MICHELIN MANUFACTURING
STRATEGY OUTLINE

1. STRATEGIC MANUFACTURING OBJECTIVES
2. INDUSTRIAL PERFORMANCE DRIVERS
3. MANUFACTURING FINANCIAL COMMITMENTS
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STRATEGIC MANUFACTURING OBJECTIVES
From 2013 to 2018, we will increasingly serve our regional markets from local production
• Operations in South America and Asia will reduce their dependence on imports
• 2/3 of the increase in imports to Asia and South America involves the Earthmover business

Growth in sales, 2013-2018
Net change in imports, 2013-2018

In KT
STRATEGIC MANUFACTURING OBJECTIVES

The right amount at the right place at the right time

<table>
<thead>
<tr>
<th>Plant capacity utilization</th>
<th>2013</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC/LT</td>
<td>85%</td>
<td>91%</td>
</tr>
<tr>
<td>Truck</td>
<td>76%</td>
<td>90%</td>
</tr>
<tr>
<td>Specialty</td>
<td>90%</td>
<td>94%</td>
</tr>
</tbody>
</table>

Increasing production capacity and utilization rates
• 400 KT in new capacity (East)
• 200 KT by optimizing existing capacity (West, including restructuring)
• Higher capacity utilization rates (target: at least 90%)
**STRATEGIC MANUFACTURING OBJECTIVES**

- Faster turnover in the size catalogue
  - Aligned strategic sourcing
  - More in-tandem production
- While increasing the size portfolio when needed (e.g., PC Europe portfolio up 15%)

The right amount at the right place at the right time

- Days
- Group
- PC/LT
- Truck
- Specialty

-51%
STRATEGIC MANUFACTURING OBJECTIVES

The right amount at the right place at the right time

Differentiation as late as possible in the production process
Increasingly designed-in standardization
(spare parts, casings, tires)
STRATEGIC MANUFACTURING OBJECTIVES

Support Differentiation

>€500M in annual capex dedicated to innovation

- Third synthetic rubber plant in Indonesia
- New materials, new tire architectures
- Rolling resistance/Grading
- New truck tire crowns
- Sustained commitment to production quality excellence
- Enhanced sales mix (PC/LT: premium cars, SUVs)
Fischer
Herbert
Bartel
Curing & Control
Assembly
Prep
Cutting
Extrusion
Bead Wire
Mixing
15-20%
5-10%
20-25%
25-30%
20-25%
High level of Customization
Machinery makers
West
China
Proprietary solutions
% capex
STRATEGIC MANUFACTURING OBJECTIVES

Set the industry benchmark in cost efficiency

Since 2006, we have closed part of our productivity gap (tons/employee)
- 2006-2010: continuous improvement + footprint
- 2011-2016: continuous improvement + growth + footprint

We are now transforming manufacturing into a strategic cost advantage for the Group
Objective: €600m in efficiency gains in 5 years (2012-2016)
- Productivity in tons/employee
- Energy and water use, operating costs, waste
- Adjusting the manufacturing footprint
INDUSTRIAL PERFORMANCE DRIVERS
The very high manufacturing quality of our products (level and consistency) is a strong strategic advantage supporting our pricing power:

- PC/LT high ratings are a result of the high consistency of our products
- Earthmover manufacturing quality enables us to build the very sophisticated architectures designed by our engineers

Our strategic advantage is based on:

- Superior manufacturing expertise (equipment, employees)
- Engaged, committed employees

INDUSTRIAL PERFORMANCE DRIVERS

Analyzing our strengths and weaknesses

<table>
<thead>
<tr>
<th>Motor Sport 8/13</th>
<th>Average weight variances (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mi</td>
<td>7</td>
</tr>
<tr>
<td>BS</td>
<td>20</td>
</tr>
<tr>
<td>Conti</td>
<td>20</td>
</tr>
<tr>
<td>Pi</td>
<td>91</td>
</tr>
</tbody>
</table>

17/18” PC summer top 10 Europe

Wet braking grading

<table>
<thead>
<tr>
<th>C</th>
<th>B</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
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<tr>
<td>C</td>
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<tr>
<td>E</td>
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<tr>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rolling resistance grading
Analyzing our strengths and weaknesses

In Europe, we estimate our manufacturing performance shortfall against Continental is about the same as EBIT differentials:
- 0.32 from plant size
- 0.07 from East/West wage differential
- 0.09 from pure productivity

Objectives for manufacturing:
- Strengthen the West
- Scale back the number of activities
- Increase pure productivity while maintaining premium pricing power

Average plant capacity in KT/yr (at 80% cumulative capacity)

<table>
<thead>
<tr>
<th>PC/LT plants</th>
<th>Mi</th>
<th>BS</th>
<th>Conti</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>88</td>
<td>84</td>
<td>130</td>
</tr>
</tbody>
</table>
The Footprint Strategy: Strengthening the West

Continuously evaluate the long-term vision of the plants’ sustainability:
- The strengths of each plant
- The present and future state of the related business
- Align capex and hiring strategies
- Consistently embrace our social responsibility

In France, for example:
- Shutting down truck tire production in Tours
- Increasing truck tire capacity in La Roche-sur-Yon
The plan announced in France will make the La Roche-sur-Yon plant one of the industry’s most productive, by absorbing Tours’ volumes and upgrading its facilities.
INDUSTRIAL PERFORMANCE DRIVERS

The Footprint Strategy: Plant Size

- In 2018, half of all finished product output will come from plants with more than 150 KT of capacity
- If market demand falls short of our growth forecast, we’ll have to adapt our manufacturing footprint
INDUSTRIAL PERFORMANCE DRIVERS

Michelin Manufacturing Way

<table>
<thead>
<tr>
<th>S</th>
<th>Safety</th>
<th>Health and safety of people and facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>Machines</td>
<td>Manage process upgrades, maintenance, energy, capex costs</td>
</tr>
<tr>
<td>Q</td>
<td>Quality</td>
<td>Quality output and outcomes, manage process engineering programs</td>
</tr>
<tr>
<td>D</td>
<td>Delivery</td>
<td>Flexibility, responsiveness, fulfill commitments</td>
</tr>
<tr>
<td>C</td>
<td>Costs</td>
<td>Cost of delivered product, working capital requirement, asset utilization</td>
</tr>
<tr>
<td>P</td>
<td>People</td>
<td>Engaged, committed people at every level</td>
</tr>
</tbody>
</table>

MMW is driving continuous improvement in every aspect of manufacturing performance
INDUSTRIAL PERFORMANCE DRIVERS

Michelin Manufacturing Way

For every SMQDC P aspect of manufacturing performance:

- Best practices handbook
- Standardized problem-solving tools
- Very close day-to-day management
- Aligned priorities
- Increasingly empowered operator teams
- Highly disciplined deployment

MMW won first prize at the European Manufacturing Strategies Summit in 2011
The skills and engagement of our production employees are critical strengths in making manufacturing a competitive advantage in productivity, just as it already is in quality.

MMW’s role is to continuously nurture these skills and encourage this engagement.

**Excellence**

- Methods
- Competencies (skills)
- Culture
- Control
Measuring and Tracking Gains

- Measuring gains from one year to the next
- Gains in each manufacturing activity are tracked monthly

<table>
<thead>
<tr>
<th>EXAMPLE €M</th>
<th>Prior-year actual</th>
<th>Volume effect</th>
<th>Mix effect</th>
<th>Like-for-like gain</th>
<th>Inflation</th>
<th>Efficiency gain</th>
<th>Total for the year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable labor costs</td>
<td>100.0</td>
<td>-2.6</td>
<td>1.0</td>
<td>101.6</td>
<td>-4.2</td>
<td>4.0</td>
<td>101.8</td>
</tr>
<tr>
<td>Fixed labor costs</td>
<td>50.0</td>
<td></td>
<td></td>
<td>50.0</td>
<td>-2.3</td>
<td>3.0</td>
<td>49.3</td>
</tr>
<tr>
<td>Variable energy costs</td>
<td>30.0</td>
<td>-0.8</td>
<td>0.3</td>
<td>30.5</td>
<td>-2.5</td>
<td>2.0</td>
<td>31.0</td>
</tr>
<tr>
<td>Fixed energy costs</td>
<td>10.0</td>
<td></td>
<td></td>
<td>10.0</td>
<td>-0.7</td>
<td>1.0</td>
<td>9.7</td>
</tr>
<tr>
<td>Variable operating costs</td>
<td>20.0</td>
<td>-0.5</td>
<td>0.1</td>
<td>20.4</td>
<td>-0.6</td>
<td>1.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Fixed operating costs</td>
<td>20.0</td>
<td></td>
<td></td>
<td>20.0</td>
<td>-0.5</td>
<td>1.0</td>
<td>19.5</td>
</tr>
<tr>
<td>Amortization and depreciation</td>
<td>25.0</td>
<td>-0.7</td>
<td></td>
<td>25.7</td>
<td></td>
<td>25.7</td>
<td>25.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>255.0</strong></td>
<td><strong>-4.6</strong></td>
<td><strong>1.4</strong></td>
<td><strong>258.2</strong></td>
<td><strong>-10.8</strong></td>
<td><strong>12.0</strong></td>
<td><strong>257.0</strong></td>
</tr>
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MANUFACTURING FINANCIAL COMMITMENTS

Gains underway and expected

- Gains are tracked monthly in each of our 160 manufacturing activities
- For 2013, manufacturing is committed to delivering €178M in year-on-year gains (including gains by reducing waste)
  As of end-June, we are on track to meeting this objective
- The five-year vision as updated in first-half 2013 confirmed the objective of €600M in total gains

<table>
<thead>
<tr>
<th>Gains by category</th>
<th>Labor costs</th>
<th>Energy</th>
<th>Operating costs</th>
<th>Waste</th>
</tr>
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<tbody>
<tr>
<td>2012-2016</td>
<td>73%</td>
<td>12%</td>
<td>6%</td>
<td>9%</td>
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<td>3% improvement in productivity per year excluding the volume effect</td>
<td>4% reduction in kWh/kg per year</td>
<td>Reflex and BMA maintenance projects</td>
<td>0.1 point reduction in waste per year</td>
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KEY TAKEAWAYS

- An ambitious capital program to support product innovation and increase capacity in growing regions and segments
- An assertive rationalization of our legacy manufacturing footprint, as part of our “strengthening the West, expand in the East” strategy
- More production processes sourced from machinery manufacturers and proprietary control over processes that offer a competitive advantage
- A major strategic advantage because of the very high manufacturing quality of our products, which supports our premium pricing power
- MMW as the primary driver of continuous improvement in manufacturing performance
- Confirmed annual efficiency gain target of €600M over five years