Valeo in China

Edouard de Pirey
Valeo China President
Valeo Strategy

CO₂ emissions reduction and intuitive driving

Development in Asia and emerging countries
OEM sales produced in Asia & emerging countries at 54%

*Share of Valeo total OEM production made in Asia & emerging countries

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Geographic repositioning

OEM sales by production region
Sales including joint-ventures consolidated proportionally

YTD end-September

54% in Asia & emerging countries

54% in Asia & emerging countries
H1 2014: OEM sales outpaced the global market by near 7 pts, in line with 2013

North America
OEM sales*** +6.4%
Production**** +2.8%
20% of Valeo sales.

Outperf. +3.6pts*

South America
OEM sales*** -13.3%
Production**** -17.4%
3% of Valeo sales.

Outperf. +4.1pts*

Europe**
OEM sales*** +9.6%
Production**** +3.6%
51% of Valeo sales.

Outperf. +6.0pts*

Asia** excl. China
OEM sales*** +9.7%
Production**** +1.9%
13% of Valeo sales.

Outperf. +7.8pts*

China
OEM sales*** +35.5%
Production**** +10.8%
13% of Valeo sales.

Outperf. +24.7pts*

World
OEM sales*** +10.3%
Production**** +3.6%

Outperf. +6.7pts*

* Like-for-like
** Europe including Africa;
Asia including Middle East
*** Valeo OEM sales by destination
**** LMC estimates – light vehicle production
(1) Sales including joint-ventures consolidated proportionally

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Q3 2014: OEM sales outpaced the global market by 7 points
Outperformance in China of more than 20 points

** Europe including Africa;
Asia including Middle East
** Valeo OEM sales by destination
*** LMC estimates – light vehicle production

North America
OEM sales** +4.2%
Production*** +3.8%
Outperf. +0.4pts
22% of Valeo sales

South America
OEM sales** -21.7%
Production*** -19.5%
Underperf. -2.2pts
3% of Valeo sales

Europe*
OEM sales** +8.9%
Production*** -0.2%
Outperf. +9.1pts
49% of Valeo sales

Asia* excl. China
OEM sales** +5.1%
Production*** -0.2%
Outperf. +5.3pts
13% of Valeo sales

China
OEM sales** +25.4%
Production*** +5.6%
Outperf. +20.4pts
13% of Valeo sales

World
OEM sales** +7.7%
Production*** +0.7%
Outperf. +7.0pts
Balanced customer portfolio

% of OEM sales
Sales including joint-ventures consolidated proportionally

- French*: 18%
- American: 20%
- Asian**: 26%
- Other: 6%
- German: 30%

* Excluding Nissan
** Including Nissan

H1 2013

H1 2014

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China and North America fueling future organic growth

% of 2013 OEM sales*

- NA 19%
- SA Asia excl. China 18%
- China 13%
- Europe 50%

OEM sales: €10.3bn

% of 2013 order intake*

- NA 22%
- SA Asia excl. China 13%
- Asia 37%**
- China 24%
- Europe 36%

Order intake**: €14.8bn
(of which Asia**: €5.5bn)

* By destination
** Excluding Access Mechanisms business
Asia fueling future organic growth, Acceleration in China

% of H1 2014 OEM sales*

- Europe: €2.8bn (51%)
- China: 13%
- NA: €1.1bn (20%)
- Asia excl. China: 26%

OEM sales: €5.4bn

% of H1 2014 order intake*

- Europe: €3.6bn (40%)
- China: 27%
- NA: €1.6bn (17%)
- Asia excl. China: 14%
- SA: 2%
- Asia: 41%

Order intake: €9.1bn

*OEM sales and order intake by destination including joint-ventures consolidated proportionally

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A shift in our vision…

Global automobile production in 2000

NAFTA: 17M veh.
Europe: 20M veh.
Asia: 17M veh.

SAM: 2M veh.
Africa & Middle East: 0.5M veh.
A shift in our vision...

Global automobile production in 2017


SAM: 6M veh.  Africa & Middle East: 3M veh.
A shift in our vision...

Our vision 2030

Sources: VALEO, BIPE
Growth in China as part of Valeo global strategy

- **Absolute numbers in China**
  - RMB 12bn Sales*
  - 15,000 employees**
  - 26 sites**
  - 10 development centers**

- **At Group level (H1 2014)**
  - 27% of order intake
  - 13% of sales

China is already Valeo’s No.1 country in number of employees

*in 2013
**as of today
Valeo is a worldwide leader as well as a Chinese leader in all its businesses.
Valeo in China

26 Plants
10 Development Centers
3 Research Centers
15,000 People
Chinese OEMs represent <20% of Valeo sales in China today, but ~30% of Valeo’s order intake in China
We are growing faster than the market

Valeo OEM sales growth*  
Automotive production**

*OEM sales by destination like-for-like  
** LMC estimates – light vehicle production

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Strong growth ahead

Valeo OEM Sales*
+9% CAGR

Production**
+24% CAGR

Valeo OEM Sales*
+34% CAGR

Production**
+17% CAGR

Out performance 17pts

Double our sales every four years

*OEM sales by destination like-for-like
** LMC estimates – light vehicle production
Continuous increase in the order intake

Order intake ratio: 2.7, 2.1, 3.3, 2.8, 2.6, 3.0

Order intake in €bn:
- 2009: 0.8
- 2010: 1.3
- 2011: 2.7
- 2012: 2.9
- 2013: 3.5
- H1 2014: 2.4€bn

Weighting of China in Group Order Intake:
- H1 2014: 25%

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Aftermarket: the next wave of growth

- Car park shifting from fleet market to private owners
  - Chinese car park > USA car park by 2020
- Vast majority of first time buyers
  - No habit of regular maintenance
  - Trust in OES workshop expertise
- 50% of current car park will exit warranty period in the next 3 years
  - Maintenance parts consumption to rise

Valeo Aftermarket sales growth higher than the car park growth

Source: POLK

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Managing growth, optimizing Capex

Example: Thermal industrial strategy

- Concentrating component plants
  - Jingzhou for heat exchangers for HVAC
  - Changchun for variable piston compressors
  - Loudi for fixed piston compressors
  - Foshan for radiators

- Assembly plants close to customers
  - Shashi
  - Tianjin
  - Huadu
  - Nanjing
  - Yantai
  - Changchun

- 2013
  - 4 new sites
  - 3 extensions

- 2014
  - 4 new sites

- 2015 & onwards
  - 4+ additional projects

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Valeo China’s Commitment

Four Steps Approach

- Serve its traditional international customers
- Develop business with Chinese car makers
- Develop products for the Chinese market in China
- Develop technologies from China

Be Chinese in China

1994 - 2014
Innovation for China

- CO2 emission reduction
  - Stop-start
  - PHEV solutions
  - Water Charge Air Cooler
  - Etc

- Intuitive driving
  - Advanced HMI
  - Automatic driving

Valeo innovation strategy fitted to the Chinese market
Footprint of Valeo’s China Technical Centers

~2,000 development staff

3 Research Centers

10 Development Centers

Shanghai Electrical
Shanghai Wiper/THS
Wuxi CDA
Shenzhen PTS
Foshan
Shenzhen CDA
Nanjing Transmission
Shanghai Wiper
Wuhan Lighting
Changchun Thermal
Shashi Thermal
Managing growth with the best teams

Hire

Train
Incl. Expert development

Retain
<9% turnover, 4-5 pts better than the market

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Efficiency program delivering results

- A comprehensive toolbox
  - Benchmark
  - Kaizen activities
  - Automation
  - Etc

Increase productivity to offset labor cost increase in the years to come
Valeo committed to China

- Strong commitment of Valeo to China
  - All technologies available, all Valeo tools implemented incl. 5 Axes, Mother-Daughter, etc.
  - Full localization and continuous support of global organization
  - R&D and projects localized: “Invented with China”
  - Support all OEMs, international OEMs as well as Chinese OEMs

- Strong commitment of teams, “Be Chinese in China”
  - 15,000 people, comprehensive career path offers, Top employer
  - 2,000 development staff, local teams and international experts
  - Turnover under control

- A winning strategy
  - Sales to double every 4 years in the future, as was the case in the past
  - Valeo China becoming Valeo’s No.1 country
Shanghai Valeo overview

YI Pinghua
Senior Site General Manager
Powertrain Systems Business Group
Four Product Groups

- **Electrical Systems (PES)**
  - Alternators
  - Starters
  - Re-Starters / Stop&Start
  - Belt Starter Generator
  - Electric Motors

- **Transmission Systems (PTR)**
  - Manual Transmissions
  - Hydraulic Clutch Actuation
  - Friction Materials
  - Automatic Transmissions
  - Powershift Transmissions

- **Combustion Engine (PCE)**
  - Mechanical Actuators
  - Powertrain Sensors
  - Air Charging Systems
  - EMS ECUs
  - Ignition & Injection

- **Electronics (PEL)**
  - Medium Power Electronics
  - High Power Electronics (HEVs & Evs)
  - Energy Conversion

- System Engineering & Transversal Innovation
- - CO₂ Emission Reduction
- - Pollutants Emission Reduction
- - Hybrid and Electric

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Valeo Re-Starters

Solenoid switch

Field system

Rear part

Reduction gear

Armature

Property of Valeo. Duplication prohibited
i-Stars: Starter Alternator Reversible System

- Power module
- Control module
- Stator
- Rotor
- Heat sink
- Brush holder
- Interconnector
- Rear cover
Shanghai PES key facts

- #1 in China, >25% market share
- Shareholding: 50% Valeo/50% Huayu (SAIC Group)
- 2,000 employees
- >10m machines manufactured in 2013

Valeo’s biggest plant worldwide
## Shanghai PES history

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>2014</td>
<td>Decision to localize Mild Hybrid Belt Starter Generator i-BSG 48V</td>
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<tr>
<td>2013</td>
<td>New Plant in Pudong Jinqiao</td>
</tr>
<tr>
<td></td>
<td>Localization RSM14, NRG11</td>
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<tr>
<td>2012</td>
<td>Localization ESW22, ESW24</td>
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<tr>
<td>2011</td>
<td>Localization FGt, Mechatronics, ESM14, FS18, FG20+, FG23</td>
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<td>2009</td>
<td>Localization VALEO Products FG</td>
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<td>2007</td>
<td>Localization VALEO Products D7R</td>
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<tr>
<td>Mar. 2005</td>
<td>Localization VALEO Products TG/TS</td>
</tr>
<tr>
<td>Dec. 2003</td>
<td>VALEO increased share to 50%</td>
</tr>
<tr>
<td>Aug. 2001</td>
<td>Localization VALEO Products SG</td>
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<tr>
<td>Mar. 1998</td>
<td>New Plant in Pudong Zhangjiang Hi-Tech Park</td>
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<tr>
<td>Jan. 1997</td>
<td>Localization VALEO Products VI/D6RA</td>
</tr>
<tr>
<td>Feb. 1995</td>
<td>Setup of JV</td>
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</table>
A broad and comprehensive customer base
Strong growth of Valeo Shanghai

Sales x5 since 2005

2005 2006 2007 2008 2009 2010 2011 2012 2013
### New Valeo Shanghai facilities

<table>
<thead>
<tr>
<th></th>
<th>Old plant (Zhangjiang)</th>
<th>New plant (Jinqiao)</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site ground area</strong></td>
<td>28,914</td>
<td>77,813</td>
<td>269%</td>
</tr>
<tr>
<td><strong>Constructive area</strong></td>
<td>17,685</td>
<td>53,023</td>
<td>300%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><em>Industrial surface</em></td>
<td>12,724</td>
<td>37,005</td>
<td>291%</td>
</tr>
<tr>
<td><em>Offices &amp; other</em></td>
<td>4,151</td>
<td>12,917</td>
<td>311%</td>
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<tr>
<td><em>R&amp;D laboratory</em></td>
<td>810</td>
<td>3,101</td>
<td>383%</td>
</tr>
</tbody>
</table>
Why is hybridization a must? (1/2)

Market context –
Regulatory impact analysis

- Demanding emission regulations
- Climate/air quality (especially in China)
- End-user benefit
Why is hybridization a must? (2/2)

Today:
We are wasting “free Energy”
We need a lot of Energy

Thanks to electrification, Hybrid cars will:
• recover energy when it is “free”
• restitute it when necessary (start, boost, drive, sailing, etc.)
Which improves efficiency and reduces CO₂ consumption
Electrification forecast: China

- Emergence of Stop-Start
- Diversity of technologies—higher FULL / PHEV growth
- Stop-Start massive application

Source: 2013 Valeo Powertrain Forecast
Valeo Innovation Roadmap

Conventional Systems
- Starters and alternators
- High efficiency alternator
- Reinforced starters: ReStart with or without Reflex Start

Belt-driven starter-generators i-StARS

Mild/Full Hybrids
- Belt Starter Generator up to 15kW for mild hybrids
- Crankshaft motor generator up to 70kW for full hybrids and range extender generators

Micro Hybrids
Valeo Concept on Democar

- **E-Machine**: 8-12 kW@ 48V
- **EDLC**: 24 x 5000F, 208 kJ
- **Supervisor**
- **Stand Alone Inverter**: 15 kW 48V
- **DC/DC Converter**: 2 kW 60V / 12V unidirectional

*Up to 13% fuel consumption savings*

Produced by Valeo
Valeo Range Extender for a German premium car

- Petrol electrical generating set
  - Series hybrid: petrol engine used to generate electricity
  - To extend range up to 240-340km (vs 130-160km)
  - Able to provide energy for driving even with empty battery

- SOP Sept 2013 in Valeo Poland

- 28Kw Machine direct coupling with engine crankshaft
  - Water cooled with max: 120°C air/80°C coolant
  - Voltage range/Eff.: 200-450V/93%

Valeo has been in production since 2013
Total Quality Approach

**High Tech Validation Labs**

**5 Axes Method**

**10 Tools**

- QRQC (All)
- 5S
- Work Instructions/Operator Certification
- Zero Rework
- Stop Scrap
- Change Control (CI 3.9) (4M Matrix)
- SPPC - Manufacturing / Project
- Launch Control (FDPR)
- Standardization Committee / Technical Committee
- PFMEA check on Genba

- for Best Product Design
- for Customer Satisfaction
- as Conditions to Produce Quality
- for Continuous Improvement
Recognized by our customers
Plant layout

- Unloading
- Raw materials
- ALT lines
- Finished Goods
- Loading
- S/T lines

1st Floor

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