Emerging markets driving future growth

The rise of new mobility models and slowing sales in mature markets have piqued concerns that global automotive production is nearing its peak, but the continued development of emerging markets will drive continued growth.

Global Light Vehicle Assembly Outlook
2015 – 2022 (millions)

Source: Autofacts 2016 Q3 Forecast Release

*CTG = Contribution to Growth
**Regional outlook**

Despite recent struggles in several key emerging markets, they are still expected to contribute an astounding 92% of global assembly growth from 2015 – 2022.

**Regional Contribution to Growth**
2015 – 2022 (percentage share)

Source: ASEAN = Association of Southeast Asian Nations
Alliance group outlook

Growth in developing Asia-Pacific and other emerging markets will continue to drive the large majority of volume opportunities for the world’s largest alliance groups, with little to no consolidation expected to occur.

Top 10 Alliance Groups
2015 vs. 2022 (millions)

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>VW</td>
<td>10.0</td>
<td>12.2</td>
</tr>
<tr>
<td>Toyota</td>
<td>10.0</td>
<td>11.6</td>
</tr>
<tr>
<td>GM</td>
<td>9.3</td>
<td>11.3</td>
</tr>
<tr>
<td>Renault-Nissan</td>
<td>8.4</td>
<td>11.1</td>
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<tr>
<td>Hyundai**</td>
<td>7.8</td>
<td>9.4</td>
</tr>
<tr>
<td>Ford</td>
<td>6.4</td>
<td>8.2</td>
</tr>
<tr>
<td>Honda</td>
<td>4.7</td>
<td>5.9</td>
</tr>
<tr>
<td>FCA</td>
<td>4.7</td>
<td>5.6</td>
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<tr>
<td>PSA</td>
<td>3.3</td>
<td>3.8</td>
</tr>
<tr>
<td>Suzuki</td>
<td>2.7</td>
<td>3.4</td>
</tr>
<tr>
<td>Other</td>
<td>28.5</td>
<td>20.9</td>
</tr>
</tbody>
</table>

Source: Autofacts 2016 Q3 Forecast Release  *FCA = Fiat-Chrysler Automobiles  **Includes Kia

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**Emissions still top of mind...elsewhere**

As US consumers continue to shift towards light trucks, the headline MPG-e number of 54.5 by 2025 is now off the table. However, sales of alternative energy vehicles continues to gain momentum in other markets around the world.

- **Global**
  - Shifts towards alternative fuel are clear

- **EU**
  - Biggest markets driving expansion
  - Plug-in hybrids are gaining momentum in the Top 5 EU markets of France, Germany, Italy, Spain and the UK.

- **China**
  - Incentive driven growth
  - China leads the way in terms of growth with total electrified vehicles sales up 158.6% at the midway point of the year.

- **US**
  - Old habits die hard
  - Lower gas prices have translated into purchases of bigger vehicles in the US as light trucks now account for nearly 60% of sales.

Source: Autofacts Analysis
Alternative Fuel Outlook
Looming emission standards, particularly in Europe, are expected to drive a significant increase in alternative fuel vehicle production as manufacturers fight low oil prices and waning consumer demand for fuel efficient products.

Alternative Fuel Consumption
2012 - 2022 (millions)
Emerging markets, emerging challenges

With 8 of the top 10 volume growth markets classified as emerging, the underlying infrastructure and logistics landscape will need significant investments to handle the volume growth going forward.

Top 10 & Bottom 10 Volume Growth Markets
2015 vs. 2022 Variance (thousands)

Source: Autofacts 2016 Q3 Forecast Release

*ROI = Rest of Industry
Logistics logjam?
Served by two major players, Mexico rail is already operating near max capacity – how will rapidly growing volumes be transported?

Reaching the limits

- Cross-border rail volumes from Mexico to US is expected to grow by ~1 million units by 2020
- Ferromex and KCSM are both investing aggressively to add capacity for projected volumes, but rail development is slow and requires various levels of approval
- Short sea is an emerging mode of export back to the US, but is primarily out of Veracruz
- Major border crossings at Eagle Pass, El Paso and Laredo for rail
- Mexico’s growing pains in terms of logistics could be a precursor for other emerging markets as well.

Source: Automotive Logistics, Autofacts Analysis
Summary

Though short-term concerns linger as mature markets reach the proverbial “plateau,” global growth is still forecasted thanks to emerging markets. Within said markets, growing pains – including automotive logistics – will take center stage.

Global Outlook

- 91.4% CTG is coming from emerging markets
- Developing Asia Pacific alone will account for 65.8% CTG
- Instability in each region may slow the rate of growth, but the global topline is still increasing throughout the forecast

Emerging Trend

- Alternative powertrains will more than double their share from 2015 to 2022 thanks to global shift towards alternative fuel vehicles

Future game-changers:
transportation vs. mobility, autonomy

Logistics Impact

- Growth in emerging markets will put pressure on logistical infrastructures
- Building the vehicles is one thing, getting them out is another.

Future game-changers: next-gen logistics infrastructure, telematics and fleet logistics

Source: Autofacts
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