Opportunities for Industrial Technique

Atlas Copco Capital Markets Day, December 1, 2010
Mats Rahmström, Business Area President

Agenda
Opportunities

Automotive   Off-road
Asia         Power & Energy
Aerospace    Service
Electronics  Globally

Automotive – trends and opportunities
Global growth forecast

North America
Europe
Greater China
Japan/Korea
South America
Latin America
Total

Source: CSM Global light vehicle production summary.
### Automotive – trends and opportunities

**Car ownership in emerging markets**
- At around USD 10,000 GDP per capita, car ownership accelerates.
- The growing middle class in many highly populated countries is estimated to contribute to accelerating car ownership.
  - E.g. China, India, Malaysia, Thailand, Indonesia, Argentina, Brazil, Mexico, Russia, Turkey.

**Source:** Booz&Co - strategy+business issue 55, summer 2009

### Automotive – trends and opportunities

**Car manufacturers in China**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total market '000 units</th>
<th>US</th>
<th>Korean</th>
<th>Japanese (excl. Toyota)</th>
<th>Chinese</th>
<th>Others</th>
<th>Volkswagen Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>3,180</td>
<td>12%</td>
<td>7%</td>
<td>20%</td>
<td>10%</td>
<td>10%</td>
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<tr>
<td>2006</td>
<td>4,177</td>
<td>12%</td>
<td>4%</td>
<td>26%</td>
<td>10%</td>
<td>10%</td>
<td>11%</td>
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<tr>
<td>2007</td>
<td>5,105</td>
<td>12%</td>
<td>5%</td>
<td>27%</td>
<td>10%</td>
<td>10%</td>
<td>11%</td>
</tr>
<tr>
<td>2008</td>
<td>5,503</td>
<td>12%</td>
<td>5%</td>
<td>27%</td>
<td>10%</td>
<td>10%</td>
<td>11%</td>
</tr>
<tr>
<td>2009</td>
<td>6,482</td>
<td>12%</td>
<td>6%</td>
<td>24%</td>
<td>10%</td>
<td>10%</td>
<td>11%</td>
</tr>
<tr>
<td>Q1/2010</td>
<td>2,653</td>
<td>12%</td>
<td>4%</td>
<td>24%</td>
<td>10%</td>
<td>10%</td>
<td>11%</td>
</tr>
</tbody>
</table>

**Source:** Volkswagen Group China

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Automotive – trends and opportunities

New fuel types

Steps in electrification

Fuel Cell

Electric Vehicle

Plug-In Hybrid

Full Hybrid

Mild Hybrid

Internal Combustion Engine

Energy carrier in mobility*

A European scenario

Source: *Volkswagen

Asia – long term potential

2025 – China as an example
- 330 million more people in cities
- Midsize cities (1.5-5M) from 70 to 115
- 5 billion m² road to be paved
- 28,000 km of new commuter rail
- 20,000 – 50,000 new skyscrapers
- Energy demand doubled
  - From 14 to 22% of world consumption


Asia – opportunities
Aerospace

Final assembly

Tier 1 (e.g. engines)

Defence

Aircraft maintenance and repair

Aerospace – trends and opportunities

- Demand for 25,000 new large aircraft over the 2009 – 2028 period
- Production of aircrafts is expected to increase by approx. 10% annually 2010-2016
- Clear trend towards larger aircraft will positively affect demand for industrial tools

![Graph showing predicted increase in world fleet size from 2009 to 2028.]


Aerospace – trends and opportunities

- Weight reduction in new airplanes for increased fuel efficiency
- Increased use of composite and stack material -> higher demand on tightening and drilling
- Trend towards joints replacing rivets
- Automation and standardization to raise productivity in production
- Stronger focus on quality assurance

![Tools for transformation: Tensor STB, ST Wrench, Positive Feed Drill.]

Source: Cytec Industries, Inc., Airbus, Boeing
Electronics – trends and opportunities

- Electronics manufacturing is growing following a sharp drop in 2009
  - Estimated annual growth is 5-6% until 2014
  - Better than average growth is estimated to be in industrial, medical, telecoms, data processing and automotive end markets
  - Home appliances and audio & video is estimated to have lower growth
- Asia is dominating the electronics manufacturing

Electronics – trends and opportunities

- Smartphones designed with more screws, from 4-10 to 20-60 per phone
- Major cell phone manufacturers to increase output in 2011
- Hard disc drive segment maintains 20% growth 2011
- Car navigation systems expected to grow ~15% in 2011
Off-road

Transformation

- 1 operation – 1 person
- Documented quality
- Excellent ergonomics

- Produce better quality
- Produce faster with high flexibility
- Secure operator well-being
- Standardize process globally

Off-road – trends and opportunities

Infrastructure

Urbanization Construction Growth Metals/Aggregate Demand

World population1

In billions

<table>
<thead>
<tr>
<th>Year</th>
<th>Rural</th>
<th>Urban</th>
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</thead>
<tbody>
<tr>
<td>2005</td>
<td>3</td>
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<tr>
<td>2010</td>
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<td>2015</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>2020</td>
<td>6</td>
<td>4</td>
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Worldwide infrastructure construction market growth2

US$ Billion

<table>
<thead>
<tr>
<th>Year</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2010</td>
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<td>2015</td>
<td>4</td>
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<td>13</td>
</tr>
<tr>
<td>2020</td>
<td>5</td>
<td>9</td>
<td>13</td>
<td>17</td>
</tr>
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</table>


Off-road – trends and opportunities

World population1

In billions

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<td>2</td>
<td>4</td>
</tr>
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**Power & Energy**

Majority of applications require high torque assembly.

Assembly tools are critical to process performance and safety, however investment costs are low in relation to other costs.

Awareness of importance of correct tension is high.

Importance of process time.

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Power & Energy – trends and opportunities

- World market energy consumption

  - Quadrillion Btu
  - Sources: IEA - International Energy Outlook 2010

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Tools for transformation

- Tensor Revo
- LMS 68
- LTP 61
Service – trends and opportunities

Outsourcing increases

More advanced equipment require OEM service

Global common solutions

On-site service increases

The value of a service contract

Engine plant producing 110,000 – 140,000 engines/year

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of tools</th>
<th>Number of failures % over 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>115</td>
<td>32.0%</td>
</tr>
<tr>
<td>2006</td>
<td>115</td>
<td>13.0%</td>
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<tr>
<td>2007</td>
<td>198</td>
<td>4.0%</td>
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<tr>
<td>2008</td>
<td>300</td>
<td>1.0%</td>
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<tr>
<td>2009</td>
<td>300</td>
<td>1.7%</td>
</tr>
<tr>
<td>2010</td>
<td>300</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

RCM = Reliability Centered Maintenance. *Q1-Q3 2010
Global opportunities

- Direct sales/specialist distribution
- Direct service
- Application centers
- Commonality in process, quality and service
- Application knowledge

Summary

Committed to sustainable productivity.