

# INVESTOR DAY

OCTOBER 2, 2013  
Lexington, South Carolina

## MICHELIN'S MANUFACTURING STRATEGY

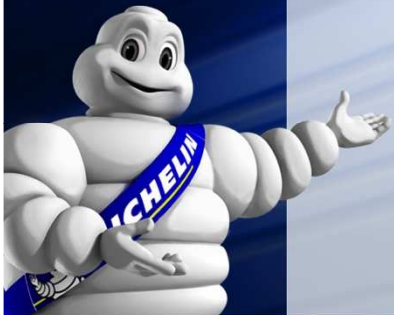
**DOMINIQUE FOUCARD**

Head of the Group Industrial and Prevention  
Performance Department



# MICHELIN MANUFACTURING STRATEGY OUTLINE

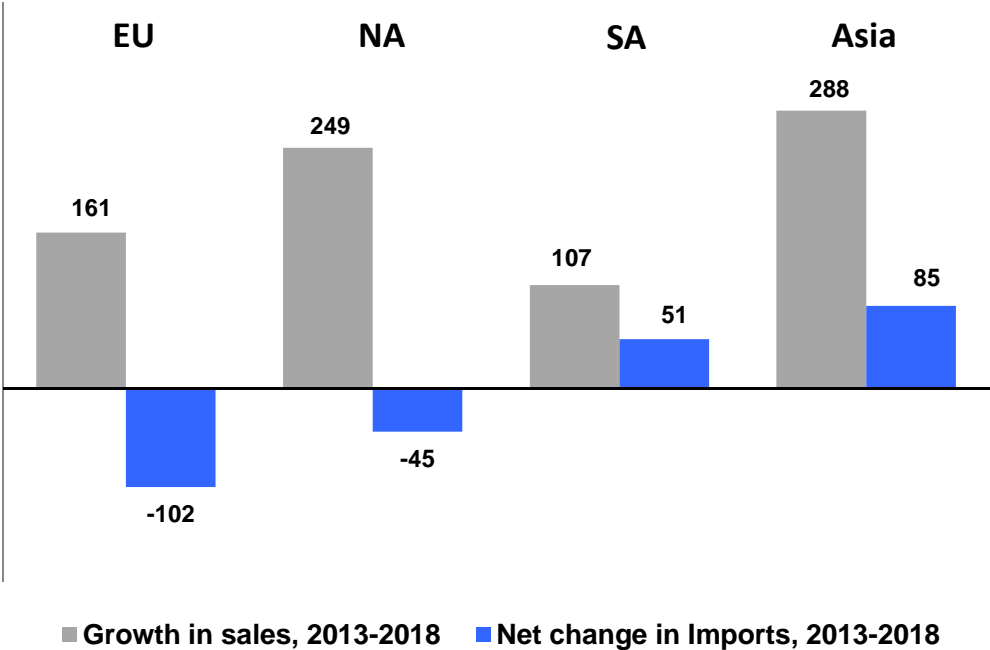
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# STRATEGIC MANUFACTURING OBJECTIVES

# STRATEGIC MANUFACTURING OBJECTIVES

The right amount at the right place at the right time



**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

In KT



# STRATEGIC MANUFACTURING OBJECTIVES

The right amount at the right place at the right time

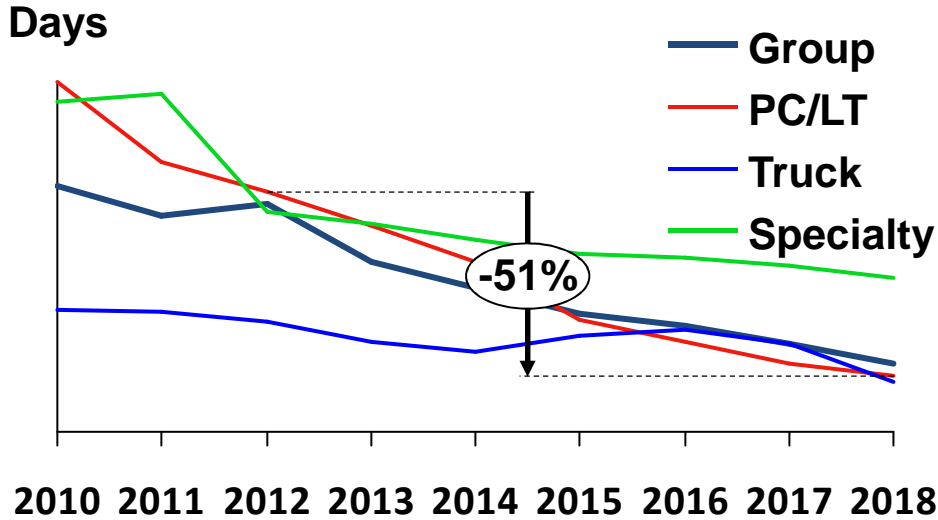
Plant capacity utilization		
	2013	2018
PC/LT	85%	91%
Truck	76%	90%
Specialty	90%	94%

- 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

The right amount at the right place at the right time



**Faster turnover in the size catalogue**

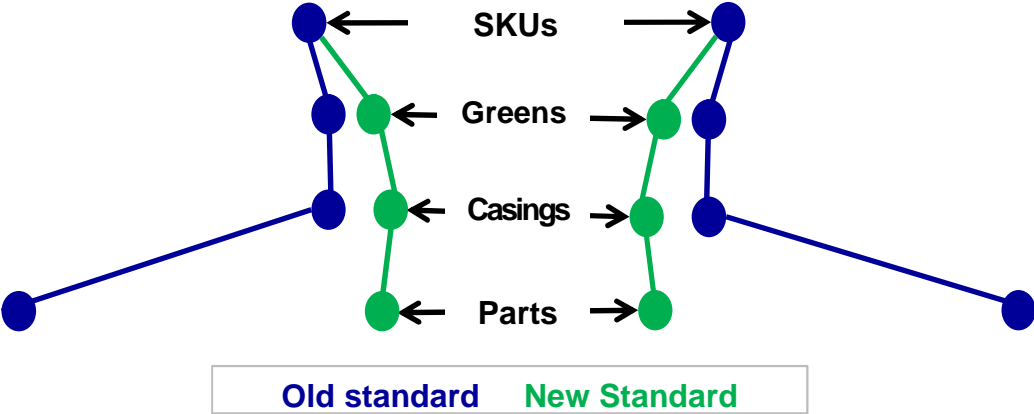
- Aligned strategic sourcing
- More in-tandem production

**While increasing the size portfolio when needed (e.g., PC Europe portfolio up 15%)**



# STRATEGIC MANUFACTURING OBJECTIVES

The right amount at the right place at the right time

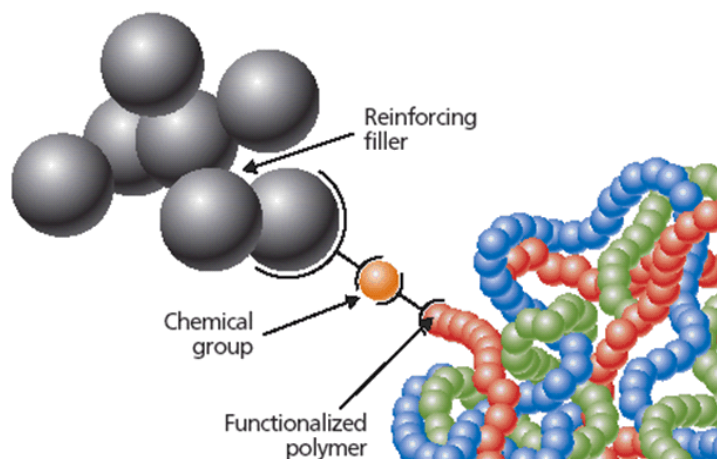


Differentiation as late as possible in the production process

Increasingly designed-in standardization (spare parts, casings, tires)

# STRATEGIC MANUFACTURING OBJECTIVES

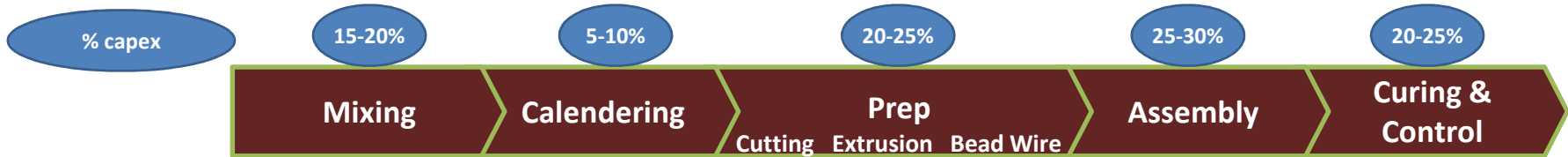
## Support Differentiation



**>€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)





Machinery makers  
West

<b>HARBURG FREUDENBERGER</b>	●			●		●	●
<b>VMI GROUP</b>			●			●	
<b>MITSUBISHI HEAVY INDUSTRIES, LTD.</b> Our Technologies. Your Tomorrow	●		●				●
<b>CM CONTI MACHINERY</b>				●	●	●	
<b>KOBELCO</b> <b>Buzuluk</b> <b>COMERIO</b> Fischer <b>TROESTER</b> Krauss Maffei Berstorff Bartel Herbert	● ●	●	●	●	● ●	●	●

China

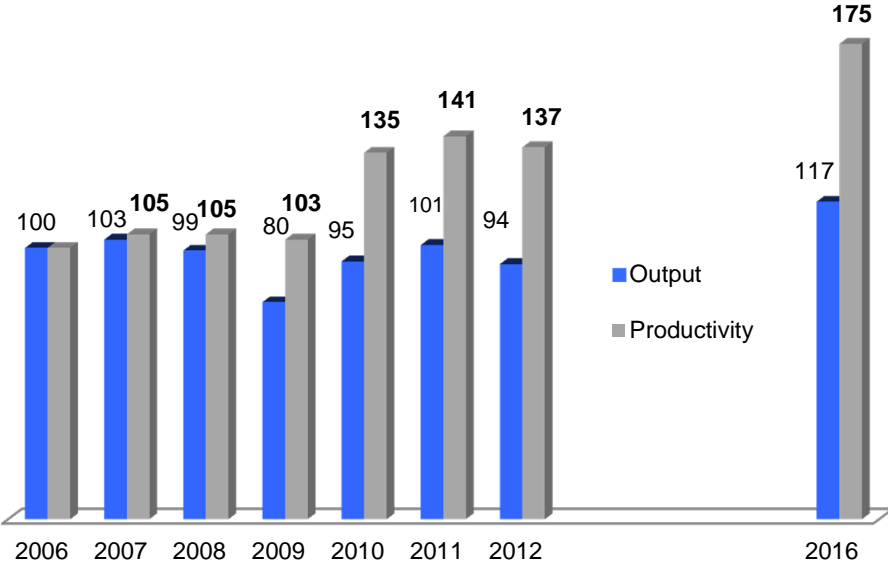
<b>MESNAC 软控</b> —— 智慧 驾驭 未来 ——	●	●	●	●	●	●	●
<b>GRM</b> Gullin Rubber Machinery	●	●	●	●	●	●	●

Proprietary solutions

<b>MICHELIN</b>	●	○ High level of Customization				●	○
<b>BRIDGESTONE</b>						●	
<b>GOODYEAR</b>							
<b>Continental</b>	●					●	

# 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



Motor Sport 8/13	Average weight variances (g)
Mi	7
BS	20
Conti	20
Pi	91

# INDUSTRIAL PERFORMANCE DRIVERS

Analyzing our strengths and weaknesses

## 17/18" PC summer top 10 Europe

Wet braking grading

C	B	A	
			A
			B
			C
			E
			F
			G

Rolling  
resistance  
grading

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

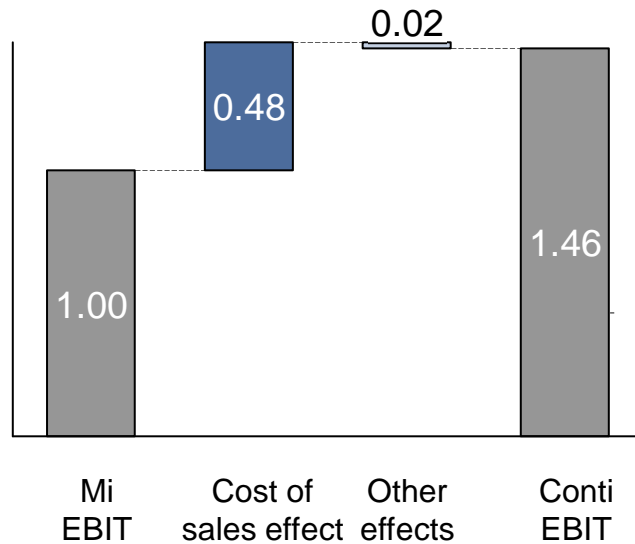
Our strategic advantage is based on:

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



# INDUSTRIAL PERFORMANCE DRIVERS

Analyzing our strengths and weaknesses



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

PC/LT plants Europe	Mi	BS	Conti
	88	84	130

In Europe, we estimate our manufacturing performance shortfall against Continental is about the same as EBIT differentials:

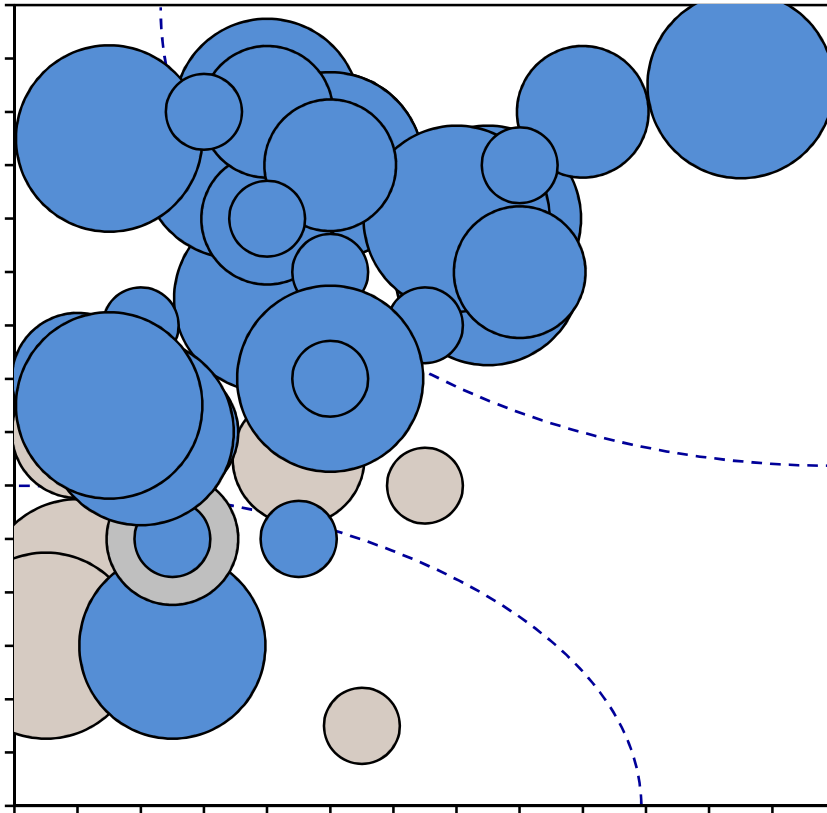
- 0.32 from plant size
- 0.07 from East/West wage differential
- 0.09 from pure productivity

**Objectives for manufacturing:**

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



Business  
competitiveness



## INDUSTRIAL PERFORMANCE DRIVERS

### 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:

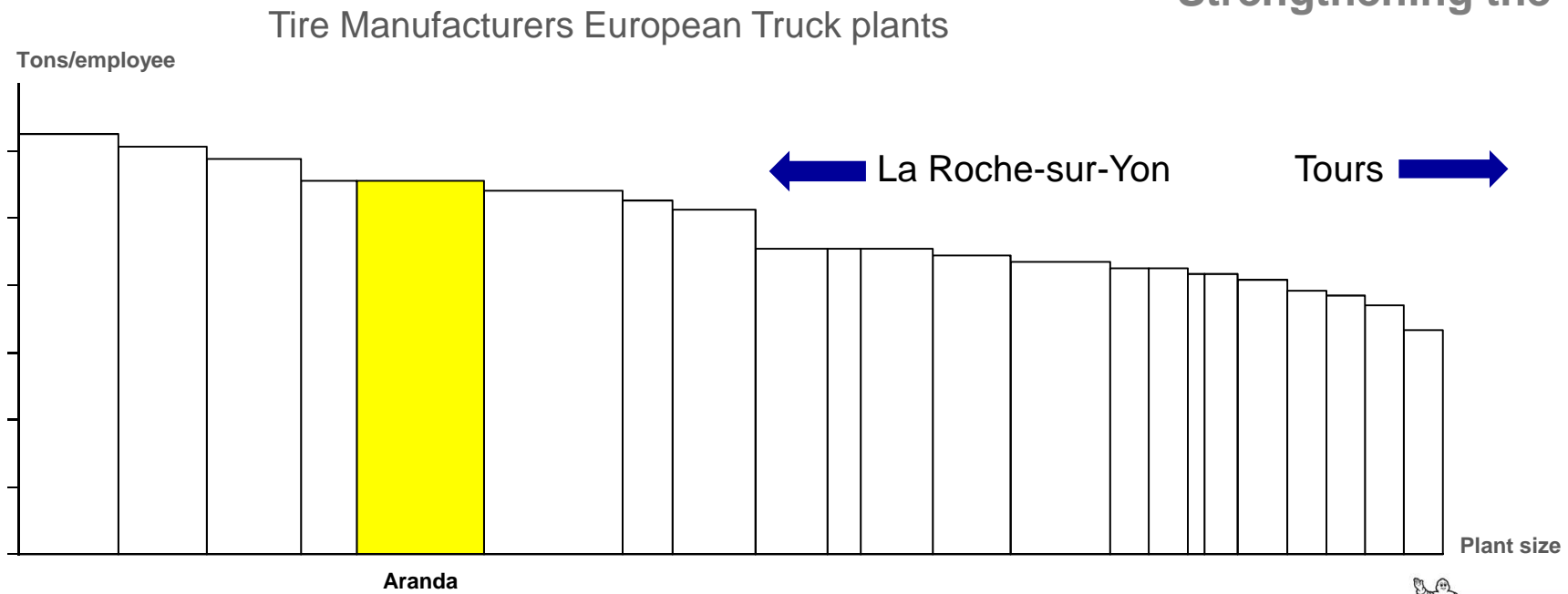
- Shutting down truck tire production in Tours
- Increasing truck tire capacity in La Roche-sur-Yon



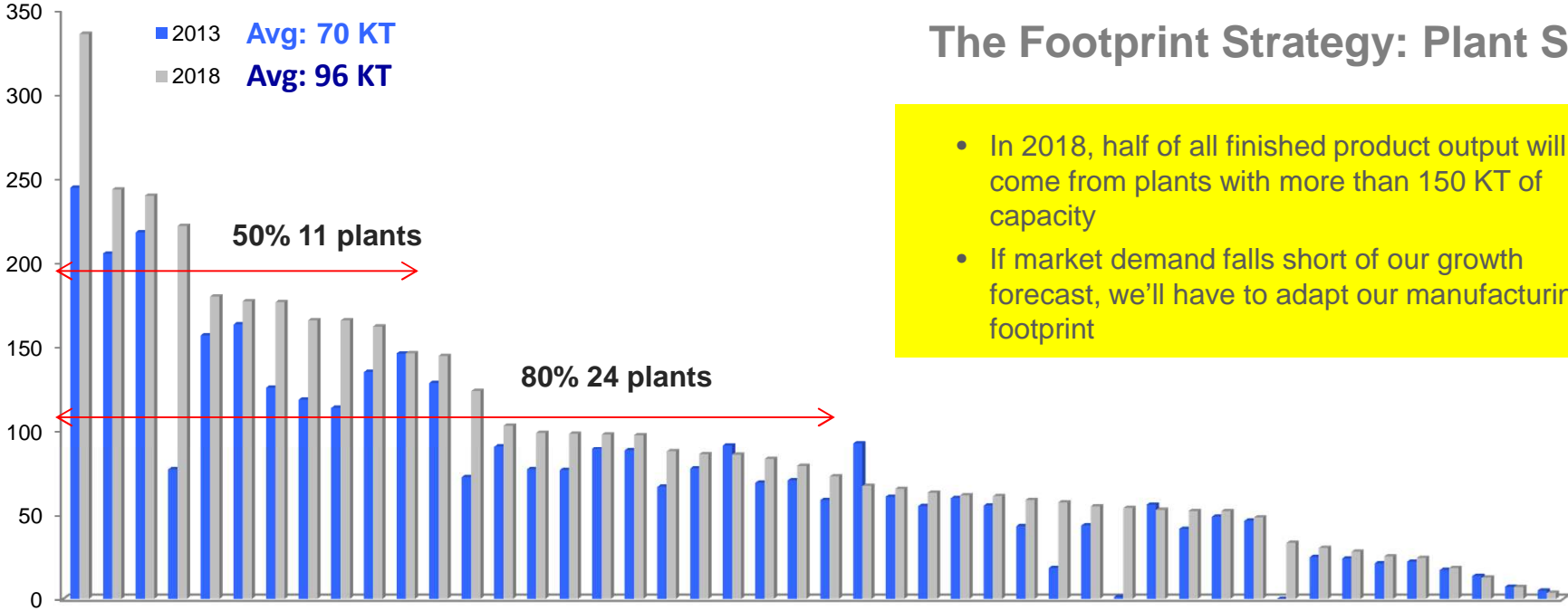
The plan announced in France will make the La Roche-sur-Yon plant one of the industry's most productive, by absorbing Tours' volumes and upgrading its facilities

## INDUSTRIAL PERFORMANCE DRIVERS

The Footprint Strategy: Strengthening the West



# 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

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

**MMW is driving continuous improvement in every aspect of manufacturing performance**





**Managing  
Daily  
Performance**

**Empowering  
Organizations**



# 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



# INDUSTRIAL PERFORMANCE DRIVERS



## Excellence

- = **M**ethods
- x **C**ompetencies (skills)
- x **C**ulture
- x **C**ontrol

## Michelin Manufacturing Way

- 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



# MANUFACTURING FINANCIAL COMMITMENTS



# MANUFACTURING FINANCIAL COMMITMENTS

## Measuring and Tracking Gains

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

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

# MANUFACTURING FINANCIAL COMMITMENTS

Gains underway and expected

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

- 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



## 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**

