equipment" /></td>
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<tr>
<td>Mabe</td>
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<td>Intel Design Center</td>
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<td>Silanes</td>
<td><img src="image" alt="Silanes Image" /></td>
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<tr>
<td>Honeywell (A350)</td>
<td><img src="image" alt="Honeywell Aircraft" /></td>
</tr>
<tr>
<td>Flexible manufacturing (Ford)</td>
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<td>Bombardier Learjet 85</td>
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<td>SAFRAN</td>
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<tr>
<td>Ericsson (Global Serv. Center)</td>
<td><img src="image" alt="Ericsson Facility" /></td>
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<tr>
<td>GE (GEnx turbine)</td>
<td><img src="image" alt="GE Turbine" /></td>
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<td>Siemens</td>
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</table>


Thank you!

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