

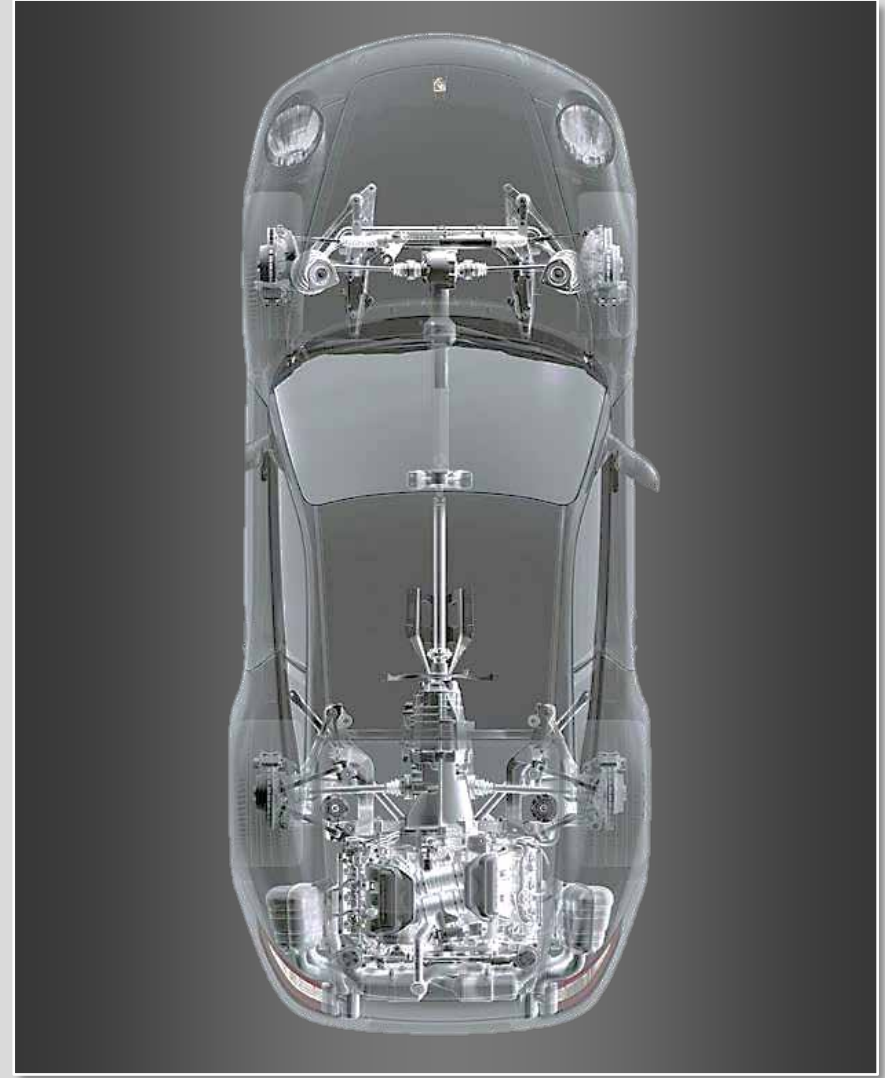
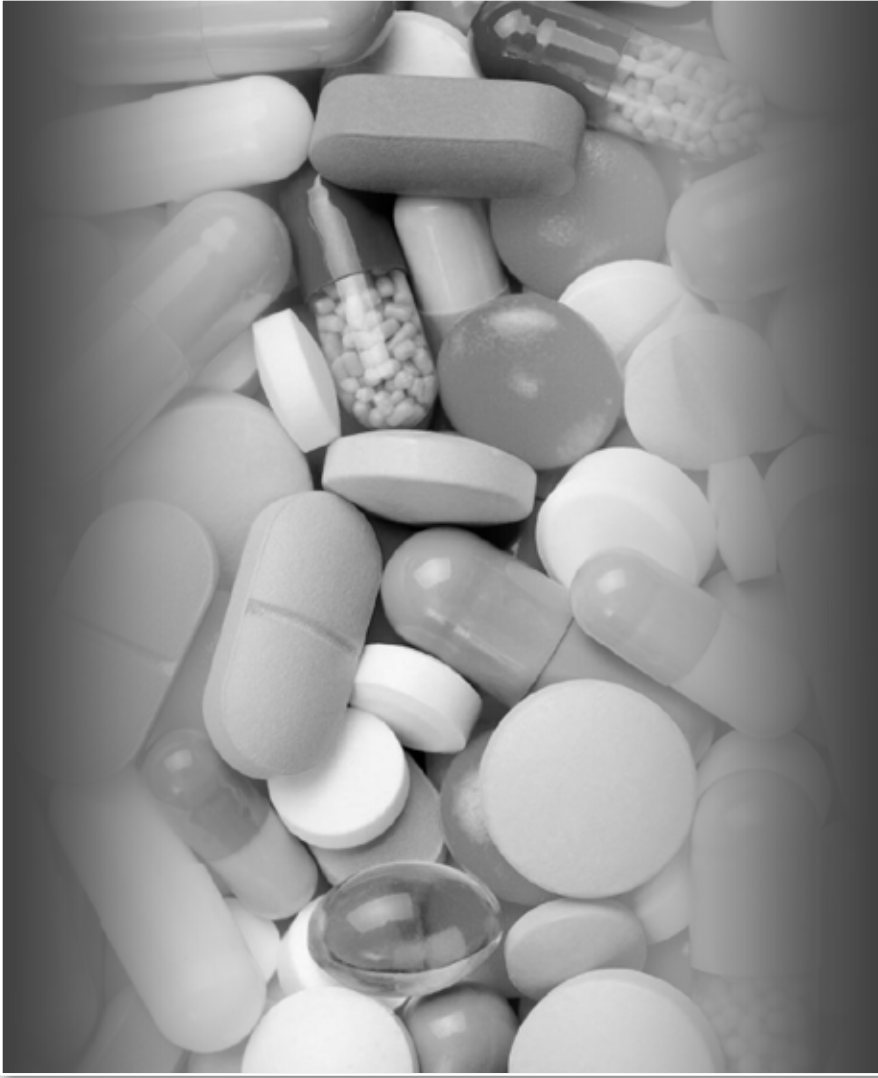
How the pharmaceutical industry can benefit from the automotive sector



PDA Europe – Parenterals 2014
D. Pfitzer, Porsche Consulting GmbH

Munich, November 4 - 5, 2014

Pharmaceuticals are not exactly automotive ...



Source: Photos: Istockphoto; Porsche AG

... but we are all striving for the same operational excellence

Operational excellence
is the desire and ability of an
organization and its employees
to consistently deliver top
performance, time and again.

1992 was the start of a new era for Porsche

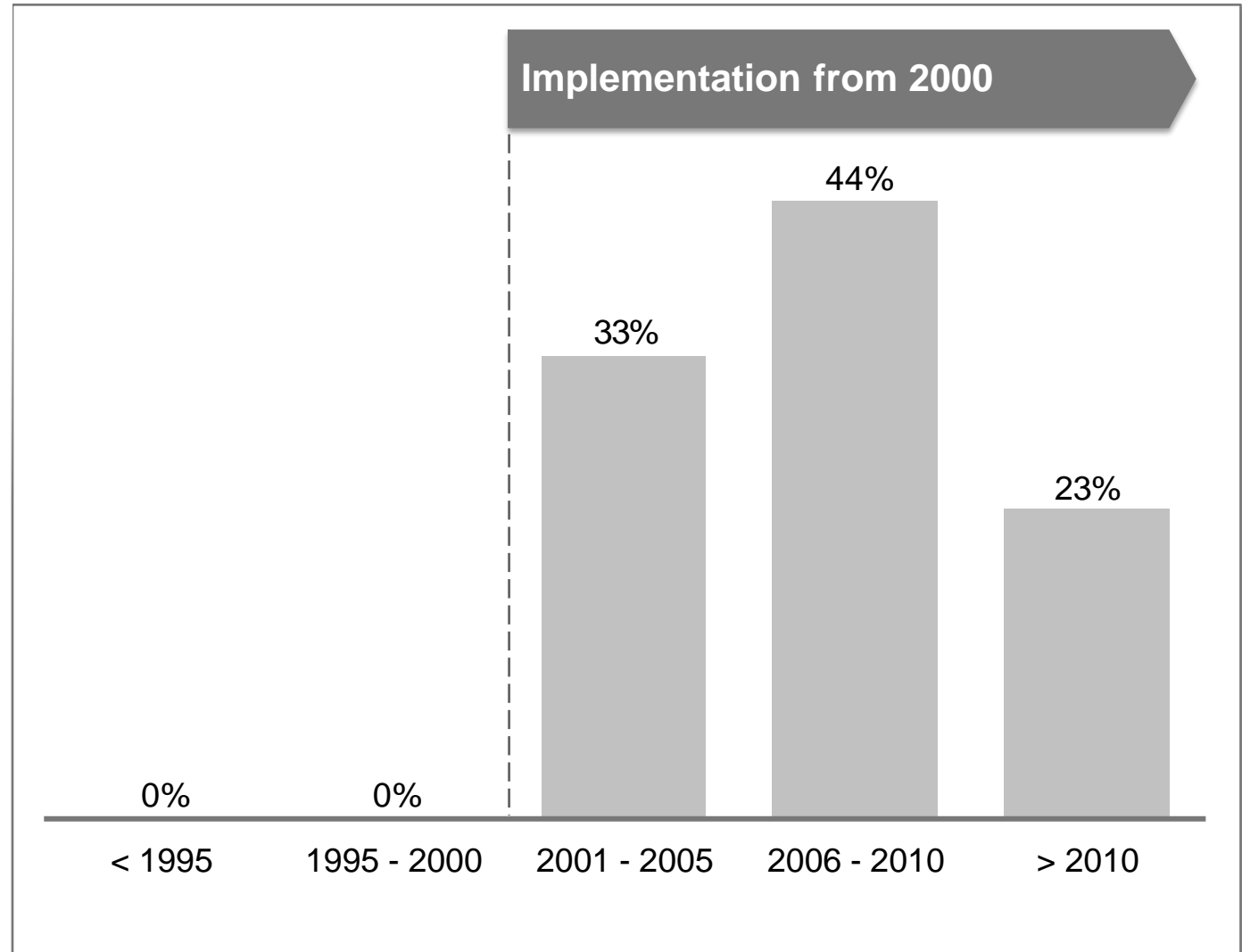


Source: Porsche Consulting, Porsche AG; photo: Porsche AG

Porsche Consulting

Survey of the top 20 pharmaceutical companies: None of the companies surveyed focused on operational excellence before the year 2000

In what year did you start structured programs to achieve operational excellence?



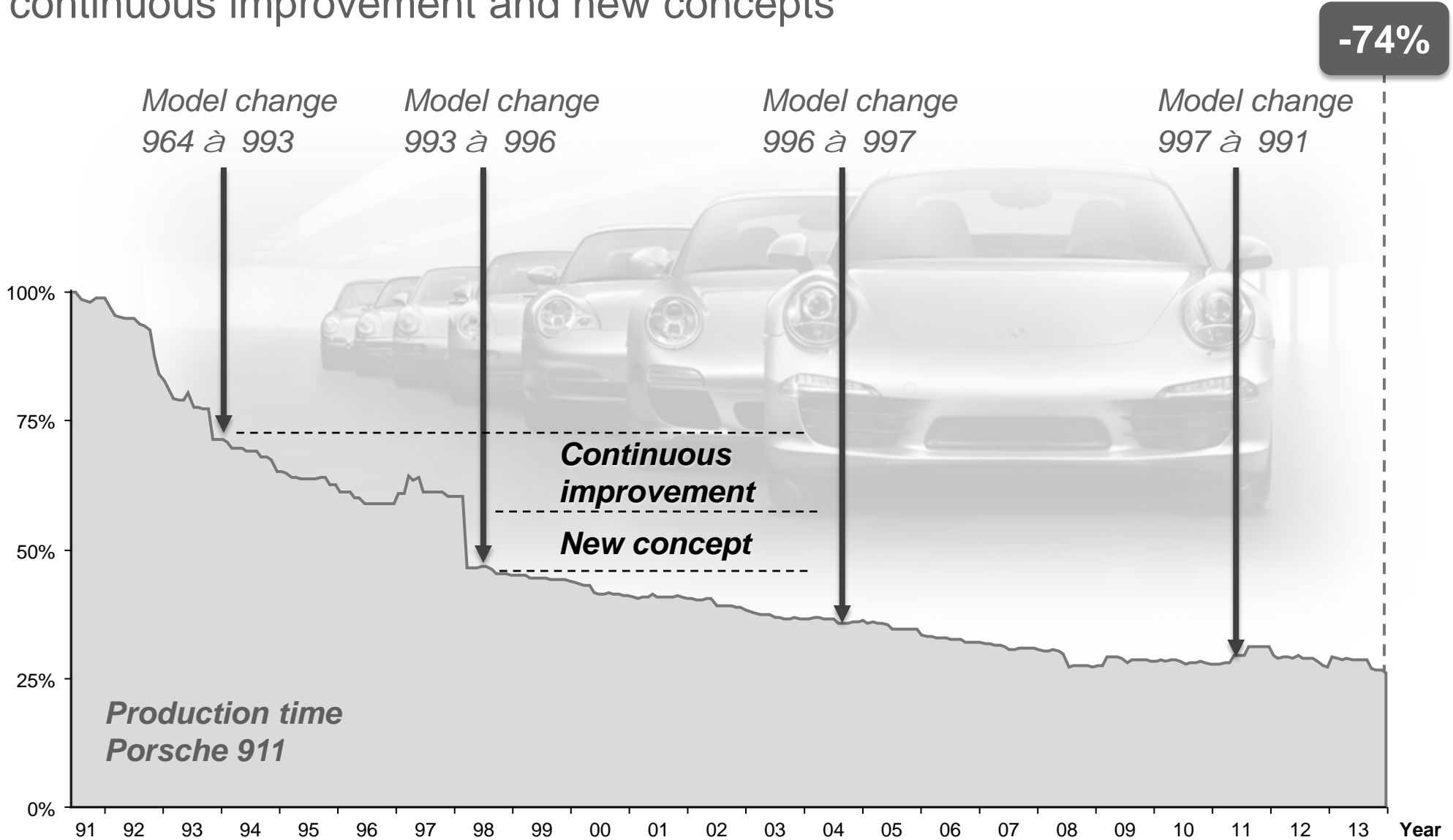
Porsche has rigorously implemented operational excellence since 1992



Source: Porsche Consulting, Porsche AG; photo: Porsche AG

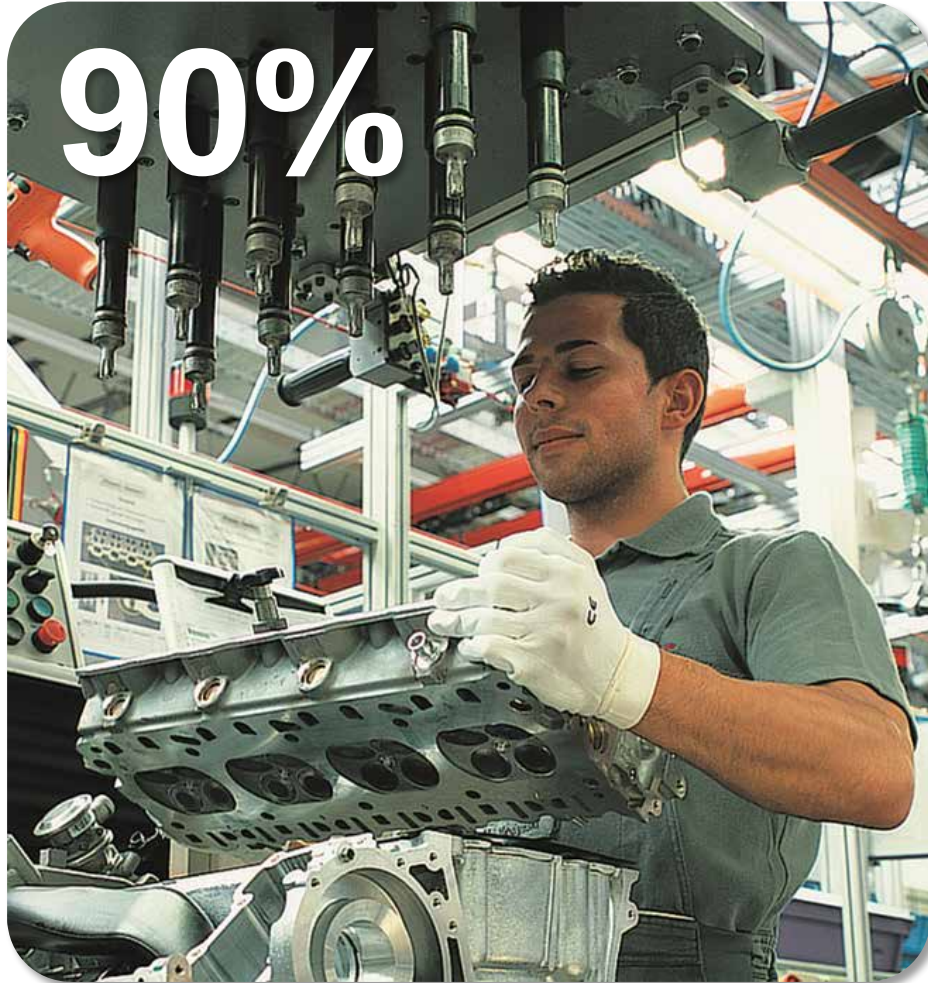
Porsche Consulting

The key to a sustainable increase in productivity lies in the combination of continuous improvement and new concepts



Source: Porsche Consulting, Porsche AG; photo: Porsche AG

OEEs are an indicator of high productivity: It is generally known that OEEs are higher in the automotive sector – but why?



* OEE = Utilization rate in % (machine utilization = 100%) x Performance coefficient in % x First-time-right rate in %

Source: Porsche Consulting; photo: Porsche AG, Fotolia

At Porsche, cross-series assembly concepts are one of the reasons for the high OEEs

Customer relevance

§ Individual design and distinguishing characteristics "in the rear view mirror"



Implementation

§ Modules are assembled **in the same way**

§ The focus is on **assembly processes** and thus on reducing production times

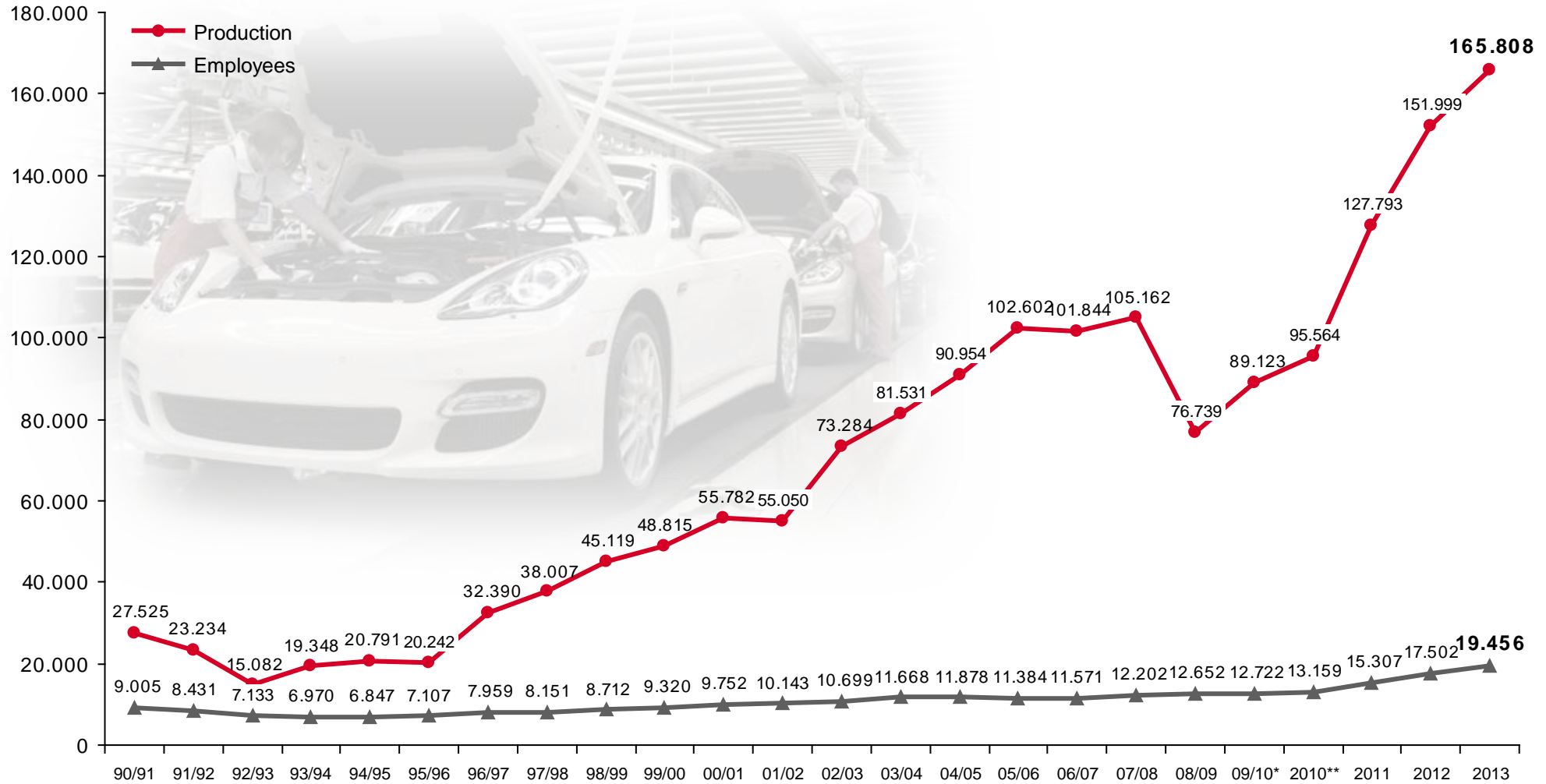


Result

§ The same modules are used in **different products**



To summarize: 6% increase in productivity year over year due to operational excellence



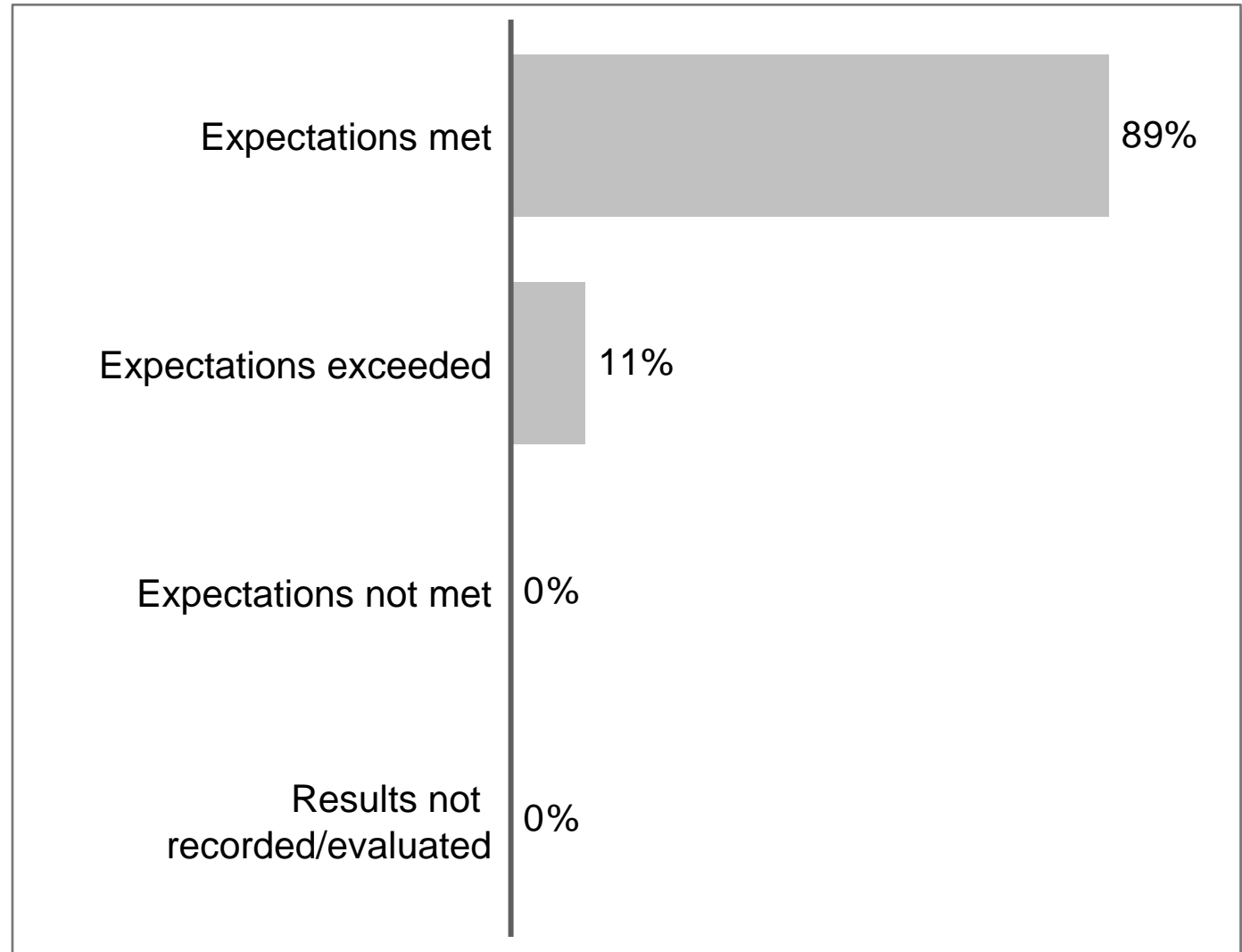
* Porsche Zwischenholding GmbH

** Calendar year 2010

Source: Porsche AG, Annual Report

In the pharmaceutical industry also, expectations from introducing of operational excellence have been met – overachievement, however, is rarely the case

How satisfied are you with the results achieved?



Porsche has defined an annual increase in productivity of 6% as one of its goals

– the greatest contribution now comes from outside Production*

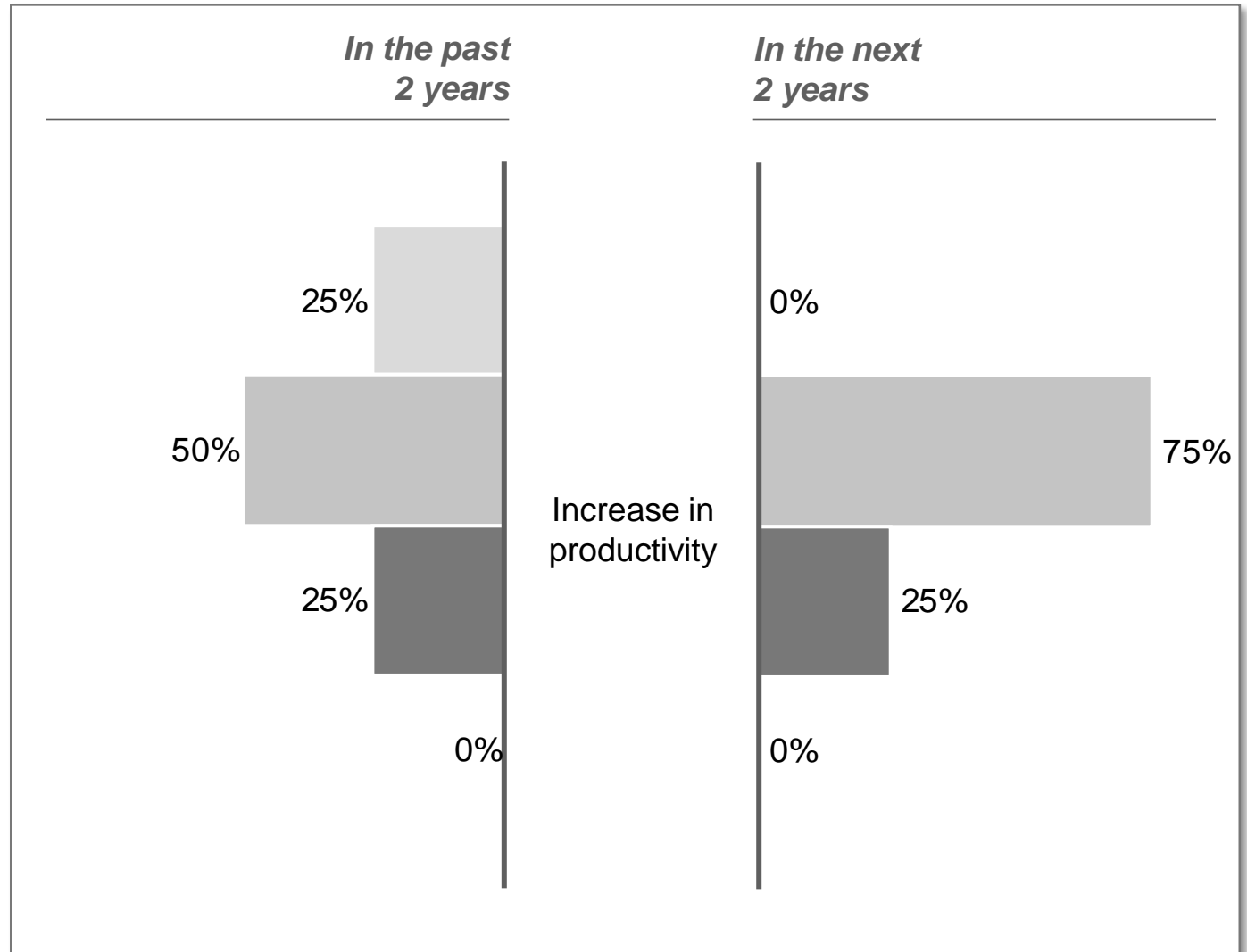


* FY 07/08 - 09/10

Source: Porsche AG, R. Kallenberg, October 2010; photo: Fotolia, Porsche AG

Looking ahead: 75% of pharmaceutical companies strive for an increase in productivity of 5% to 10% within a period of 2 years

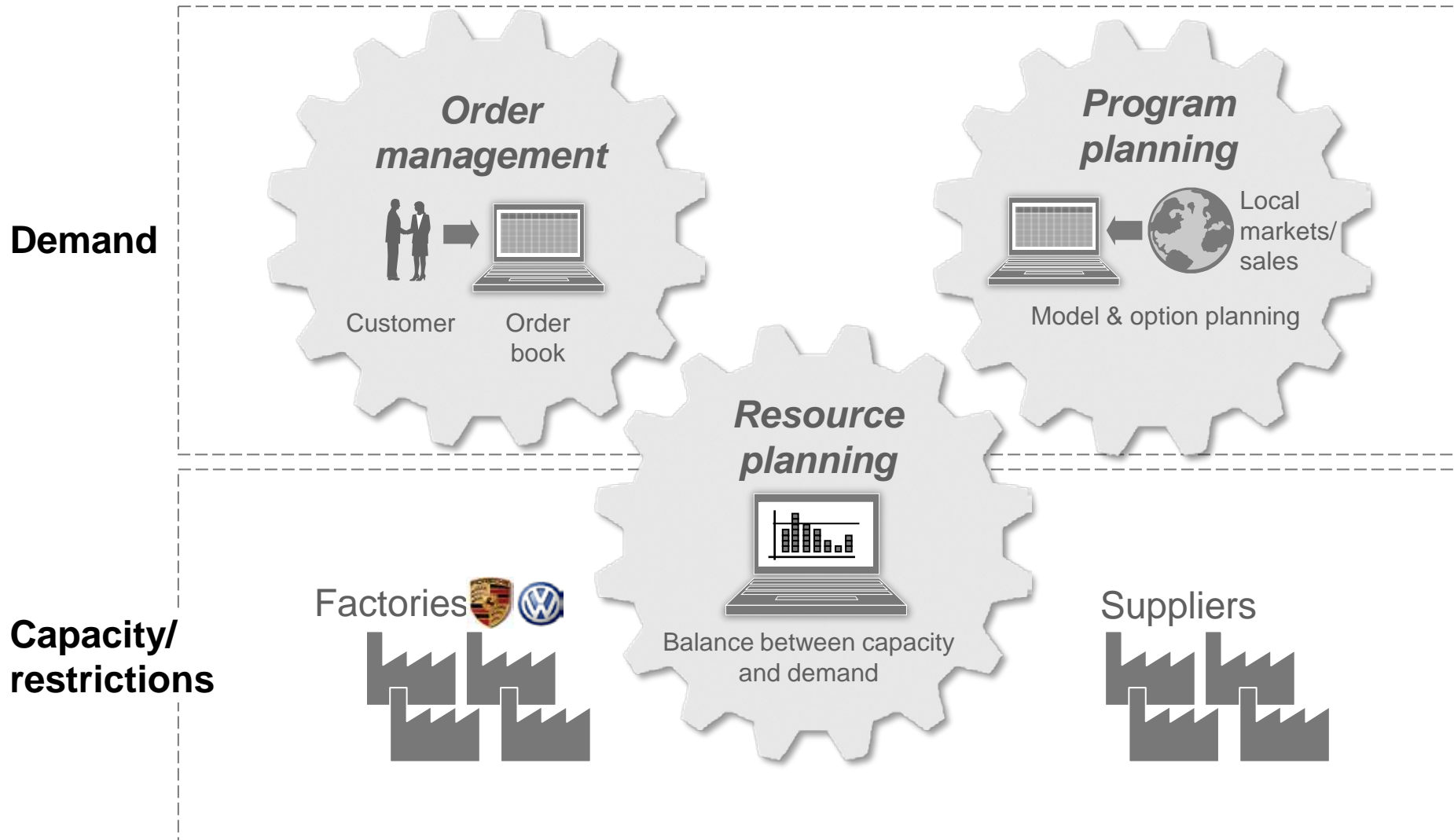
What potentials have you already achieved/planned through operational excellence?



■ < 5% ■ 5 – 10 % ■ 11 – 20 % ■ > 20%

Source: Porsche Consulting, Study 2013; photo: Fotolia

Porsche has optimized its supply chain – transparency makes the greatest contribution to efficiency and inventory reductions



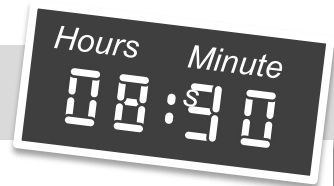
By implementing a new logistics concept, Porsche further reduced its inventory at the Leipzig plant



Evaluation of Porsche Leipzig October 2012 (6-monthly average goods receipt to installation location)
Source: Porsche Consulting; photo: Porsche AG

Example of internal logistics

Example of process chain for assembly part from logistics hub to installation



...

06:00

Hub



09:10

**Receiving
area**



09:15

**Staging
Picking**



14:15

**Picking
in the warehouse**



14:20

**Delivery
at the line**



14:30

**Installation in
the vehicle**

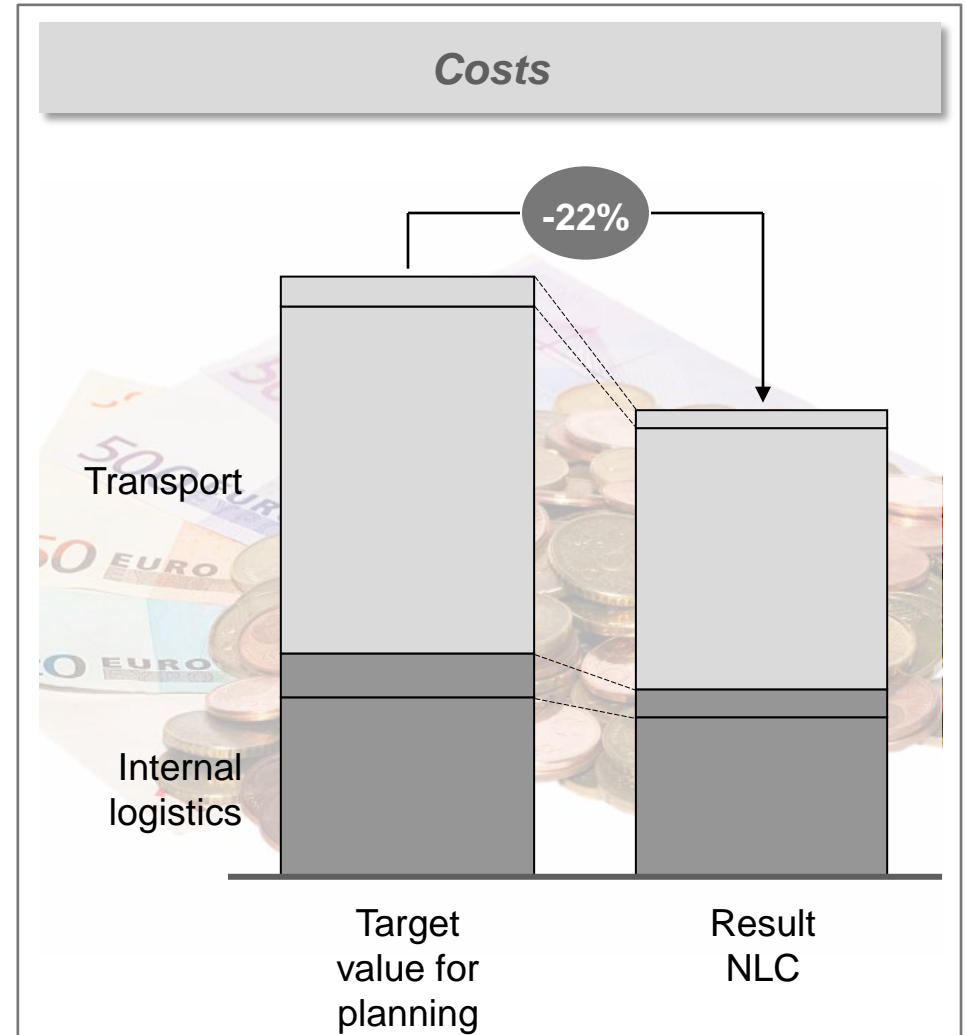
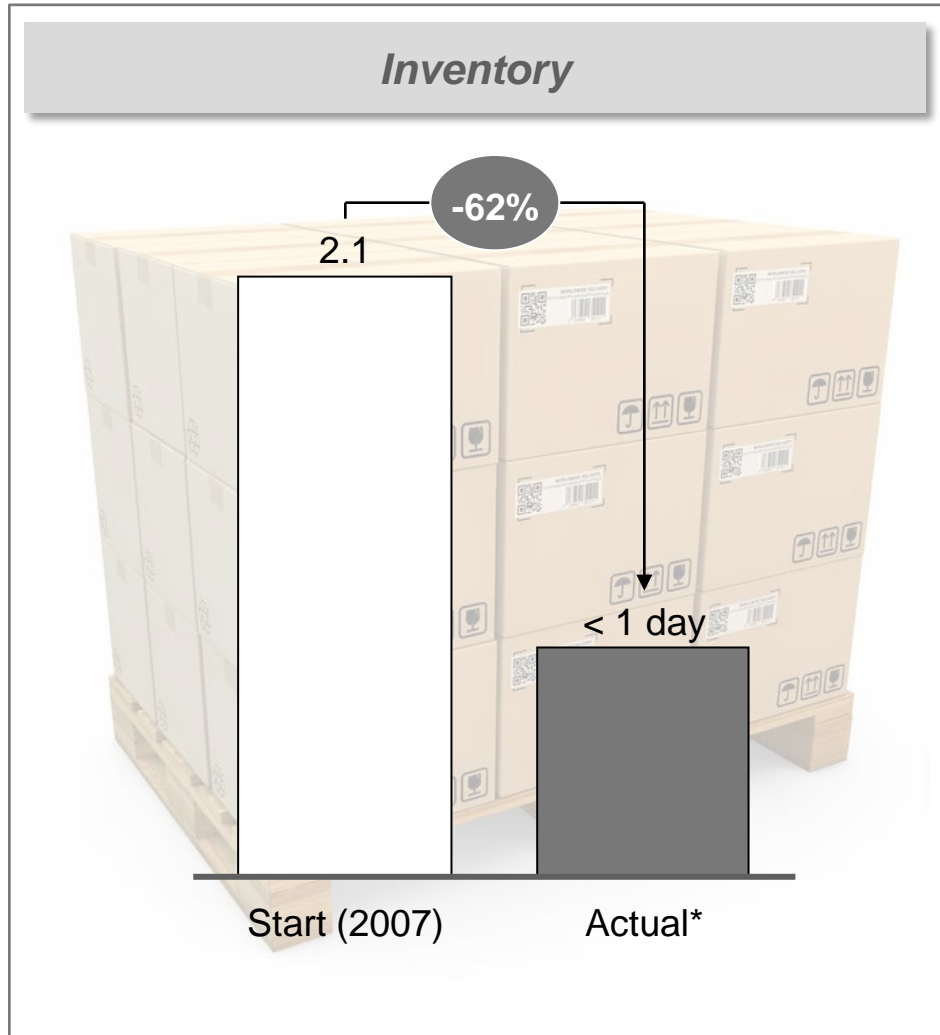


"That's quite a logistical feat:

I don't know of any other factory in the world where the principles of lean production have been implemented as consistently as here in Leipzig"

Dr. Michael Macht, former production member of the Board of Management of Volkswagen AG

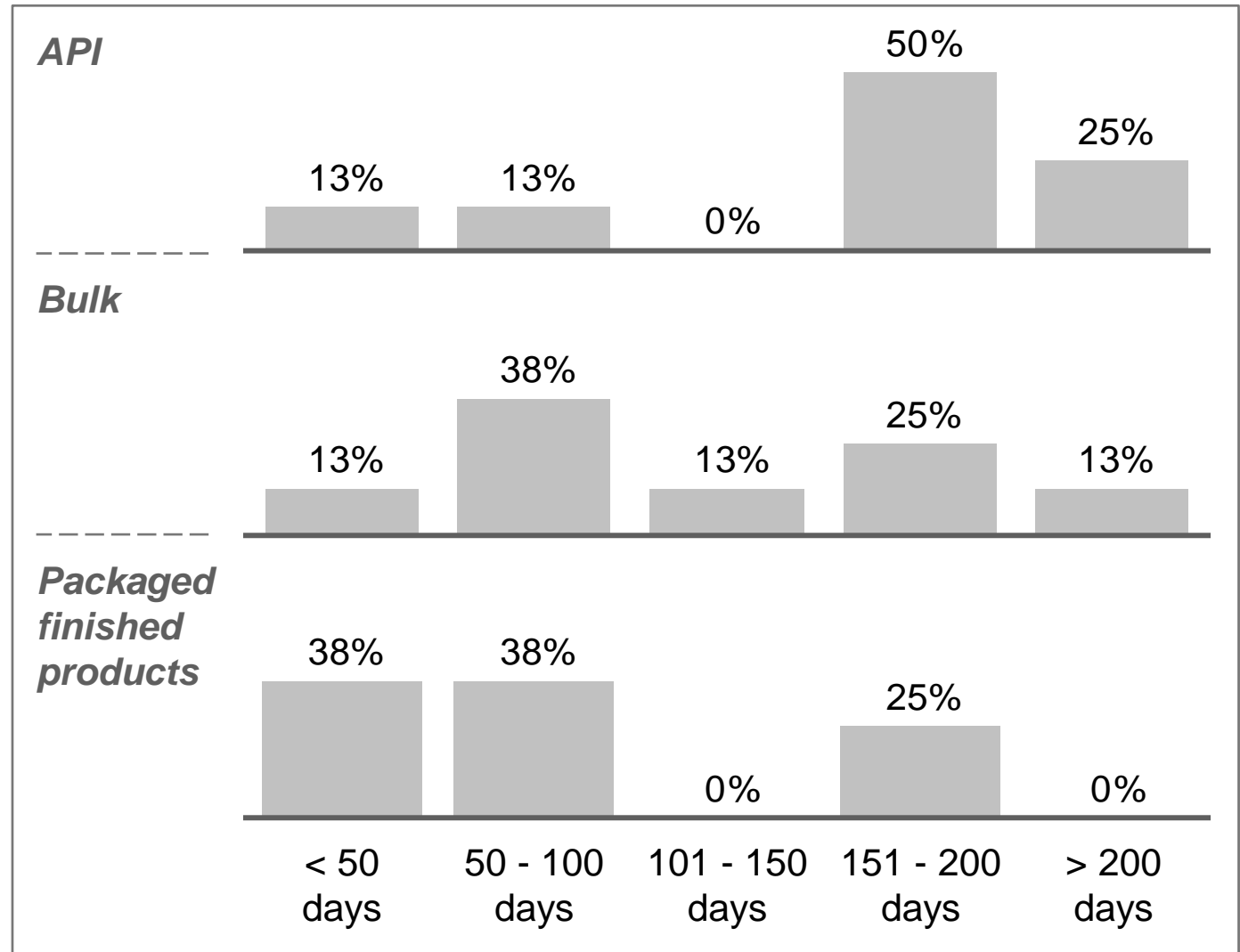
Inventories are at < 1 days range with 22% lower logistics costs



* Evaluation of Porsche Leipzig October 2012 (6-monthly average goods receipt to installation location)
Source: Porsche Consulting

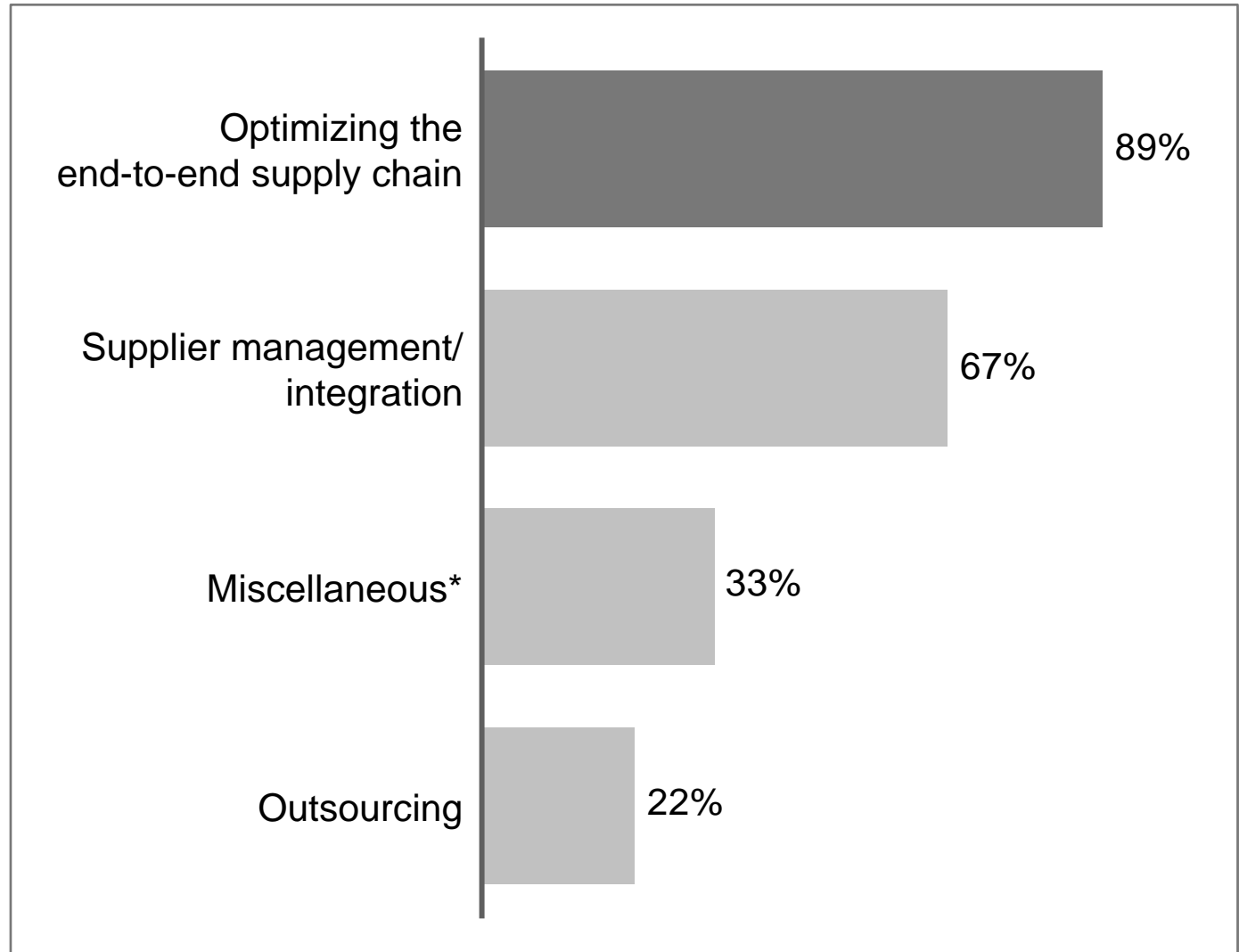
In the pharmaceutical industry, there are high inventory coverages in API, bulk and packaged finished products

How high are the average inventory coverages in your company?



Optimization of the end-to-end supply chain is also one of the most important starting points for increasing efficiency in the pharmaceutical industry in the future

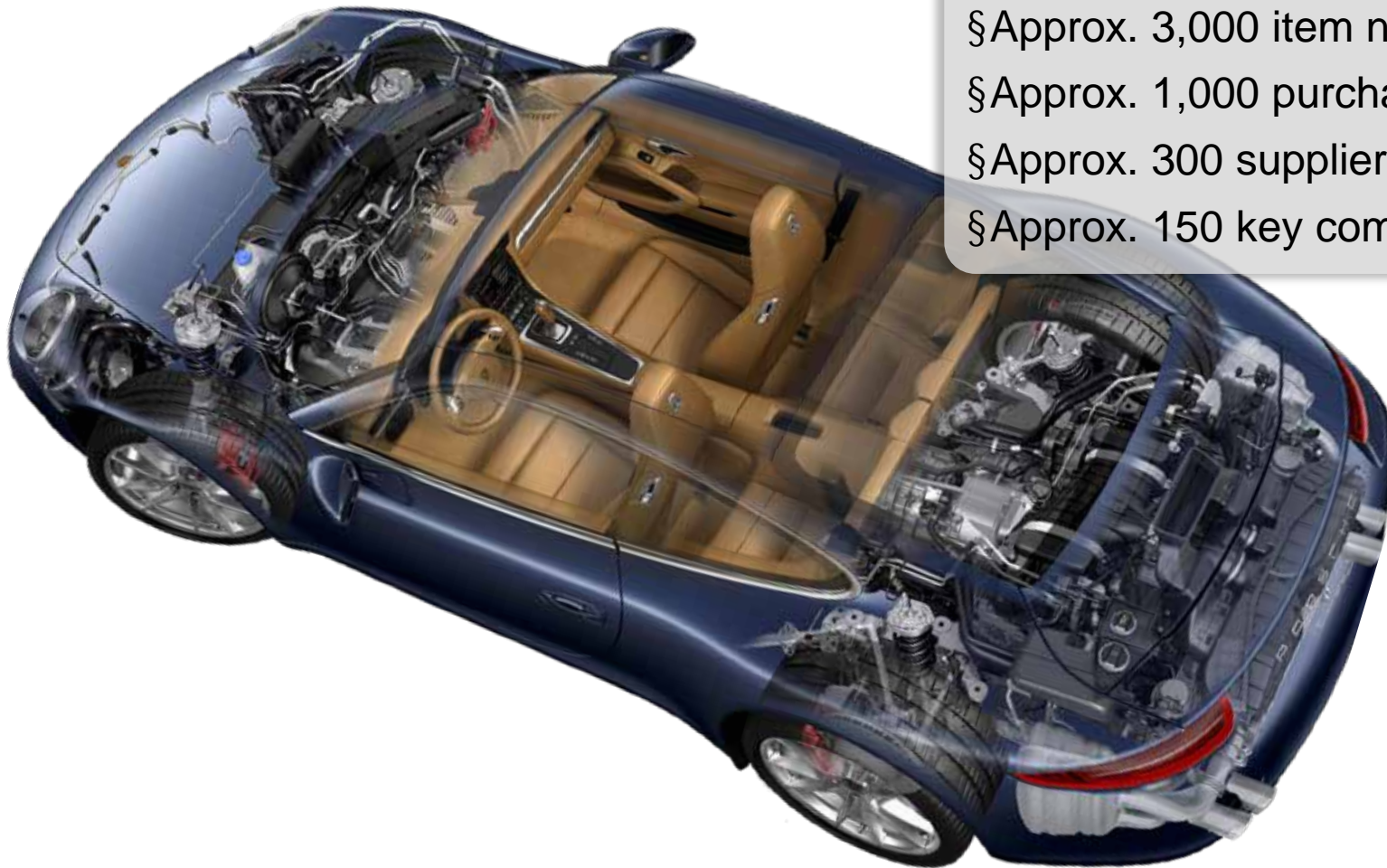
On what areas will you concentrate in the next 2 years to counter increasing cost pressures?
(multiple answers possible)



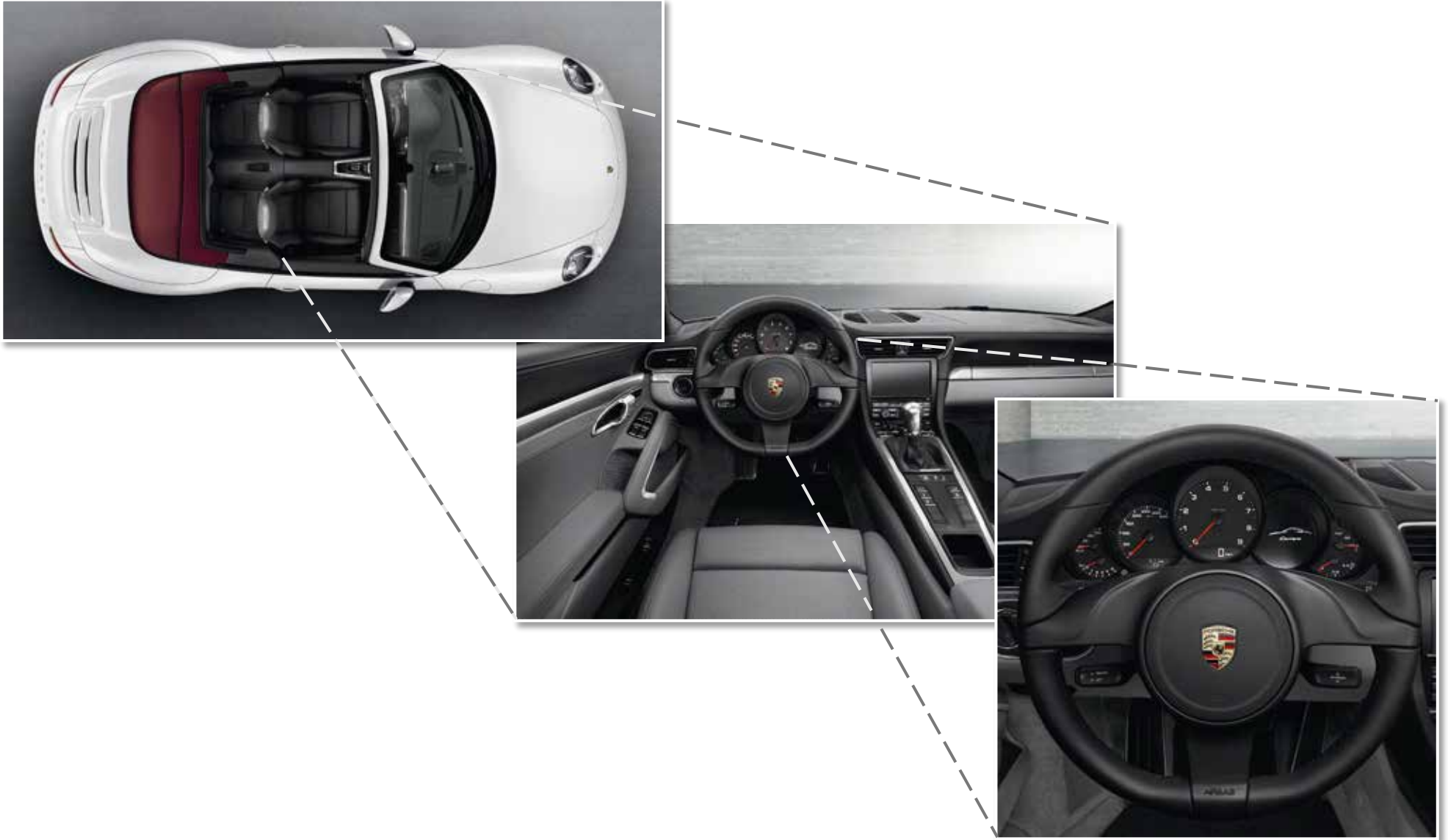
* Miscellaneous: Standardization, quality improvements in production and sales
Source: Porsche Consulting, Study 2013; photo: Istockphoto, Panthermedia, Fotolia

Due to the low real net output ratio, professional supplier management is an important success factor at Porsche – the complexity is enormous

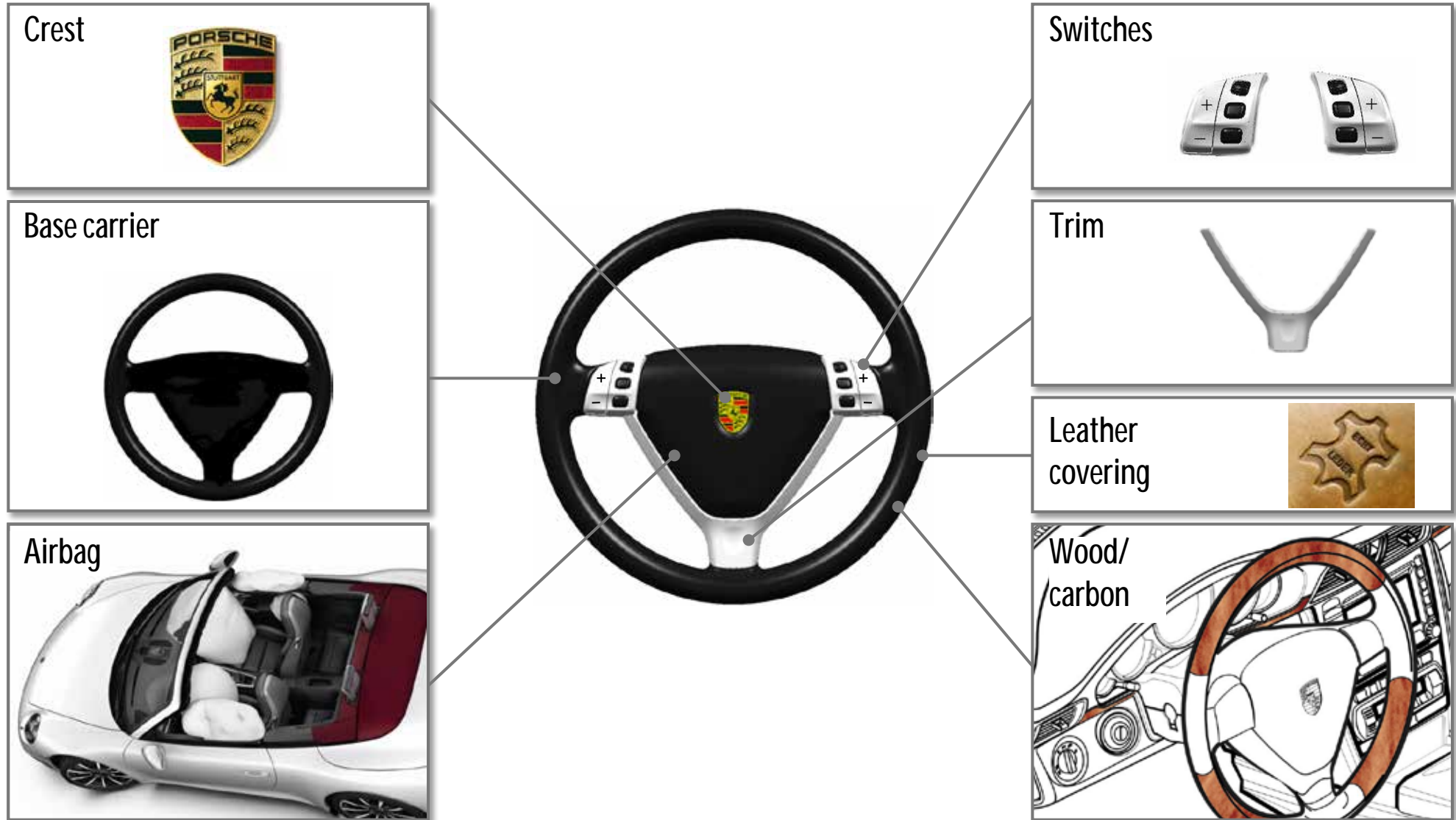
- § Approx. 10,000 individual parts
- § Approx. 3,000 item numbers
- § Approx. 1,000 purchase items
- § Approx. 300 suppliers per vehicle
- § Approx. 150 key components over €20



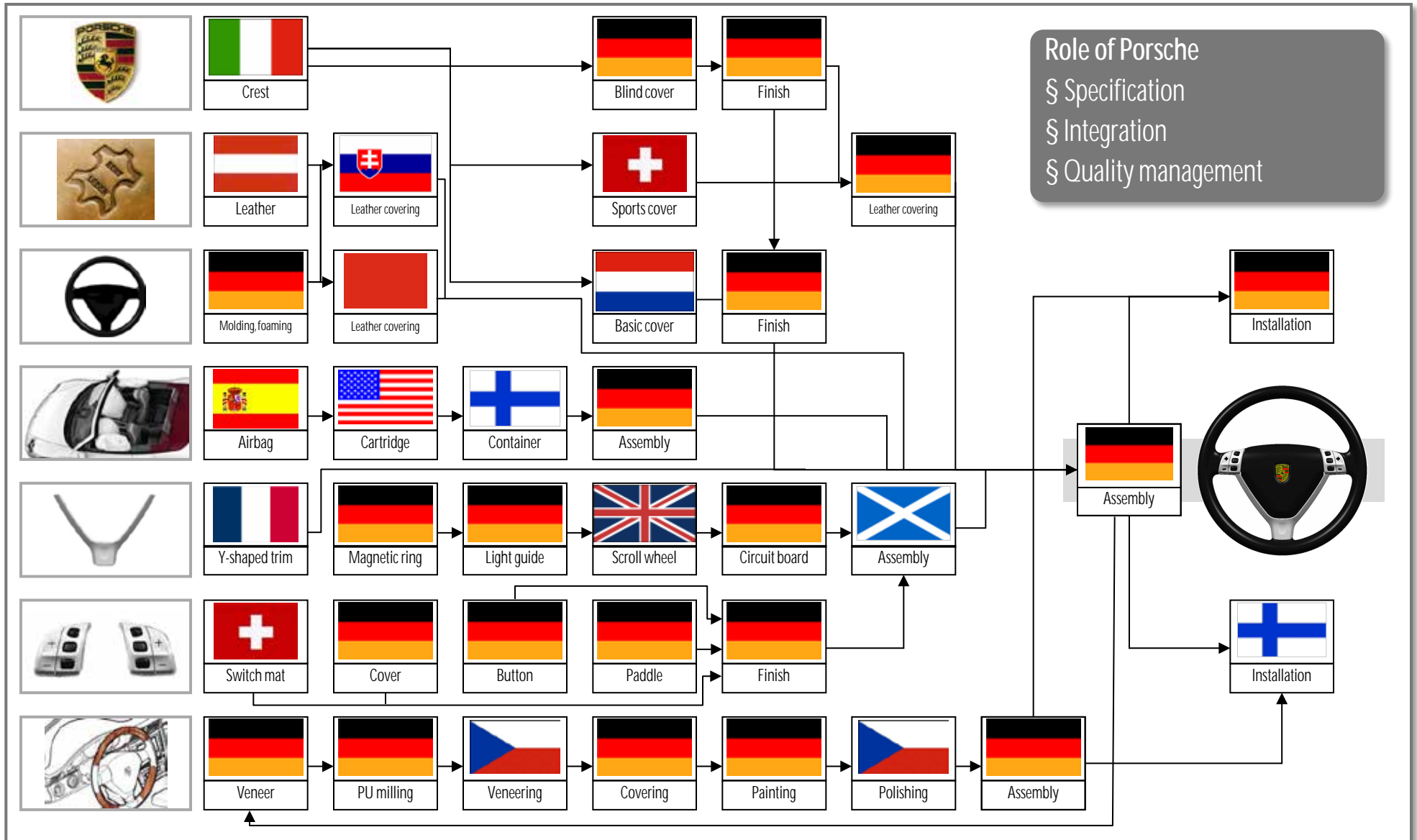
Example: The steering wheel is one of 150 assemblies



The steering wheel can again be differentiated in seven sub-assemblies ...

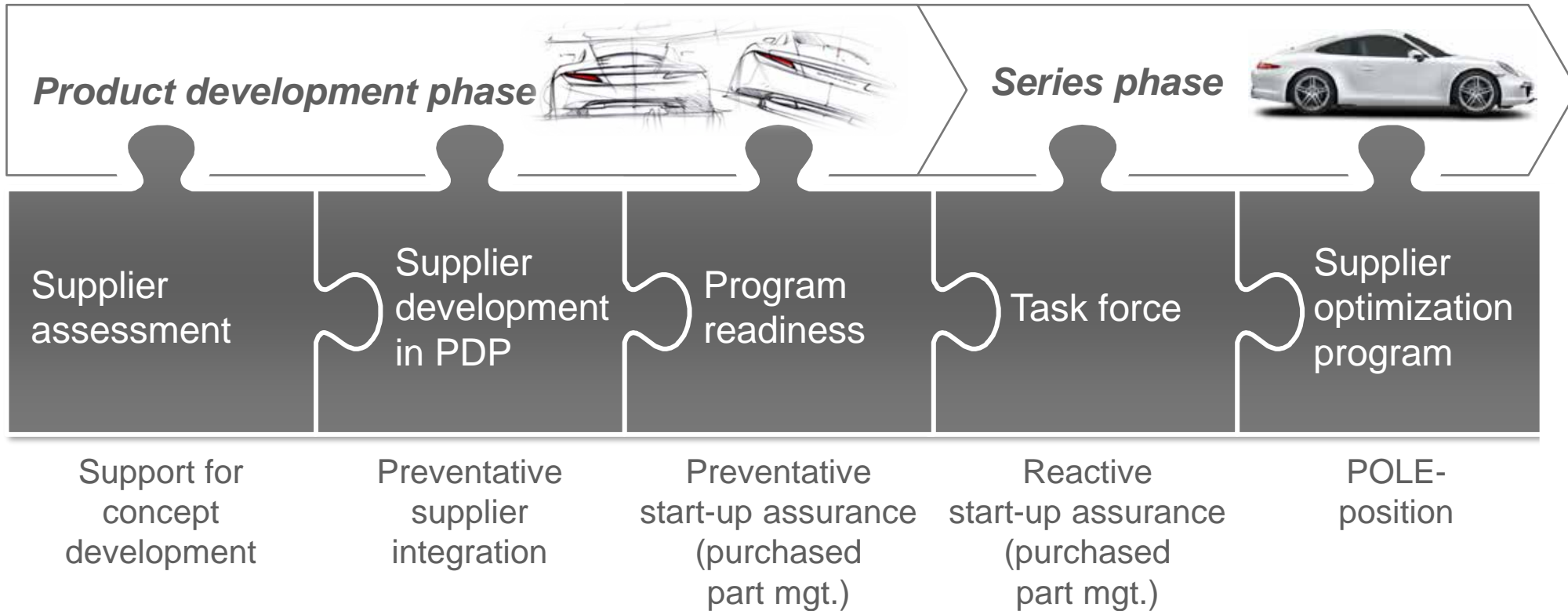


... which are procured through an international supplier network



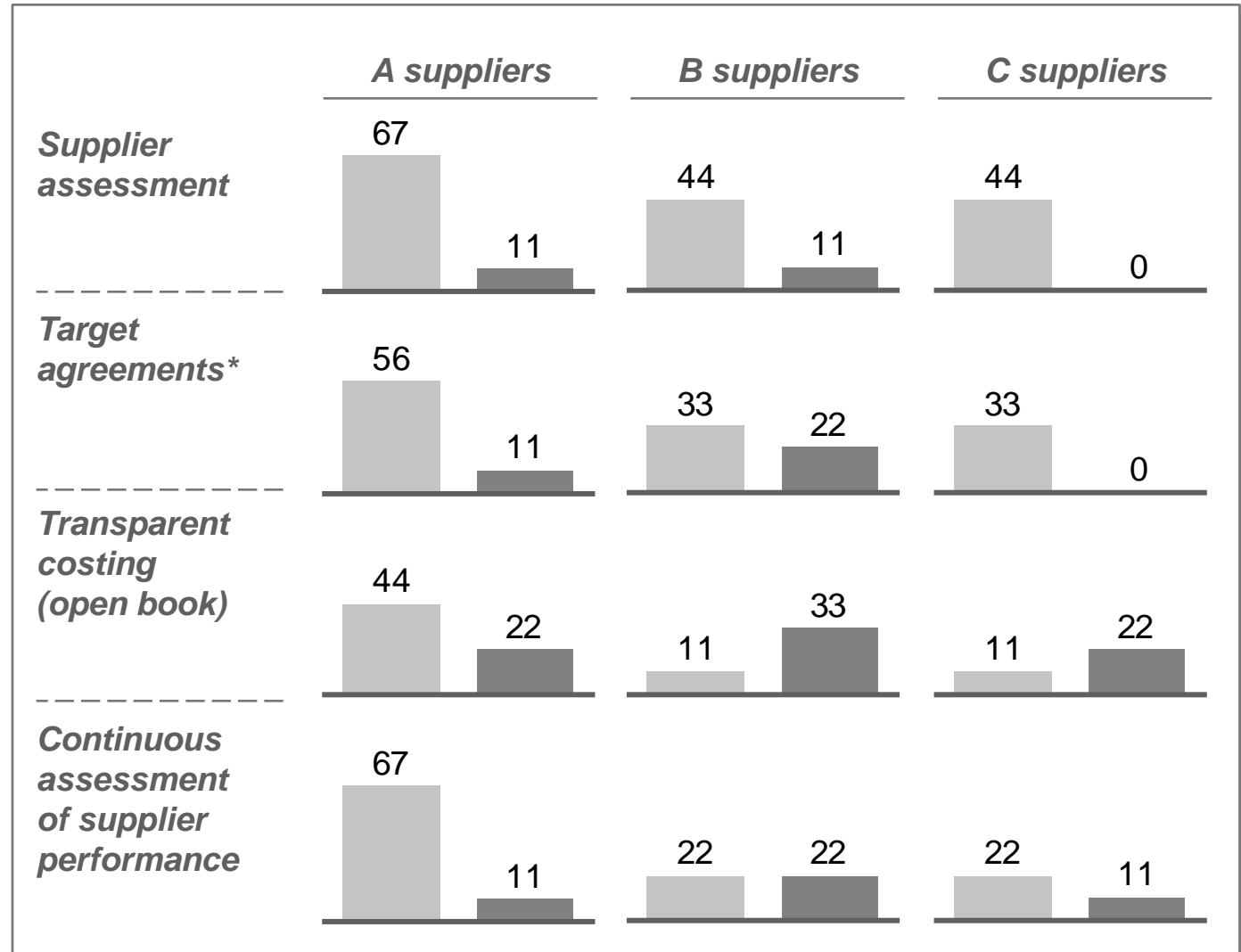
Source: Porsche Consulting, Porsche AG; photo: Porsche AG

Porsche maintains long-term supplier partnerships – already in the early stages of development



Supplier management and integration will play an important role in the pharmaceutical industry in the future

What tools do you use or plan to use in the area of supplier management?
(multiple answers possible)



* e.g. replenishment time, weekly capacities, delivery accuracy, quality
Source: Porsche Consulting, Study 2013; photo: PantherMedia

Present Planned

Can Porsche do everything better?

*No. Porsche just focuses better
on the core competencies*



What does "core competence" actually mean?

Contribution to customer benefits

Customer benefits

Prevents the potential for imitation

Cannot be imitated

Differentiates from the competition

Differentiation

Allows access to markets

Diversification



Example: At Porsche, the focus is on "driving dynamics" as a core competence

Market strategy

Objectives

First mover

- § Braking technology
- § Turbo technology



- § Best in Class
- § Best in Class

Fast follower

- § Valve drive control



- § Best in Class

Late follower

- § Communication systems
- § Comfort equipment



- § State-of-the-art
- § State-of-the-art

Non follower

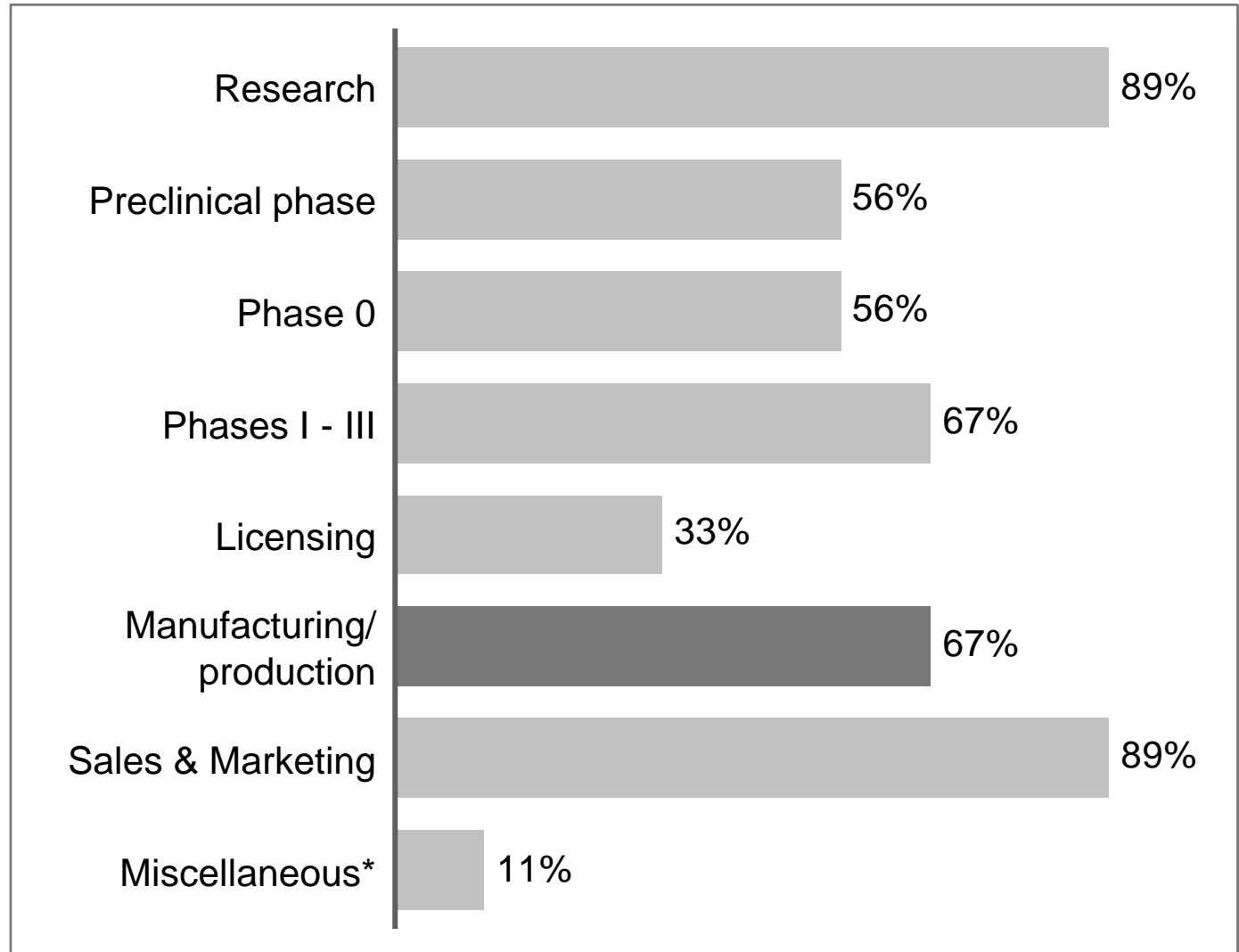
- § Hydrogen technology



§—

67% consider production as a core competence – although the companies surveyed were exclusively research-based pharmaceutical companies

What areas in your company do you view as core competencies?
(multiple answers possible)

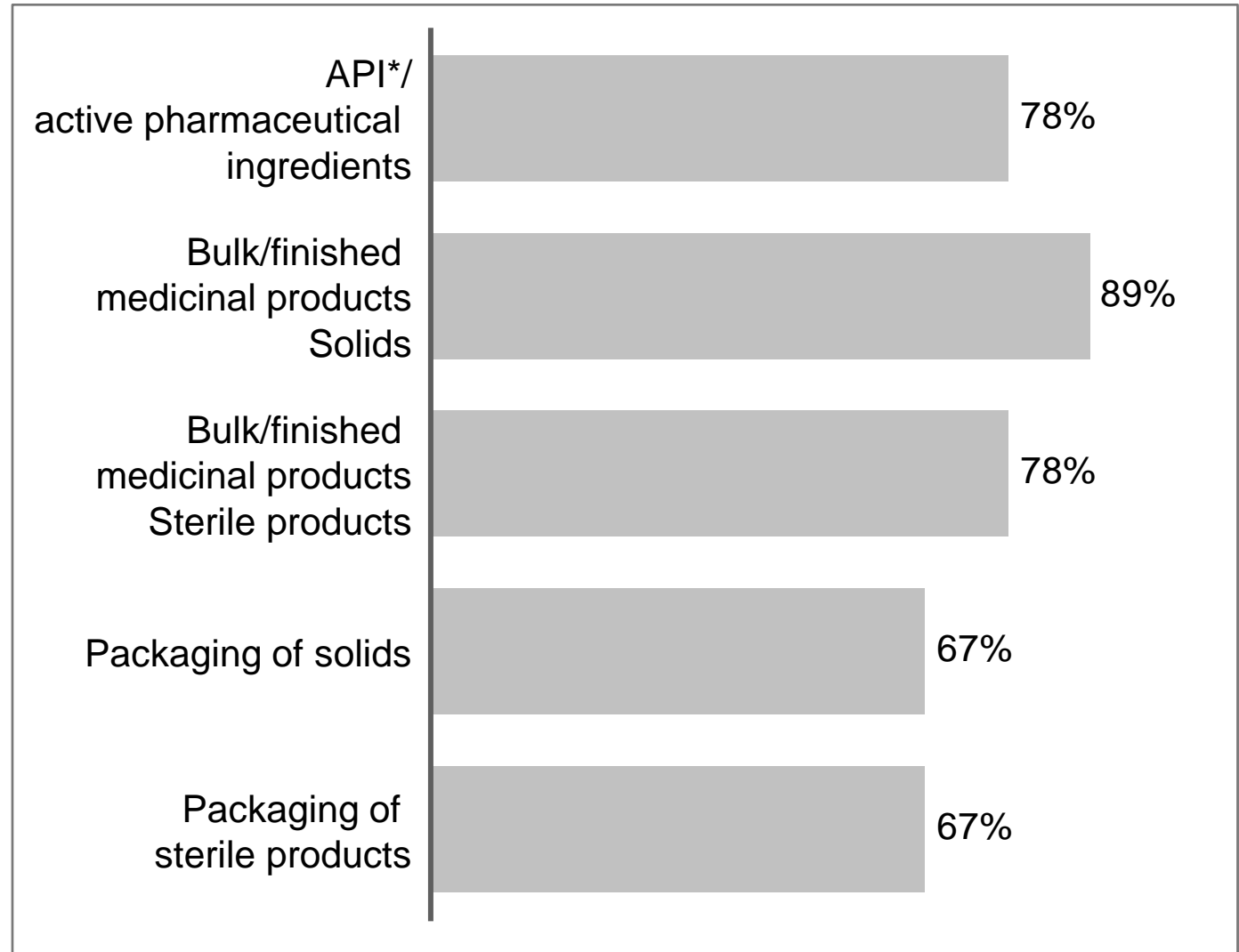


* Miscellaneous: Pricing & access

Source: Porsche Consulting, Study 2013; photo: Fotolia

And in production also, almost all production steps are declared as core competences

What areas within production do you view as core competencies?
(multiple answers possible)



* Active pharmaceutical Ingredient ** Contract manufacturer (CMO)

Source: Porsche Consulting, Study 2013; photo: Istockphoto

Conclusion

Operational excellence is not industry-specific

Operational excellence does not happen by itself, but is a result of hard work

No company has core competence in all areas – recognizing this fact extends the horizon



Porsche Consulting

Einfach. Schnell. Erfolg erfahren.



D. Pfitzer

Tel.: 0170 911 3376

E-mail: dirk.pfitzer@porsche.de