

OLIVER WYMAN



2015

OLIVER WYMAN
car innovation

automotive

www.oliverwyman.com

Core questions

- **What are the main factors that will influence the OEMs' and suppliers' future innovation strategies?**
- **How can the automotive industry continue to be innovative in spite of the persisting pressure on prices?**
- **Does the automotive industry take sufficient account of the wishes of drivers when it is considering innovations?**
- **What effect is the concentration process in the automotive industry having on innovative strength?**
- **What innovations should OEMs and suppliers focus on?**

Contents of the Oliver Wyman study “Car Innovation 2015”

- 1** “Car Innovation 2015” study – An overview
- 2** Megatrends and their impact on automotive innovations
- 3** The most relevant vehicle innovations by 2015
- 4** Automotive customers and their innovation requirements
- 5** Cost pressure and its impact on innovations
- 6** Structural changes in research and development
- 7** The strategies of innovation leaders
- 8** Recommended actions for the automotive industry

2 Numerous megatrends influence the innovation activities of the automotive industry

Megatrends (examples)

Legislation and politics

- Expansion of environmental protection laws
- Increasing number of consumer protection regulations
- Block exemption regulation
- Changes in international trade policies

Society and customers

- Emerging megacities
- Growth in developing countries
- Polarization of income distribution
- Individualization on the demand side

Economy and competition

- Volatility of raw material prices
- Specialization within value chain
- Strategic alliances and partnerships
- Consolidation OEMs / suppliers

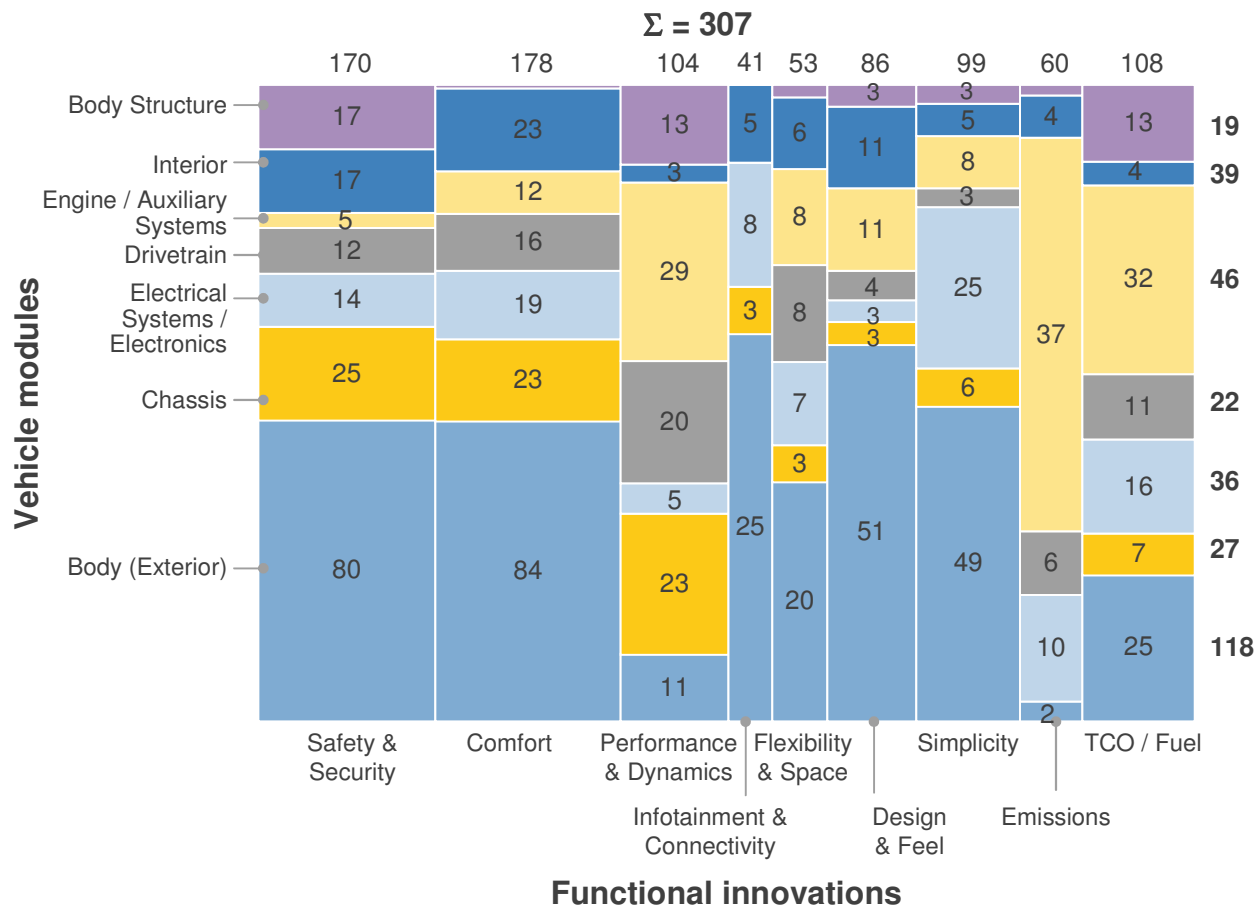
Technology and innovation

- Increasing technological complexity
- Virtualization of the development process
- Modularization of product concepts
- Increasing convergence of technologies

3 The 315 most important innovations analyzed by Oliver Wyman cover all modules in the vehicle

Number of innovations by functional benefit and module¹

Comments



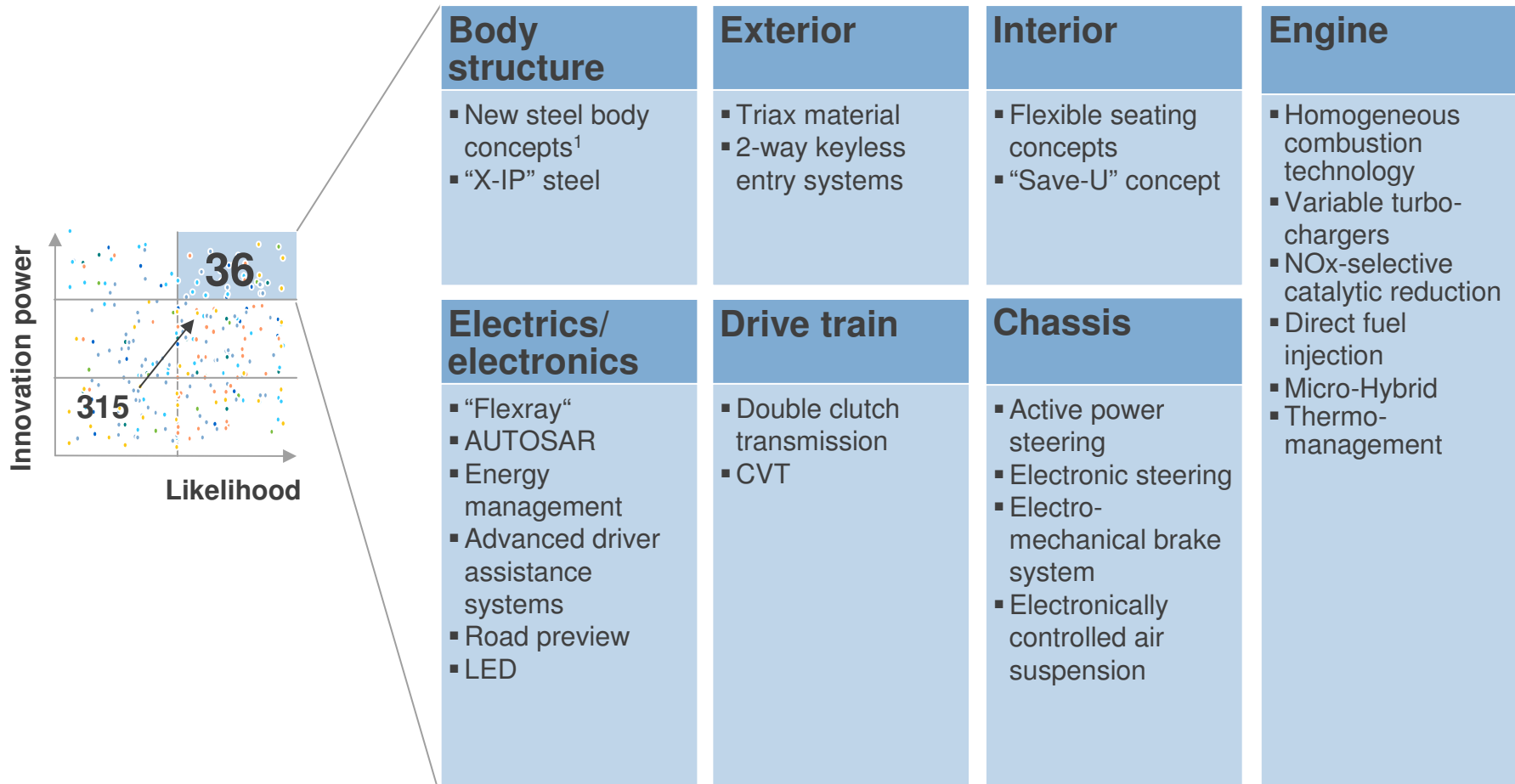
- Over 95% (307) of all identified innovations (315) with impact on vehicle functions²
- Majority of innovations regarding comfort and security functions
- Function with minor number of innovations is infotainment / connectivity

¹) Incremental improvement of existing products, procedures, significant innovation or breakthrough innovation
²) Please note: Each innovation can have more than one functional benefit

3

Only few innovations have the potential of becoming “blockbusters”

Blockbuster innovations (selection)



¹⁾ Consisting of a total of four innovations

4 Frequently, the automotive industry fails to meet the customers' requirements

Innovation marketing process



Customers...

Dealerships...

OEMs...

Suppliers...



Innovation

Customers

- ⚡ ... are only insufficiently informed about innovations
- ⚡ ... do not understand innovations
- ⚡ ... do not want innovations
- ⚡ ... have not enough money for innovations

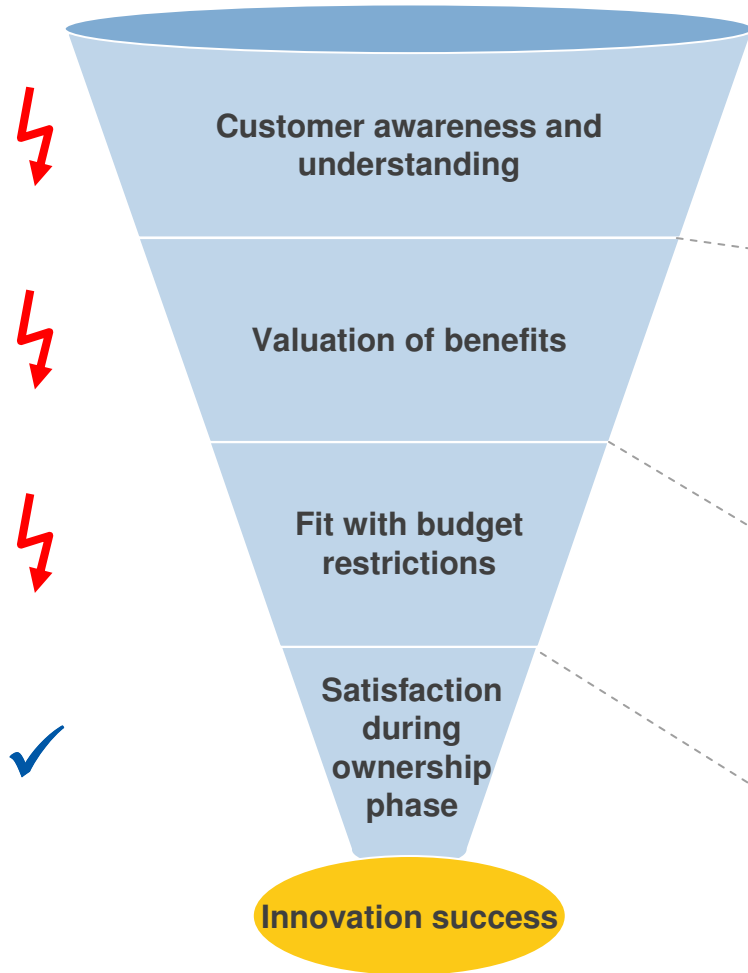
- ⚡ ... do not sell innovations and rarely explain them
- ⚡ ... have to cope with too many functions (financing, insurance, etc.) in the sales process
- ⚡ ... do not get sufficient incentives for selling innovations

- ⚡ ... lag behind customer needs
- ⚡ ... do not market innovations according to their brand positioning
- ⚡ ... have difficulty in bridging the gap between R&D and the customer
- ⚡ ... and their developers stick with ideas too long and eliminate them too late

- ⚡ ... still know too little about their end-customers
- ⚡ ... are focused too much on OEMs' demands
- ⚡ ... concentrate too much attention to individual innovations and neglect the combination with and integration in existing technologies

4 Client: Reasons for innovation failure

Critical phases in the Customer Innovation Interaction

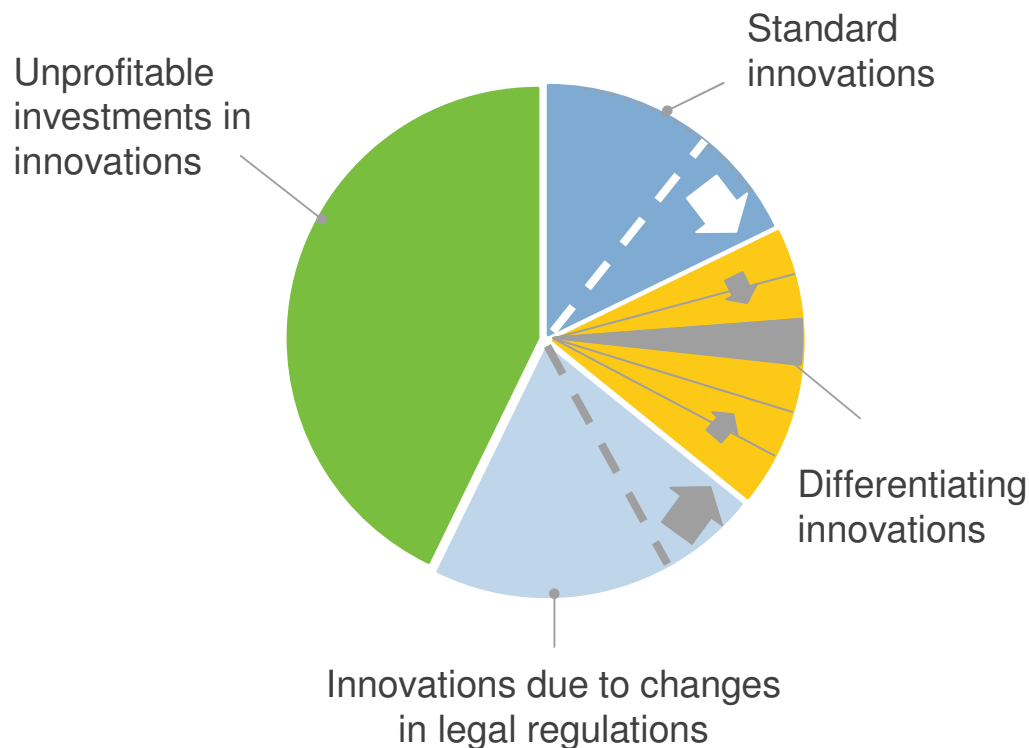


Drivers of potential failures

- **Multitude of innovations** leads to customer confusion and poor awareness of innovations
- Today's innovations **demand undivided attention and are not intuitively understandable** for most customers
- **Multitude of innovation** leads to confusion not to differentiation
- **Regional differences significantly influence the market success** of innovations
- **Polarization of customers segments** results in differing benefit perceptions
- **Replacement of existing innovations in relevant set** necessary
- **Price increases and 'uptrading' of cars have reached budget limits** of the customers
- Only **slow growing budget for optional equipment**
- **Take rates depend on customers' budget for optional equipment**
- Once customers have experienced the advantage of innovations the **great majority is satisfied**

5 The cost pressure also has an impact on the innovation management

Research and development spending in the automotive industry: € 800 bn. (2006-2015)



Comments

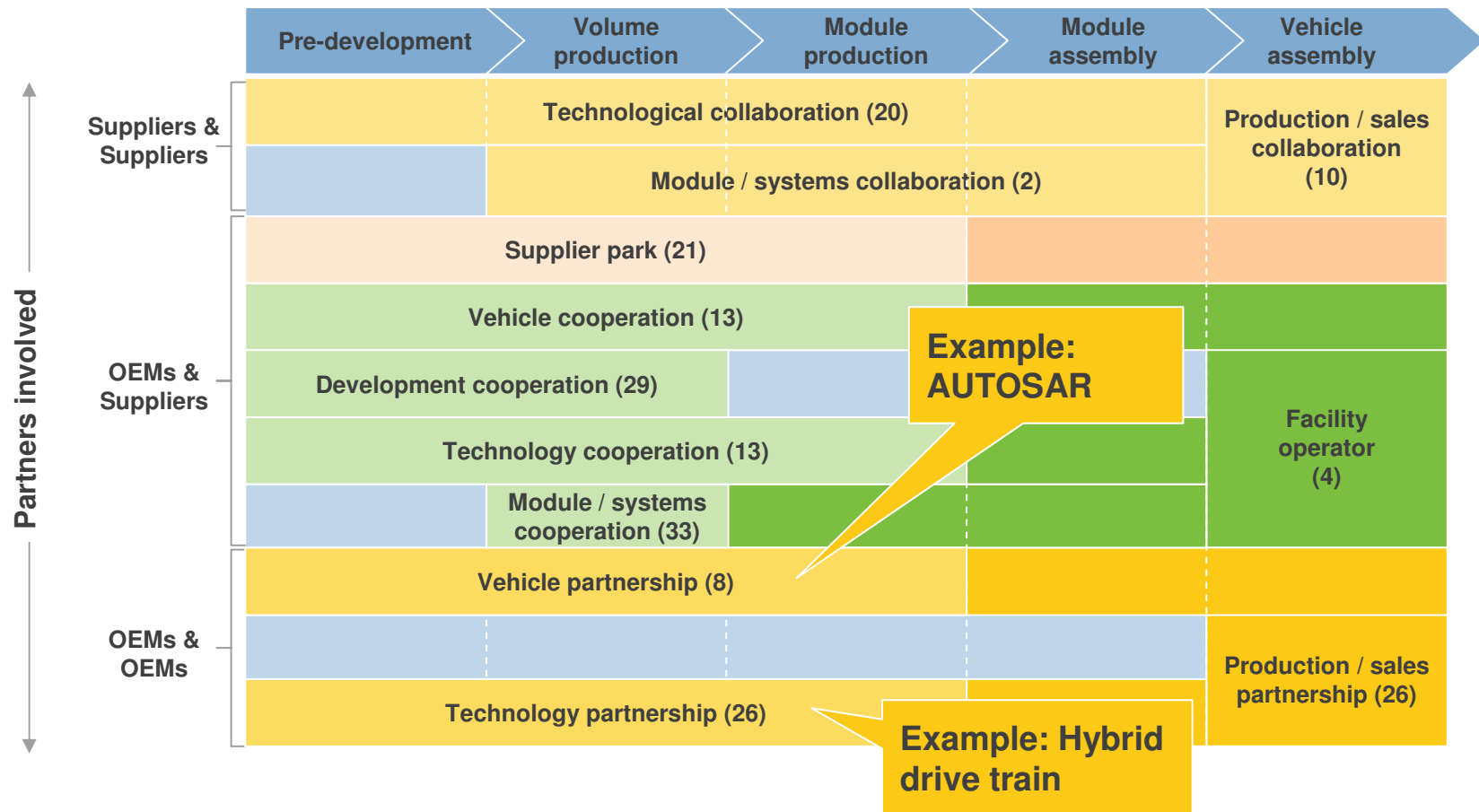
- Increasing cost pressure and amortization in standard investments
- Increasing legal requirements
- 40% unprofitable investments
- As for differentiating innovations, the number of solutions and competitive pressure are rising

Consequences

- Focusing on successful innovations
- Revising the innovation portfolio
- Collaborations and development networks
- Improving efficiency and effectiveness

6 Strategic development collaborations to gain control of technological complexity ...

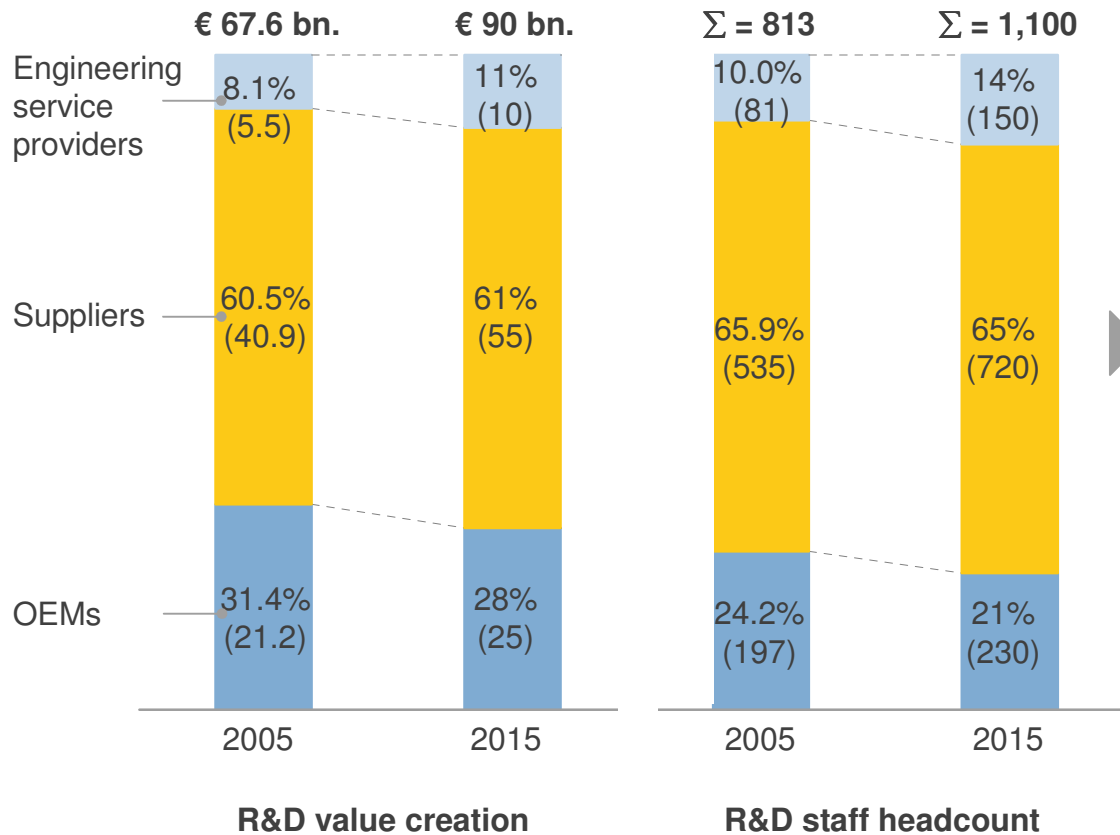
Existing collaborations in the automotive industry¹



¹) Basic total = 205 collaborations, number in brackets equals the number of collaborations within this segment

6 R&D value creation of OEMs, engineering service providers, and suppliers

Automotive R&D value creation and staff headcount
2005-2015, in bn. € and per 1,000 employees

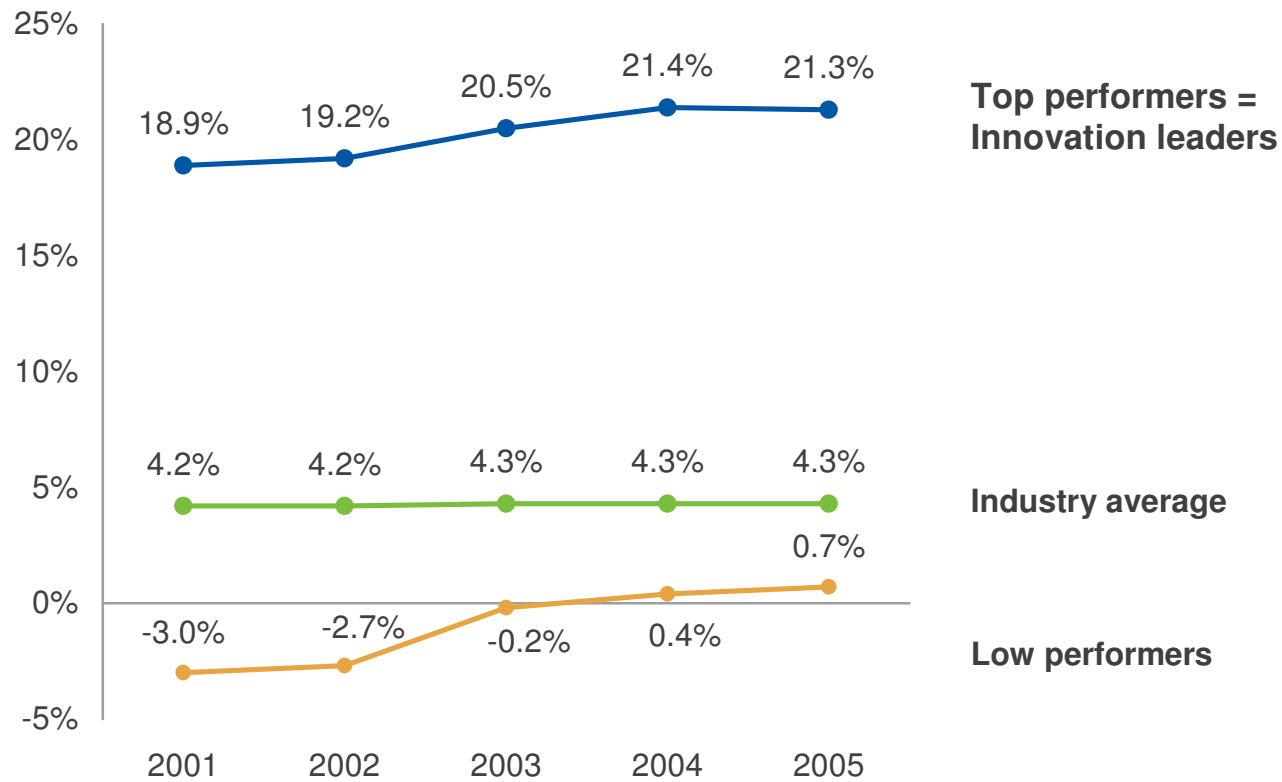


Comments

- Development of vehicles and components more and more becoming a supplier task
- Growth in worldwide staff headcount in automotive development by about 300,000
- Growth mainly in India, China, Korea and Eastern Europe

7 Substantial difference in profit potential of supplier industry

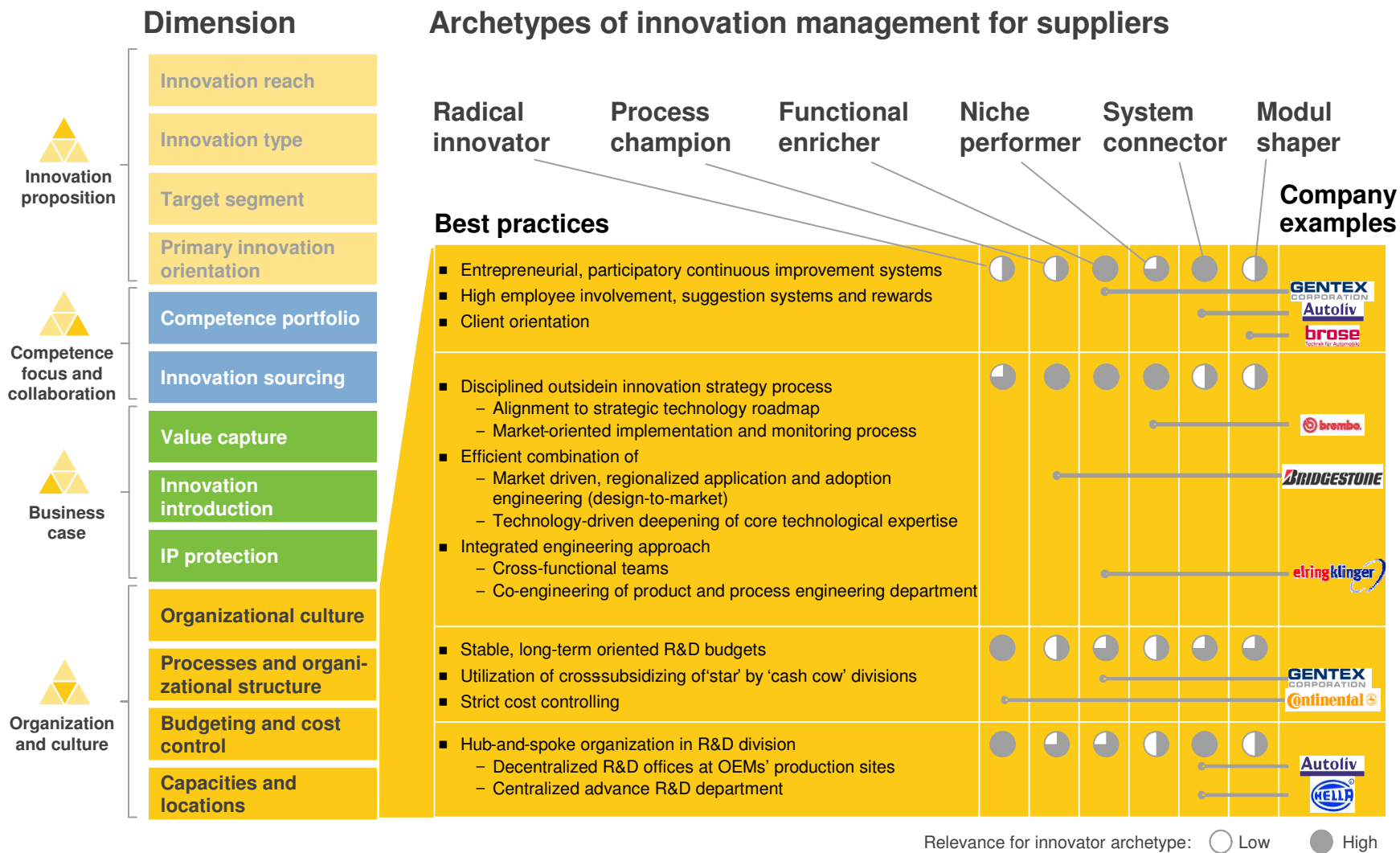
EBIT margin 2001-2005 suppliers
(in % of turnover)



7 Strategies of innovation leaders (OEMs & suppliers) can be described in four dimensions



7 Best practices in innovation management of suppliers

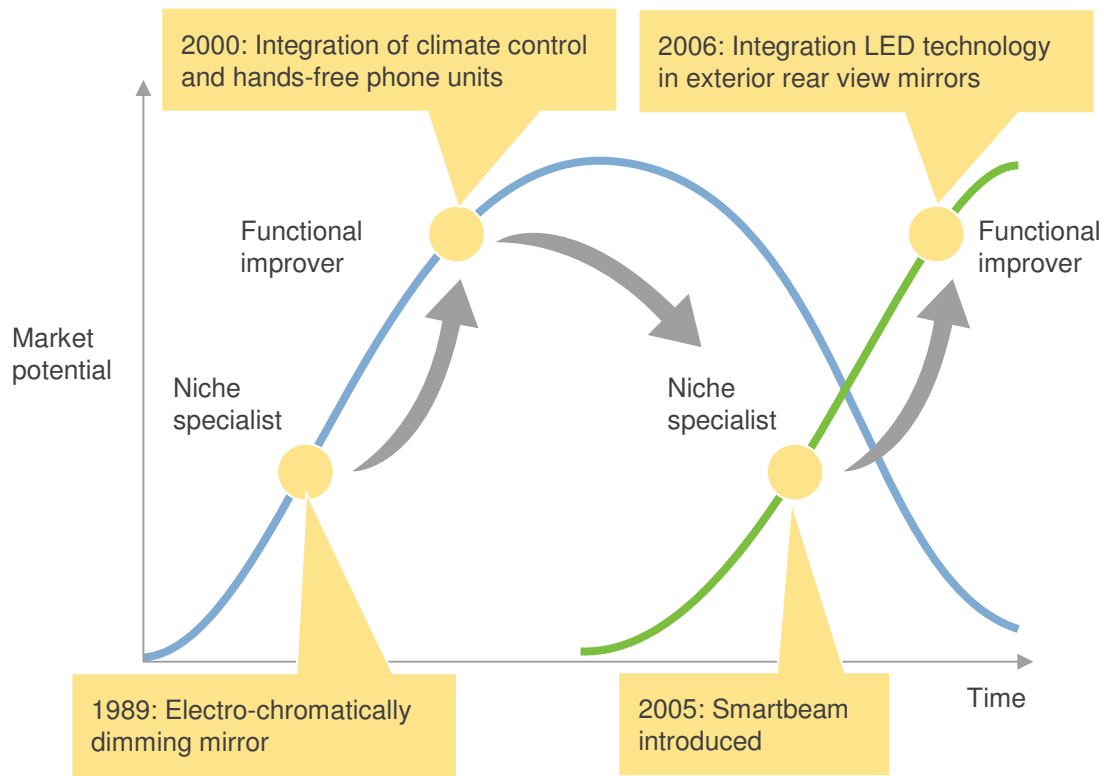


7

Gentex concentrates on constant functional improvement out of the niche segment

Innovation strategy lifecycle: **GENTEX CORPORATION**

Comments



- Gentex originally entered the market as a radical innovator; it was the first firm to develop an automatic electrochromatically dimming mirror (Dual Mirror®)
- Gentex continuously integrates additional electronic safety and convenience features in core products
- As a functional improver, Gentex has developed some disruptive innovations, e.g. transparent liquid crystal foil for the rear view mirror or Smartbeam®, a head lamps control system for the broader customer base in more mature markets
- Gentex maintains its vanguard status by extending its core competencies and continuously generating disruptive innovations

8 Recommended actions for innovation management

- Stronger focus on customers and marketing
- Active reshaping of the innovation portfolio
- Improvement of R&D economics and risk management
- Support of open organization and culture
- Alignment of innovation strategy

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