French plants going digital?

French Manufacturing Competitiveness Radar 2015/2016

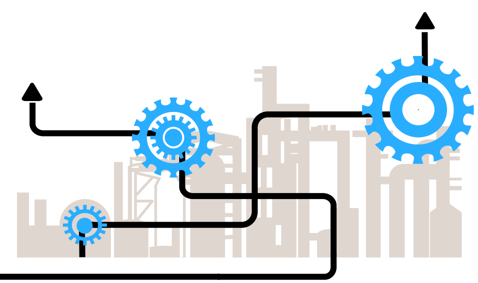
Paris, November 2015

Roland Berger's manufacturing Competitiveness Radar

We are proud to present you the fourth edition of our survey on French plants competitiveness. The role of manufacturing in advanced economies is changing.

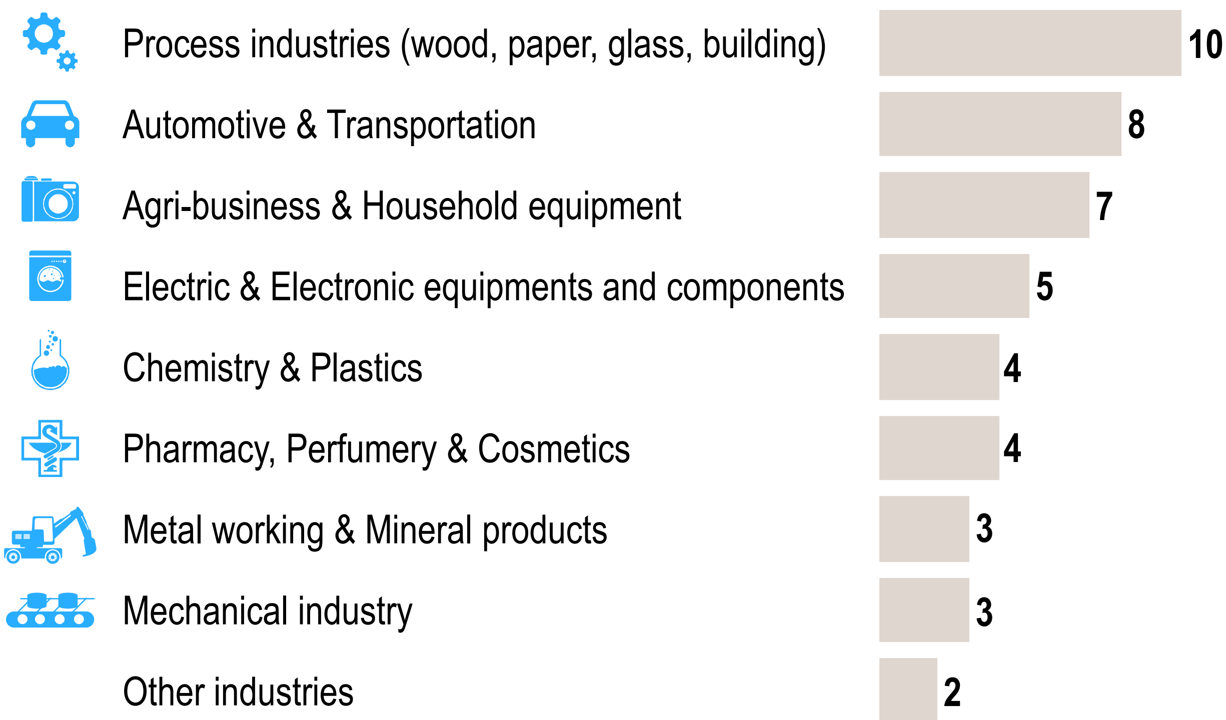
The current survey was conducted between September and November 2015, involving more than 45 plant managers and representing a broad range of French industries. The survey captures prevailing trends on six topics:

1. Evolution of French manufacturing competitiveness since 2012 and its outlooks for 2016
2. Profit margin levels
3. Typical profile of competitive and non competitive plants
4. Keys levers to increase competitiveness
5. Appropriation by French plant managers of Industry 4.0
6. Innovation



2015 survey results are based on contributions from French plant managers across a wide scope of industries

Number of respondents per industry



Sample portrait

- Survey responses from more than 45 plants managers
- 100% of surveyed plants are based in France
- 13% are French subsidiaries of international firms
- 35% of surveyed plants have more than 250 FTEs, while 37% have less than 100 FTEs. 15% have more than 1,000 FTEs
- Most industry segments were covered by the analysis

Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

French plants' outlook is improving with an increasing awareness of digital transformation

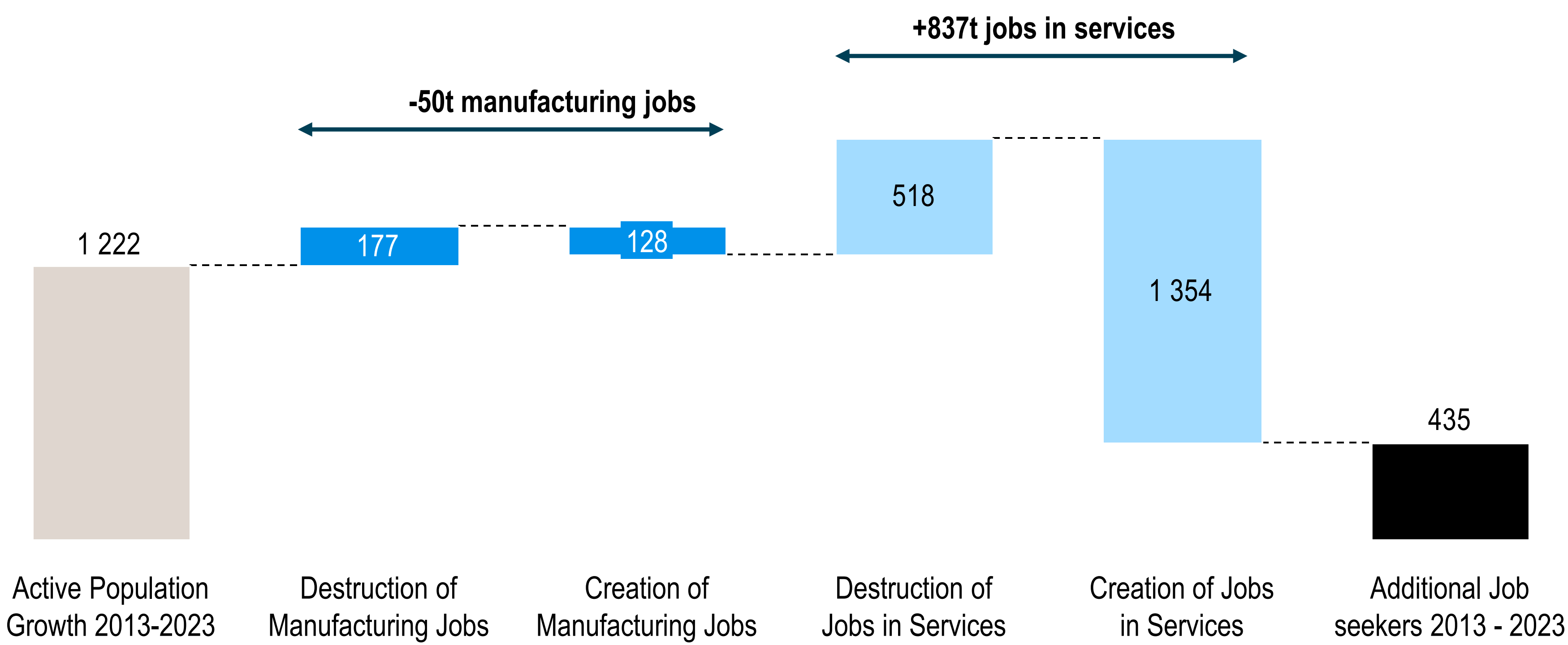
Top executive summary

1. 82% of respondents consider themselves as competitive (vs. 77% in 2014), but only 46% of respondents expect their competitiveness to improve in 2016 (vs. only 63% in 2014).
2. Margin levels were stable in 2015 and outlooks for 2016 are positive.
3. Larger plants improved their competitiveness in 2015 and are today more competitive than smaller plants on average. The level of capital expenditure is not discriminatory between competitive and non competitive plants. Competition is becoming increasingly international for all categories of plants.
4. Labor costs still poses the highest challenge to improve competitiveness. Supply chain is another hot issue on which plant managers now see a critical element for their competitiveness. Mastering industrial processes and operational efficiency remain essential although current performance is already considered satisfactory.
5. Plants awareness of digital industry concepts has increased in 2015. Strongest impact is expected to come from cyber-security, radio frequency identification and robotics.
6. Competitive plants innovate more and appear also more active on their product portfolio. Non-competitive plants ask for increased involvement in new product development.

Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

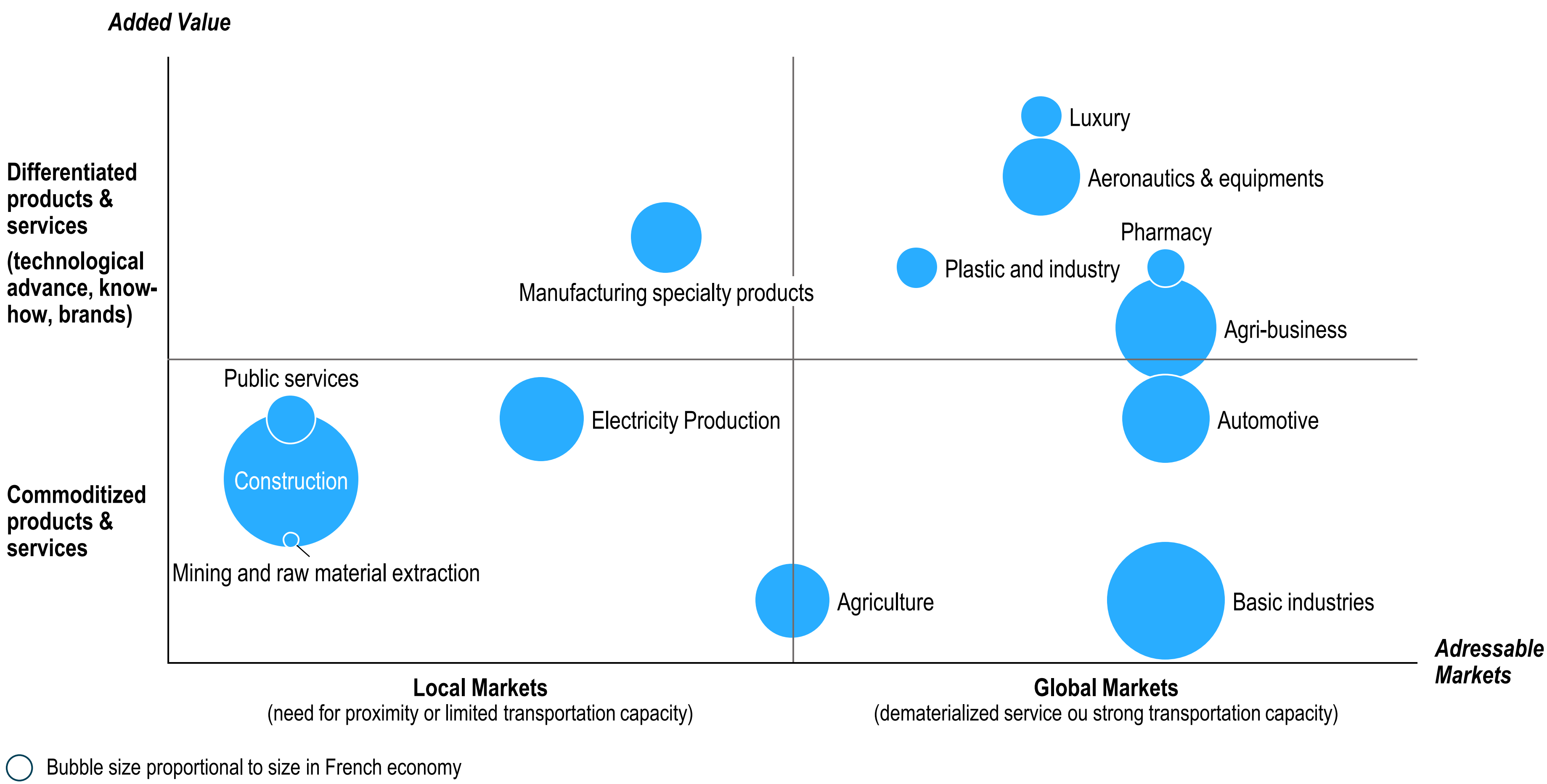
France may further destroy manufacturing jobs in the coming years – digital plant will play a key role

Creation & destruction of jobs in manufacturing and services in France [2013 – 2023; thousands]



Source: INSEE, OFCE, COE-Rexecode, Roland Berger

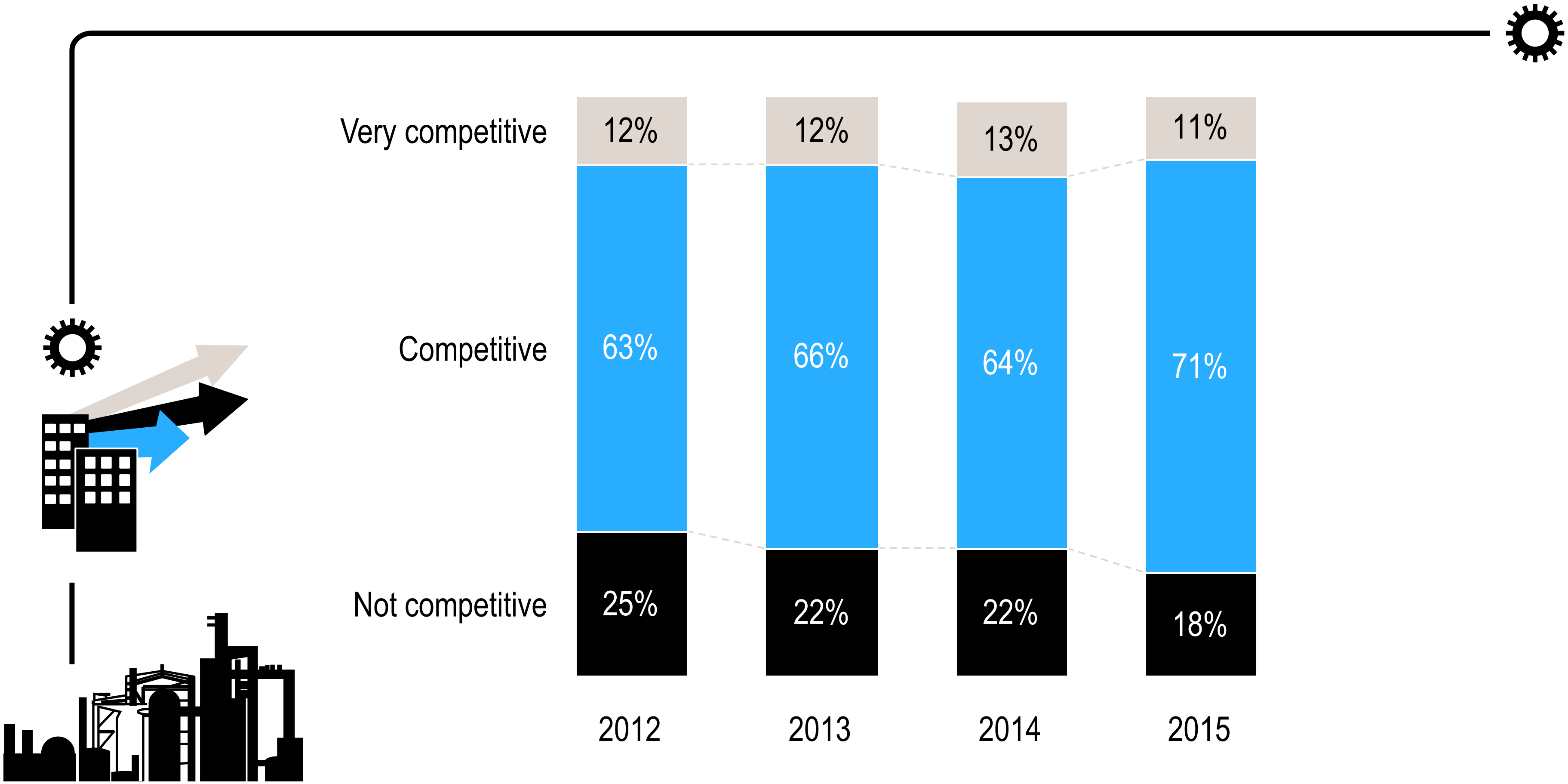
French manufacturing industries will be impacted differently depending on added value and addressable markets



Source: Roland Berger

1. French competitiveness improved in 2015

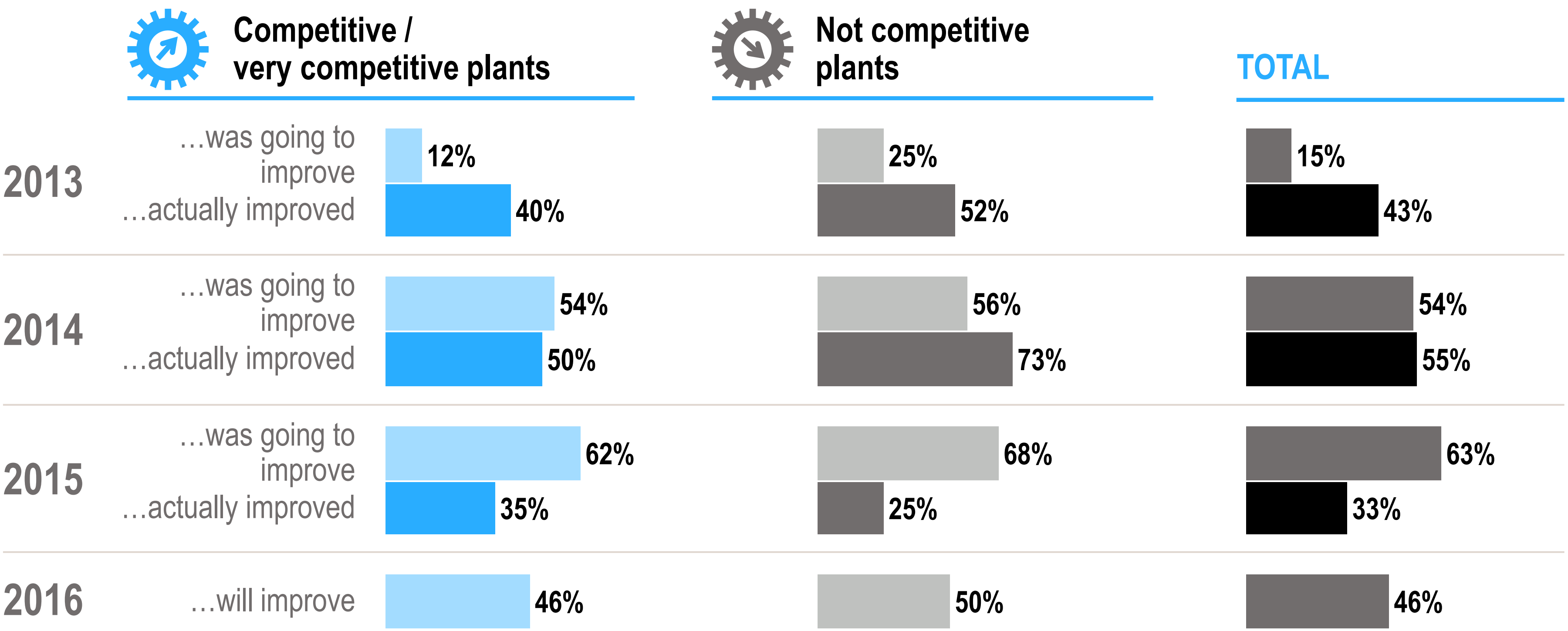
Do you consider your plant as…



Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey, Trendeo, INSEE

1. French plants competitiveness outlook is stabilizing - survey participants were more optimistic in 2013 and 2014

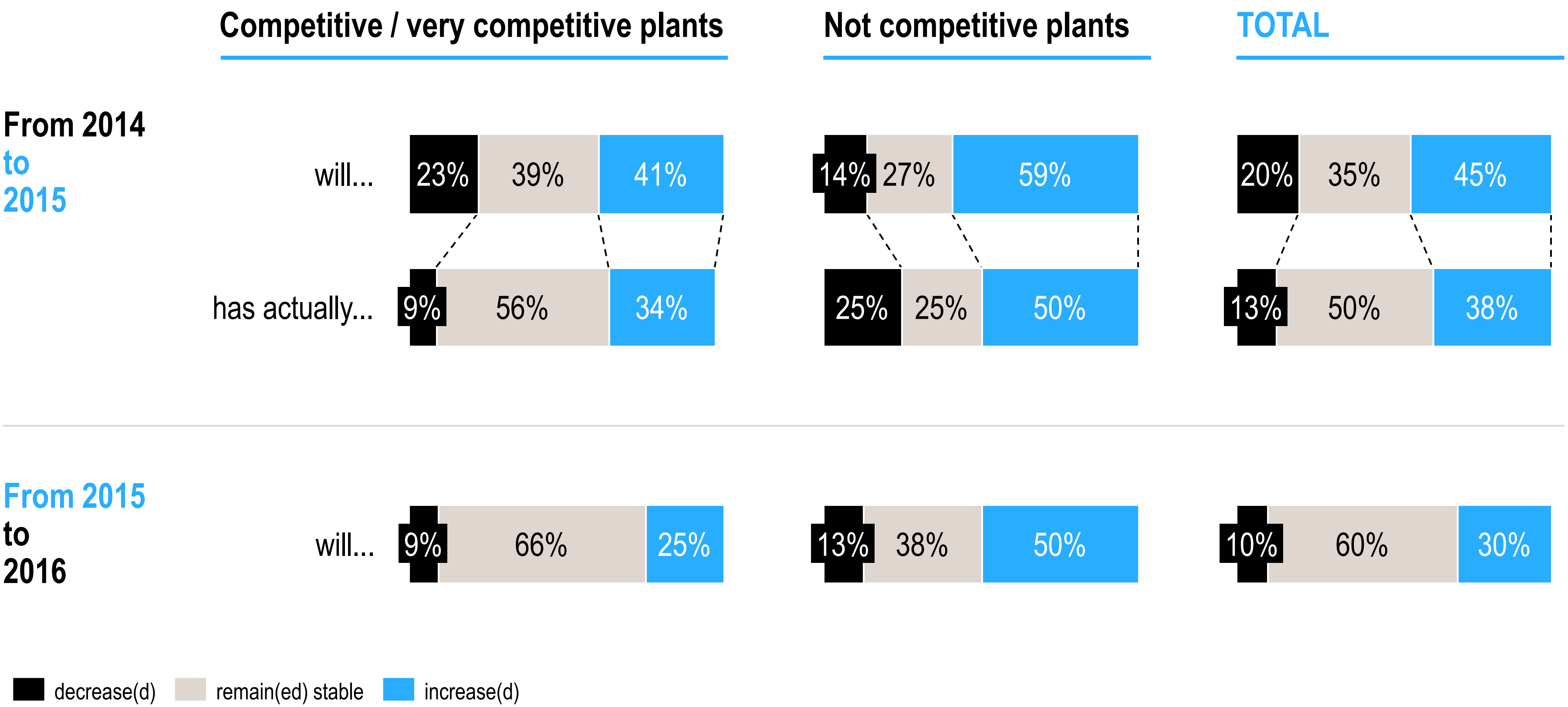
% of respondents considering that their competitiveness…



Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

2. Most plant managers expect profit margins to remain stable in 2016 – Still 10% of respondents in distress

% of respondents considering that their profit margin level….



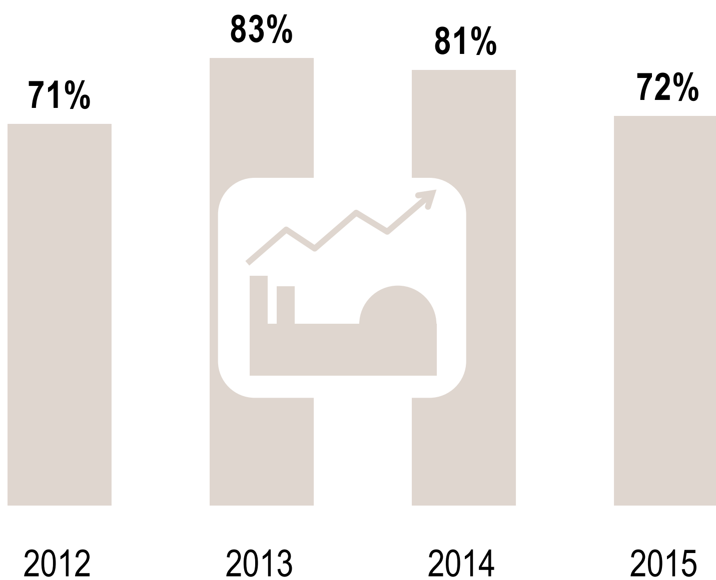
Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

3. # Although larger plants perform better, size not a highly differentiating factor regarding competitiveness

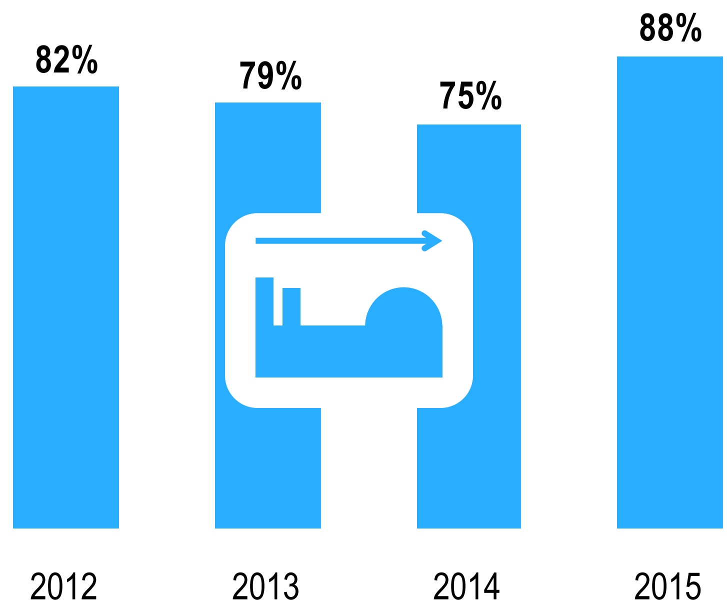
Roland Berger

Plants considering themselves competitive or very competitive, function of sales

Plants with sales < 50 M EUR



Plants with sales > 50 M EUR

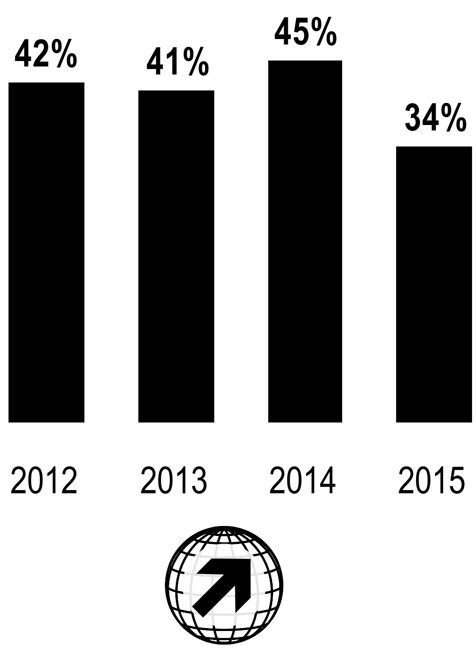


Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

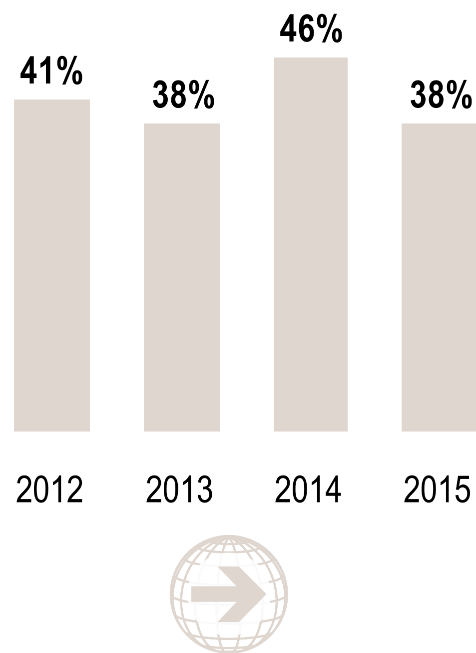
3. Share of exports in sales has been low in 2015 – no correlation between competitiveness and level of exports

Share of export sales on total plant sales

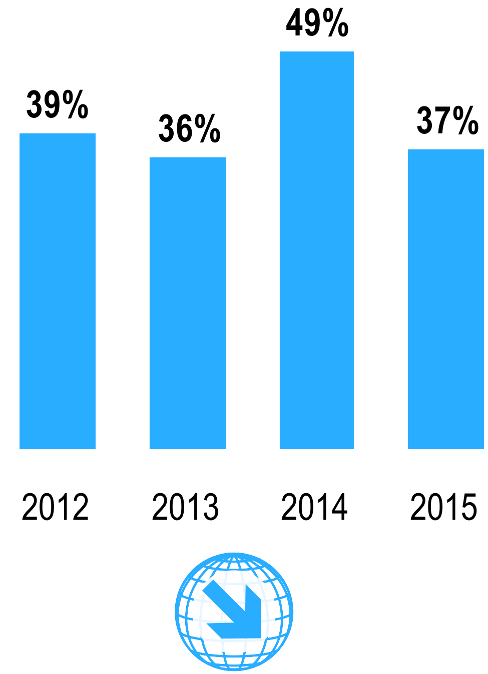
Very competitive



Competitive



Not competitive

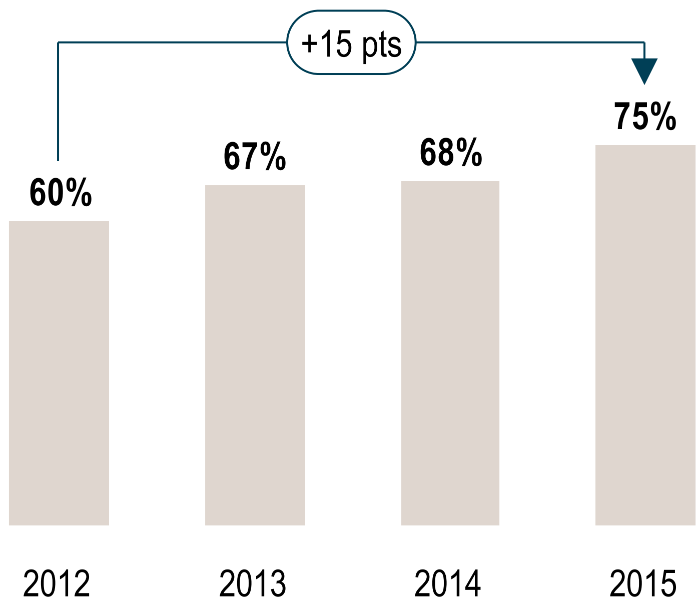


Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

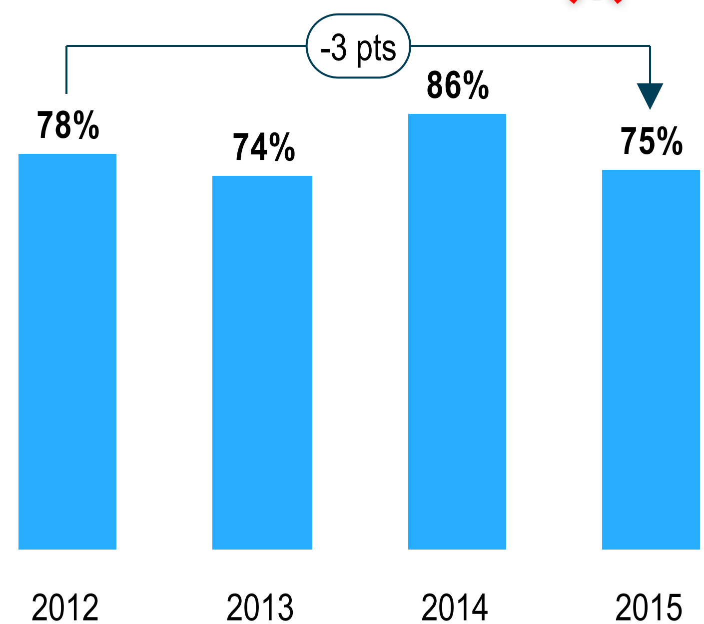
3. Competition is becoming more international for competitive plants as well

Competitive landscape - % of non French first competitors

Competitive or Very competitive



Not competitive

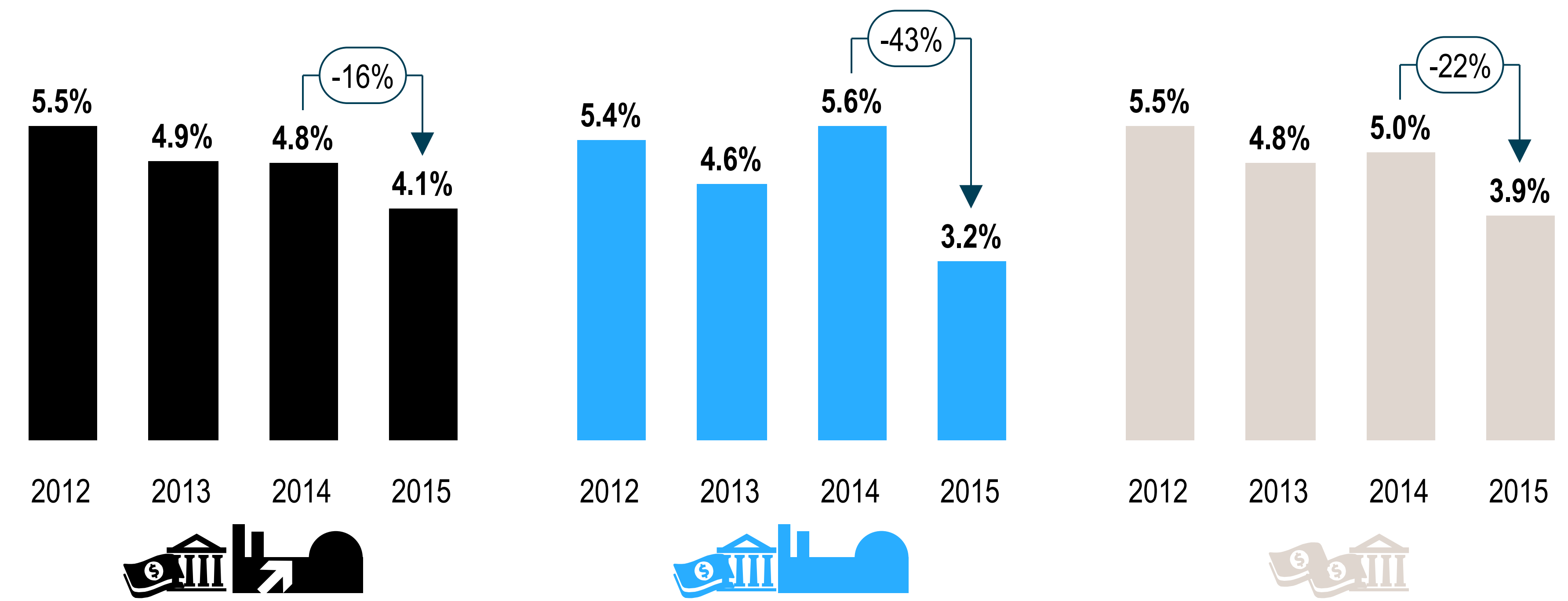


Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

3. Capital Expenditures have been lower in 2015 than previous years, especially in non competitive plants

Average capital expenditures (% of sales) per competitiveness level

Competitive and very competitive plants | **Not competitive plants** | **TOTAL**



Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey, Roland Berger

4. Improving operational efficiency, supply chain and industrial processes are more critical than labor costs

% of respondents considering the criteria either critical or very critical

	2013	2014	2015		
Critical issues	3	2	1	Operational efficiency	89%
	4	5	2	Supply chain	87%
	2	1	3	Industrial processes	85%
	1	3	4	Raw material purchases	85%
Important issues	8	4	5	Labor qualification	76%
	5	7	6	Manufacturing flexibility	74%
	6	9	7	Labor costs	74%
	9	6	8	Sales force	67%
	7	8	9	Product innovation	63%
	10	10	10	R&D	63%
Secondary issues	11	11	11	Energy costs	54%
	12	13	12	Plant size	52%
	15	14	13	Marketing	50%
	13	12	14	Group size	46%
	14	15	15	Public support	37%
	16	16	16	Local infrastructures	26%
	17	17	17	Local network of same industry actors	26%

Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

4. Labor costs still too high – Increasing share of supply chain and sales force as critical productivity mismatch

Competitiveness mismatch

	2013	2014	2015		
Critical issues	1	1	1	Labor costs	39%
	6	7	2	Supply chain	20%
	5	5	3	Sales force	11%
	4	10	4	Raw material purchases	11%
Important issues	3	2	5	Product innovation	9%
	11	4	6	Operational efficiency	7%
	15	13	7	Labor qualification	4%
	10	11	8	Marketing	4%
	13	14	9	Local network of same industry actors	4%
	2	6	10	Public support	4%
Secondary issues	9	8	11	Manufacturing flexibility	2%
	8	3	12	R&D	0%
	12	9	13	Industrial processes	0%
	16	15	14	Group size	-4%
	17	16	15	Plant size	-9%
	14	17	16	Local infrastructures	-11%
	7	12	17	Energy costs	-15%

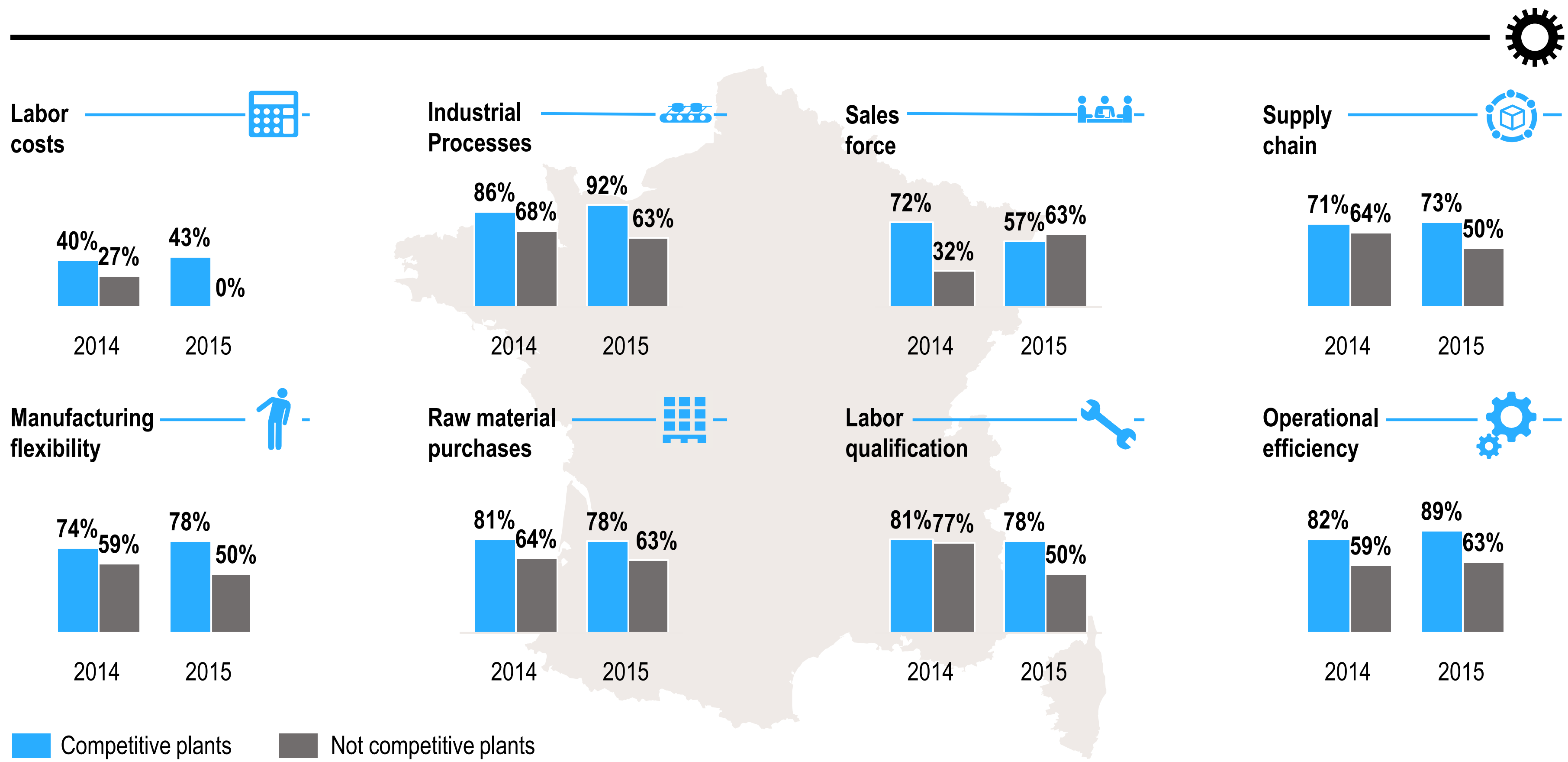
Rationale

This chart measures the difference (or mismatch) between the number of respondents considering a criteria critical and those regarding themselves as actually competitive on this criteria.

Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

4. Competitive plants key concern is related to operational excellence – labor costs matter less than qualification

% of respondents considering themselves competitive on a criteria considered critical[1)]



1) Number of respondents considering themselves competitive over number of respondents considering the criteria as critical, amongst all respondents of their respective "competitiveness category"

Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

5. Our 2015 manufacturing survey updates French plant managers awareness on "Digital plant" concepts

Overview of a selection of Digital plant key concepts [selection]

Cybersecurity

> Technologies, processes and standards (ISO 27001) enabling organizations to protect computers, networks and data from unauthorized access

Big data

> Refers to data so large, complex or rapid that it is difficult to process using traditional database and software techniques

Cloud computing

> The capacity to share computing resources – typically through the Internet - rather than having local servers or personal devices to handle applications

Augmented reality (AR)

> Real-world environment digitally enhanced by computer-generated sensory input such as sound, video, graphics or GPS data

Robotics

> Technology dealing with the design, construction, operation, and application of robots in order to improve productivity, product quality and worker safety

Rapid prototyping

> Group of techniques using in particular 3D computer aided design data to rapidly and efficiently turn innovative ideas into scale models

Radio frequency identification (RFID)

> Automatic identification method, relying on storing and remotely retrieving data using devices called RFID tags or transponders

Plants super-connection

> Connection of machines, work pieces and systems, to create intelligent networks along the entire value chain that can control each other autonomously

3D printing

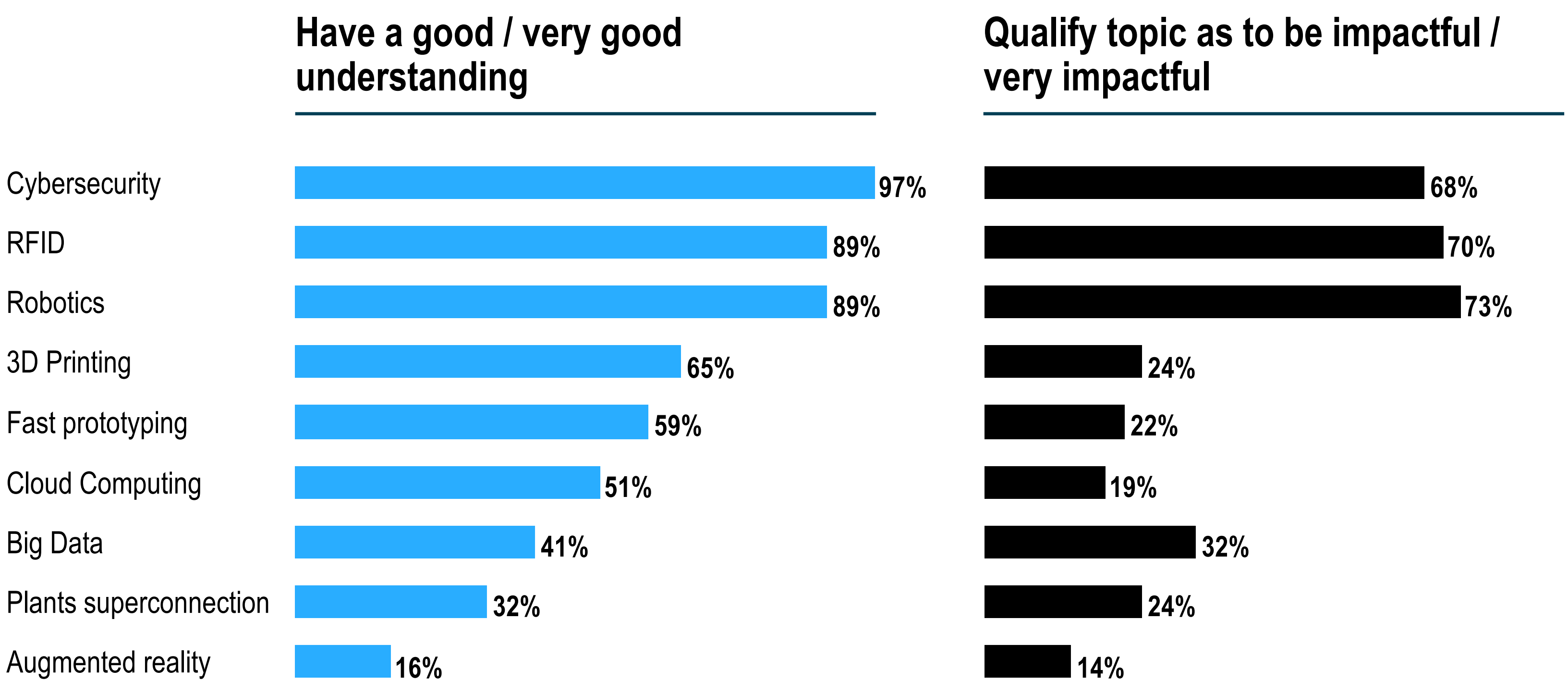
> Also called additive manufacturing. A process of making a three-dimensional solid object of virtually any shape from a digital model

> Allows customizable, one-off production with virtually no waste

Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

5. Digital plants "hot topics" remain cyber-security, RFID and robotics

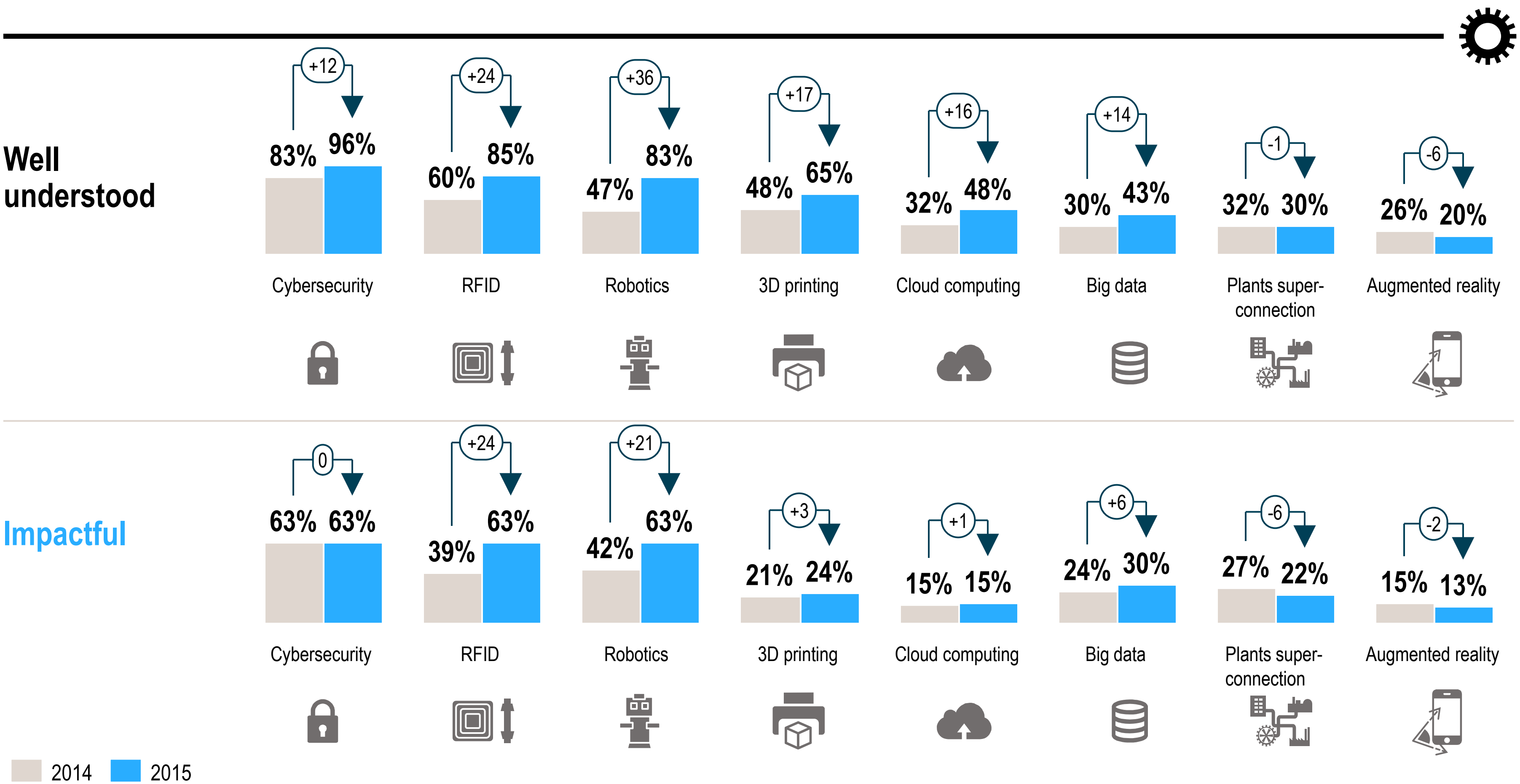
Digital plants key concepts overview – Understanding and expected impact



Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

5. Awareness and expected impact is increasing on most digital plant concepts

Digital Plant key concepts overview – Understanding and expected impact



Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

6. Competitive plants work more intensively their product portfolio – With focus on innovation and renewal

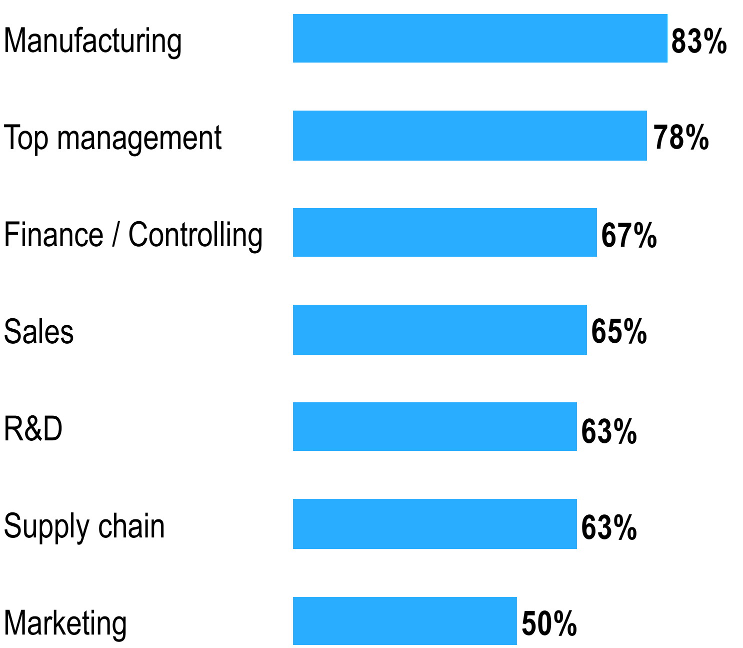
		Non competitive **plants**	Competitive **plants**
Share of sales generated by products launched after 1st January 2013	…less than 10% of plant sales	25%	30%
	…between 10% and 25% of plant sales	23%	49%
	…more than 25% of plant sales	38%	21%
Frequency of product portfolio review	…less than once a year	13%	19%
	…once a year	38%	32%
	…several times a year	38%	41%
	…at least once a month	13%	5%

Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

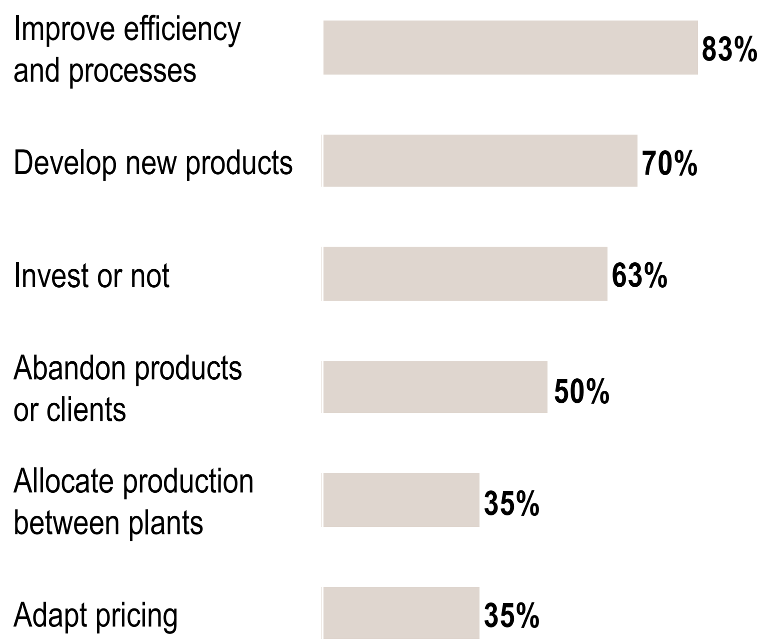
6. Marketing, supply-chain and R&D managers are key managers to be involved on product portfolio reviews

Portfolio review [percentage of respondents]

Who is involved...



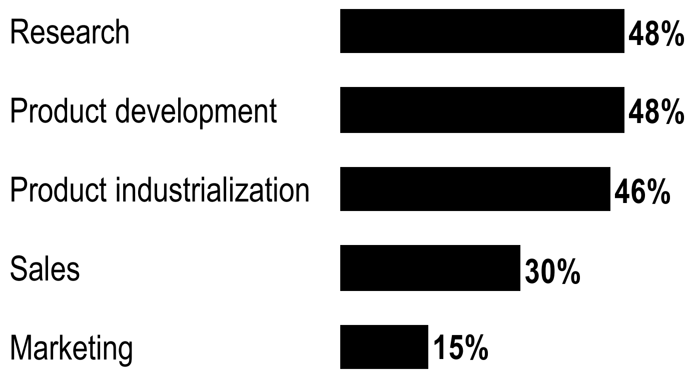
What decisions are taken...



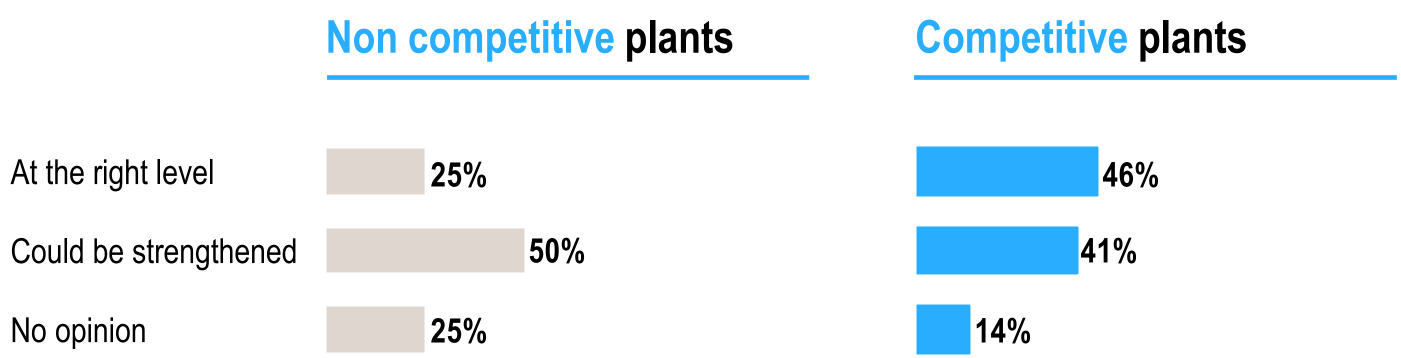
Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

6. Non competitive plants ask for an increased involvement in new products development

Teams located in plants



Involvement in new products development



Source: Roland Berger Manufacturing Competitiveness Radar 2015 Survey

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