Investor Day

2014-2018: Growth & Innovation

α-Alphatech, Compiègne, December 2nd, 2014
The 2014-2018 data presented in this document are prepared using the same accounting methods as the 2013 audited financial statements, in order to give the accurate picture of the Group’s business and operational position.
3 businesses, 3 leadership positions

2014 revenue ≈ 5.3 bn €

- **Auto Exterior**
  - 100%
  - #1 WORLD
- **Auto Inergy**
  - 100%
  - #1 WORLD
- **Environment**
  - 100%
  - #1 WORLD
3 businesses, 3 leadership positions

2014 Bumpers worldwide market share

- In-house 33%
- Plastic Omnium 10%
- Magna 9%
- Faurecia 5%
- 7 Suppliers with 1% each:
  - Tongyang 2%
  - Hanil E-HWA 2%
  - Rehau 2%
  - JJ Mold 2%
  - Hyundai Mobis 3%
  - Flex-N-Gate 3%
  - Motherson 3%
- Suppliers < 1% 15%
- Steel 4%

Exterior and structural components

No.1 worldwide in Bumpers
18 million painted bumpers/year
66 plants in 17 countries

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3 businesses, 3 leadership positions

2014 Fuel Systems worldwide market share

Fuel systems

No.1 worldwide
18 million fuel systems/year
31 plants in 19 countries

- Steel 26%
- Plastic Omnium 21%
- Kautex 14%
- Yapp-ABC 10%
- TI Automotive 9%
- Others, plastic 6%
- Shunrong 2%
- Donghee 2%
- FTS 3%
- Yachiyo 5%
- Magneti Marelli 1%

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2014 Waste containers worldwide market share

- Plastic Omnium 30%
- ESE 20%
- SSI/Schaefer 17%
- MGB 9%
- Craemer 8%
- Weber 5%
- Straight 3%
- Others 8%

- No.1 worldwide
- 3.5 million waste containers

2 DECEMBER 2014
A history of growth, profitability and free cash flow

<table>
<thead>
<tr>
<th>(in €m)</th>
<th>2009</th>
<th>2013</th>
<th>Evolution</th>
<th>PO CAGR</th>
<th>Market CAGR</th>
<th>Outperformance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>2,459</td>
<td>5,125</td>
<td>x2</td>
<td>+20%</td>
<td>+12%</td>
<td>+8 pts</td>
</tr>
<tr>
<td>Operating margin % Revenue</td>
<td>102</td>
<td>395</td>
<td>x4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Result</td>
<td>31</td>
<td>208</td>
<td>x7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free Cash Flow (2009-2013 cumulative)</td>
<td>807</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

+5 pts organic +3 pts perimeter
A history of growth, profitability and free cash flow

INVESTMENT 2009-2013
€1 Bn

FREE CASH FLOW 2009-2013
€0.8 Bn

ORGANIC GROWTH
+€1.6 Bn in revenue

EXTERNAL GROWTH
+€0.9 Bn in revenue

DELEVERAGING
€0.2 Bn

2009-2013:
+€2.5 Bn in REVENUE

2009-2013:
GEARING from 92% to 38%
2014-2018
Strategic planning
A growing market

EVOLUTION OF THE WORLDWIDE AUTOMOTIVE PRODUCTION 2014-2018

- Growth in every region
- China represents 46% of total growth

(*) +3.4% CAGR
A growing market

2014-2018

PO will continue to outperform the automotive production

**WORLDWIDE AUTOMOTIVE PRODUCTION**
(IN M UNITS)

- 2014: 85.5
- 2018: 98.0

+14%

**PLASTIC OMNIUM REVENUE**
(IN €BN)

- 2014: ~5.3
- 2018: ~7.0

> +30%
PO WILL CONTINUE TO FOCUS ON BASICS

≥100 successful launches/year

**AVERAGE AUTOMOTIVE CUSTOMER PPM**
- 30%

**OVERALL EQUIPMENT EFFICIENCY (%)**
- 69% → 84%

**PLANT LOADING (%)**
- 56% → 80%

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Environment division will contribute to operational improvement

- Auto Exterior 100%
- Auto Inergy 100%
- Environment 100%

Maintain profitability ≥ 7%
Generate Free Cash Flow

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Speed-up investments to reinforce the growth

2014-2018: 1.7 Bn € SELF-FINANCED INVESTMENT = 6% OF REVENUE

- NEW PLANTS 3% OF REVENUE
- MAINTENANCE 1% OF REVENUE
- NEW PROGRAMS & INNOVATION 2% OF REVENUE

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2014-2018
New Capacities
New capacities

+20 new plants till 2018

Full impact from 2016

NORTH AMERICA
+5

EUROPE
+3

ASIA
+12
8 Plants under construction in China

- **Shenyang - SOP mid 2014**
  - Fuel Systems for SGM & BMW

- **Ningbo - SOP end 2014**
  - Fuel Systems for SGM & Geely

- **Yantai - SOP end 2014**
  - Bumpers for SGM

- **Changshu - SOP end 2014**
  - Bumpers for CJLR

2 DECEMBER 2014
8 Plants under construction in China

- **Wuhan Jiangxia - SOP early 2015**
  - Bumpers for SGM

- **Changsha - SOP mid 2015**
  - Bumpers for SVW, GAC-Fiat

- **Beijing - SOP mid 2015**
  - Front-end modules for BBAC

- **Chongqing - SOP mid 2016**
  - Fuel Systems for BHMC

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2 Plants under construction in Europe

Russia, St-Petersburg - SOP early 2015
Fuel Systems for Nissan, Ford & Toyota

UK, Warrington - SOP mid 2016
Bumpers for JLR
3 Plants under construction in North America

- **Chattanooga - SOP mid 2015**
  - Bumpers for **VW**

- **Fairfax - SOP end 2015**
  - Fuel Systems for **GM**

- **New Plant in Mexico - SOP 2017**
  - Bumpers

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Market Share Gains

Bumpers
Fuel Systems
Focus China
Market share gains

**BUMPERS:**

Plastic Omnium worldwide market share

- 2014: 10%
- 2018: 15%
FUEL SYSTEMS:
Plastic Omnium worldwide market share

- 2014: 21%
- 2018: 24%

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Market share gains: Bumpers

**FOCUS CHINA**

2014

- **23%** In-house
- **18%** Plastic Omnium No.1 in Bumpers
- **59%** Other Suppliers

16 plants

2018

- **20%** In-house
- **26%** Plastic Omnium No.1 in Bumpers
- **54%** Other Suppliers

21 plants
Market share gains: Fuel Systems

- **FOCUS CHINA**

<table>
<thead>
<tr>
<th>Year</th>
<th>Steel</th>
<th>Plastic Omnium</th>
<th>Other Suppliers</th>
<th>Plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>33%</td>
<td>27%</td>
<td>32%</td>
<td>3</td>
</tr>
<tr>
<td>2018</td>
<td>25%</td>
<td>26%</td>
<td>34%</td>
<td>7</td>
</tr>
</tbody>
</table>

33% Steel
8% Plastic Omnium No.2 in Fuel Systems
32% Other Suppliers

3 plants

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2014-2018: Geographical Revenue split

- **BY REGION**

**2014**
- 27% North America
- 16% Asia
- 4% South America
- 53% Europe

**2018**
- 18% Asia
- 3% South America
- 29% North America
- 50% Europe

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2014-2018: Automotive Revenue split by carmaker

- **BY NATIONALITY OF CARMAKERS**

**2014**
- 24% American
- 18% Asian
- 21% French
- 4% Others

**2018**
- 27% American
- 19% Asian
- 17% French
- 4% Others

- 43 carmakers delivered around the world:

2 DECEMBER 2014
Innovation

Aerodynamics
Tailgate
High Performance Composites
Strict regulation: An opportunity to boost our innovation

From 2019, the penalty in Europe = 95€ for every gram and car emitting more than 95g of CO₂ per km

ie a carmaker producing 1M cars @ 100g of CO₂ per km will have 475 M€ of penalty
EU regulations: Improvements 2004-2013

CO₂ decrease mainly due to progress on engine efficiency
Slight weight decrease on-going

Weight saving: a next step for CO₂ reduction

Source: Monitoring CO2 emission for passenger cars in EU 27: summary of data 2013 - European environment agency
How to meet the legal requirement?

Reduction of CO₂ emissions

- 130g/km
- -23g/km
- -2g/km
- -6g/km
- -3g/km
- -1g/km
- 95g/km

Associated cost increase

- CO₂ emission
- Transmission
- Rolling resistance
- Light Weight
- Aerodynamic
- Power Mgmt
- CO₂ emission

PO Franchise

+700€
+20€
+300€
+100€
+30€
+1,150€

Source: Kosten-Nutzen-Analyse auf dem Weg zum CO₂ Ziel im Jahr 2020
### Automotive Exterior innovation priorities

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Bumpers</th>
<th>Closures</th>
<th>Structural parts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Performance</strong></td>
<td>Lightweighting</td>
<td>Lightweighting</td>
<td>Lightweighting</td>
</tr>
<tr>
<td></td>
<td>Perceived Quality</td>
<td>Perceived Quality</td>
<td>• Front floor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Impact beam</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• B-Pillar</td>
</tr>
<tr>
<td><strong>Function</strong></td>
<td>Aerodynamics</td>
<td>Light Motorization</td>
<td></td>
</tr>
<tr>
<td>Integration</td>
<td>Electronics</td>
<td>Electronics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impact beam integration</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Styling</strong></td>
<td>Style diversity</td>
<td>Style diversity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Light integration</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>Design to cost approach</td>
<td>Cost reduction</td>
<td>Cost reduction</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td>Standardization</td>
<td>Robustness</td>
<td>Robustness</td>
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<tr>
<td></td>
<td>Robustness</td>
<td>Technologies evaluation</td>
<td></td>
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</tbody>
</table>
## Automotive Exterior: from components to systems

<table>
<thead>
<tr>
<th>Components</th>
<th>Sub-Assembly</th>
<th>Module</th>
<th>System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bumpers</strong></td>
<td>Cover</td>
<td>Cover and absorbers</td>
<td>Front bumper module</td>
</tr>
<tr>
<td><strong>Closures</strong></td>
<td>SMC &amp; TP panels</td>
<td>Tailgate in White</td>
<td>Tailgate Module</td>
</tr>
<tr>
<td><strong>Structural Parts</strong></td>
<td>SMC trunk floor</td>
<td>On-line floor</td>
<td>Off-line equipped floor</td>
</tr>
<tr>
<td></td>
<td>Front crash beam</td>
<td>Active crash box Engine Cradle</td>
<td>Front crash module</td>
</tr>
</tbody>
</table>

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Bumper evolution

- From an impact beam to a large functionalized body panel

Along history, the bumper becomes a key contributor to car styling and is less contributing to energy absorption.
Aerodynamics:
A key driver to reduce CO₂ as much important as weight improvement

- 3% to 9% Cx reduction achievable with aerodynamics systems (aero shutters, lower spoilers, rear spoilers, air guides...)
- Our customers have to improve aerodynamics for reducing CO₂ and Bumpers is one of the key contributor

Front bumper surface vs. vehicle front surface.


50% 31% 44% 50%
of vehicle front surface

8% 1% 50%
Aerodynamics:
An opportunity for PO to develop active systems in bumpers

- PO has already started to develop some active systems to reduce between 1g /2g CO₂ emissions (1g CO₂/km = 10kg saving)
Tailgate Market: Important mid term driver

2013:
- 83M of vehicles produced
  - 40% Non Hatchback
  - 60% Hatchback
- 50M with a hatchback
  - 3% Plastic
  - 97% Steel
- 1.50M with a plastic hatchback
  - 35% Others
  - 65% Plastic Omnium

- 12 tailgates in development today for PSA, JLR, Volvo
- Extra turnover will come from Asian, German and American OEM’s

<table>
<thead>
<tr>
<th>M units</th>
<th>2013</th>
<th>2014</th>
<th>...</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market</td>
<td>83</td>
<td>86</td>
<td>...</td>
<td>98</td>
</tr>
<tr>
<td>Hatchback</td>
<td>50</td>
<td>51</td>
<td></td>
<td>59</td>
</tr>
<tr>
<td>plastic %</td>
<td>3%</td>
<td>3%</td>
<td></td>
<td>8%</td>
</tr>
<tr>
<td>Plastic Omnium</td>
<td>1,0</td>
<td>1,0</td>
<td></td>
<td>2,0</td>
</tr>
</tbody>
</table>

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Plastic Omnium Tailgate Technologies Offer today....

Tailgate structures

bonding

Outer Panels

module assembly

Market

SMC / AMC
body color painted

SMC / AMC
texture paint or molded-in-color

PP LGF, molded-in-color metal reinforcements (over-moulded)

SMC / BMC
body colour painted

Thermoplastic
body colour painted

Thermoplastic
body colour painted

SMC / AMC
body color painted

Thermoset

Higate

Thermoplastic

Large SUV & Vans
Very high stability "old" technology

Mid /Large SUV & Vans
~500v/d
Dimensional stability

Mid/Small Hatch & SW
~1000v/d
Limited dimensional stability

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...And tomorrow

- Printed antenna
- Central hinge + powerdrive
- Mobile roof spoiler - extension
- Cameras + radar
- Optimized composite inner (right material @ the right place)
- Backlight organic glass
- Antipinch
- Automatic opening

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High Performance Composites – Competitiveness

- **Material cost**
  - Optimum use of carbon or glass fiber
  - Recycled carbon fibers
  - Develop compounds adapted to molding process
  - New thermoplastic composites development

- **Process efficiency**
  - Cycle time:
    - 1st step done from 10’ to 4’
    - 2nd step required down to 90” cycle time

- **Recycling**
  - Thermoplastic composites development
  - Recycled carbon fibers collection and usage

---

50% overall total cost decrease required for carbon composite
- Reduce manufacturing cost by 40%
- Raw material below 8 €/kg

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“Structural Parts PO offer” and mid-term Innovation

- **22 to 25 kgs weight savings (> 2g CO₂ / km)**

  **Structural nodes**
  
  Weight saving: 1 to 2 kg

  - Cross Members
    Weight saving: 1 kg
  - Trunk floor
    Weight saving: 3 kg
  - B-Pillar
    Weight saving: 6 kg
  - Front floor
    Weight saving: 9 kg
  - Absorption beams
    Weight saving: 3 kg

- **Business will Take off in 2020 thanks to CO₂ regulations constraints and Carbon Fiber affordability**
Innovation
TSBM
INWIN
SCR-DINOX
**Fuel system evolutions**

- Evolution of product designs and processes has been driven by the regulations changes
- Plastic Omnium has developed a wide range of technologies to meet the most stringent emissions regulations
- Process and Design depends on customer specifications and Platform architecture
● Integration of components during the blow molding

○ Increased venting performance (more pumping volume)

○ Decreased permeation (better environment performance)

○ Decreased noise (better comfort for hybrid vehicles)

○ Weight reduction vs metal (better CO₂ performance)
Plastic fuel system for hybrid vehicles

**Characteristics:**

- Internal reinforcements introduced by TSBM process to prevent tank deformation under pressure up to 350 mbar
- External reinforcements to prevent deformation in the areas where internal reinforcement can not be integrated
• TSBM / INWIN production will reach 2 million tanks in 2018

**Production volumes (k units)**

![Graph showing production volumes from 2013 to 2018.](image)

**Current customers**
- BMW
- HYUNDAI
- FIAT CHRYSLER AUTOMOBILES
- Audi
- GM
- Ford
- VOLVO

**New customers**
- [Logos of new customers]

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Fuel Systems – Product Roadmap

INBAFFLE

Stop / Start


Full Hybrids

TSBM™

INNOVATION PROGRAM


Plug-in Hybrids

INWIN

INNOVATION PROGRAM


Range Extended Electric Vehicles

e-WIN

INNOVATION PROGRAM


Peugeot 208 e-HDI

Toyota Prius

Chevrolet Volt

BMW i3

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INCREASING ELECTRIFICATION

COMPAGNIE PLASTIC OMNIUM
Exhaust emissions regulations tighten and require emissions reduction technology

**EUROPEAN REGULATIONS**

<table>
<thead>
<tr>
<th>Year</th>
<th>NOx (mg/km)</th>
<th>Diesel Engine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euro 4 2005</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Euro 5/5+ 2009</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>Euro 6 2014</td>
<td>80</td>
<td></td>
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<tr>
<td>Euro 7 2020</td>
<td>40*</td>
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</table>

*NOx « allowance » for Diesel vehicles fades in Europe

**US REGULATIONS**

<table>
<thead>
<tr>
<th>Tier 2 Bin 5 2007/2009</th>
<th>NOx (mg/km)</th>
<th>NMOG (mg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>43</td>
<td>56</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>ARB SULEV 30 2015 - 2025</th>
<th>NOx (mg/km)</th>
<th>NMOG (mg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19</td>
<td>19</td>
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</tbody>
</table>

NMOG = Non-Methane Organic Gas

* Not yet completely defined
- Plastic Omnium SCR market share increase

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Market (Light vehicle production)</th>
<th>Diesel</th>
<th>SCR</th>
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<tbody>
<tr>
<td>2014</td>
<td>85.5 mio</td>
<td>19%</td>
<td>10%</td>
</tr>
<tr>
<td>2018</td>
<td>98 mio</td>
<td>19%</td>
<td>32%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Diesel Market</th>
<th>SCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>16.3 mio</td>
<td>10%</td>
</tr>
<tr>
<td>2018</td>
<td>18.5 mio</td>
<td>32%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>SCR Market</th>
<th>Plastic Omnium</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1.6 mio</td>
<td>17%</td>
</tr>
<tr>
<td>2018</td>
<td>6.0 mio</td>
<td>30%</td>
</tr>
</tbody>
</table>

SOURCE: PLASTIC OMNIUM / IHS
Today SCR system is already introduced by several OEMs.
DINOx – Product Roadmap (57 Patents published)

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Tier2 Bin5

Engine CAN
Diagnosic CAN

Urea tank
Flange module
(temperature, level sensors, heater, filter)
Heated lines

Plug and Play ADM
SCR production will be close to 2 million systems in 2018
Conclusion
2014 - 2018

- **Strong focus on innovation:**
  - €1 Bn Revenue from new product lines in 2018 (15% of sales, vs 5% in 2013)
  - Time to market highly predictable due to stricter regulations

- **Outperform twice the market during 2014-2018**
  - ≈7 €Bn in Revenue in 2018
  - Worldwide capacity increase
  - Technological leadership
CONCLUSION

2014 - 2018

- Best in class profitability
  - Top line growth / Operating leverage
  - High utilization rate
  - Strict cost control

- Self-financed growth
  - Free Cash Flow generation
  - Financial structure improvement
Q&A