"The Challenge to Conquer Europe - Strategies for Auto Manufacturers and Suppliers"

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The Challenge to Conquer Europe - Strategies for Auto Manufacturers and Suppliers

1. The Fundamentals (The European and German Automotive Industry)

- 2. Major Trends in the European and German Automotive Industry
- 3. Challenges
- 4. Success Factors
- 5. Conclusions



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Welcome to the European automotive industry! The business is attractive for newcomers, but the barriers to entry are high.



- No. of OEMs ACEA: 15 non-ACEA: > 60
- Moderate quantitative growth, high qualitative growth.
- CAGR passenger car registrations: 2003 - 2007: +4%
- CAGR turnover: 2001 - 2006: +21%
- No. of suppliers CLEPA: 81 members (Total: 3,000 suppliers)
- No. of plants (EU 27): 237
- CAGR truck production in EU: 2003 - 2007: +11%

Source: ACEA * 2004-2006: EU27, 2000-2003: EU25



The current European market is distorted through various government renewal schemes



Source: ACEA



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The German automotive sector is (and will remain) the biggest in Europe. The automotive industry is a major driver of the economy.

Component **Research and** manufacturing and Vehicle assembly development assembly €75bn (10%) €600bn (79%) €85bn (11%) <u>Σ</u> €760bn **Automotive** • €120bn (20%) • €84bn (99%) • €23bn (30%) manufacturers • 4% of revenue 1.4m employees · 350 assembly plants world-(OEMs) 0.3m employees³ wide 12 automotive groups² Automotive • €44bn (59%) • €480bn (80%) suppliers >100 automotive brands • 4.5% of revenue >4.000 automotive 0.75m employees³ • Approx. 68m vehicles p.a. suppliers ∑ €227bn >25,000 manufacturing • 1.2m employees (share: ~30%) plants worldwide 6.7m employees Engineering • €8bn (11%) service • >150 eng. service prov. <€1bn (1%) Σ€525bn providers 0.15m employees³ (share: ~69%) Σ €8bn (share: ~1%)

Value added of the worldwide automotive industry in 2008¹

1 Value added = work performed (without materials, raw materials, purchases, write offs, etc.)

2 Plus Chinese manufacturers and small automotive manufacturers (e.g. Aston Martin, Lotus ...)

3 Engineers account for 80%

Source: Oliver Wyman



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The German market is characterized by world market leaders in the premium segment as well as in volume categories.



- Market leader VW Group is challenging Toyota and has set targets for 11.4 million vehicles worldwide in 2018.
- The scrappage program will lead to an unexpected market growth of 3.75 million cars in 2009, but to 2.8 - 2.9 million in 2010.
- Mercedes, BMW, Audi and Porsche will defend their dominant premium position.
- The share of foreign brands is growing (35%) but will "normalize" 2010.
- High quality and technological standards are indispensable.
- Rebates and price aggressivity are increasing. Source: KBA, VDA



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There is a certain tendency towards smaller cars. The premium segment might currently be challenged (CO₂, scrappage-scheme, tax-incentives for small cars etc.), but a fast revival as "green premium" can be expected.





- The premium segment is the main image-driver.
- The German brands are global brands.
- Turnover, exports, supplier • base or employment reflect the high importance of premium in Germany.
- In the future we will find premium in the high end, in the medium segment and even in the compact class.
- In the foreseeable future premium will be defined by CO₂-reduction technologies ("green premium").
- Toyota will establish a firm position in the European premium segment.
- A top brand like Volvo will give potential access to new competitors.

Source: KBA (* up to August 2009)



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In the emerging markets low cost cars will have a considerable growth. Germany will not be the location for low cost car production. Although customers look for cheaper cars in Germany as well, the standard will remain high.



- Low cost cars (< 10,000 €) already are produced in high volumes worldwide (9 million).
- Small cars have already a worldwide market share of more than 13%.
- Small cars in Germany will remain technologically sophisticated.
- CO₂ / climate change favors growth of small cars.
- Margins of small cars are mostly small.
- Small cars often appear under top (Mini, smart) or other brands.
- Production location is based mostly outside Germany.
- In the future Polk expects a volume growth of 74% (2007:2019) and a doubling of the market share (2019: 28%).

Source: R. L. Polk Germany



Will Germany be a small car country?





Europe is traditionally diesel driven. Although actually the diesel share is shrinking, the diesel technology still offers potential improvement in CO_2 -emissions at reasonable prices.



- In Europe the diesel share until 2008 has been 52.7% (Highest: Belgium: 79%)
- In Germany: 44.1%, but actually: 29.4%
- The fuel consumption advantage is narrowing in comparison with gasoline.
- In the future gasoline engines will be as efficient as diesel and diesel as clean as gasoline.
- The higher the small car segment, the higher the gasoline share in the future.
- No highly promising market access without access to diesel technology.

Source: KBA, VDA



Cars and trucks in Europe are among the highest regulated products. For new entrants safety, environmental or other technical standards are a high burden.



- When a new entrant wants to be successful in Europe, he must comply with the standards and pass the test procedures! (Landwind was a negative example!)
- High regulation lead to high cost.
- CO₂ emissions: fleet average of 120 g/km (2015) Next step: even 95 g/km?
- The customer even expects products that are better than the law requires!

Source: ACEA, Euro NCAP, VDA

The trend towards consolidation increases competition constantly.

Number of companies in the automotive industry 1900-2015



- It is expected that the number of suppliers will further decline by about one third until 2015.
- Consolidation of OEMs is largely concluded. It is likely that large new corporations will be formed, in particular in Asia.
- The number of engineering services providers will also continue to increase in the future.

Indicates the number of large automotive corporations excluding Chinese manufacturers and small automotive manufacturing companies
 BMW, Daimler, Fiat, Ford, GM, Honda, Hyundai, Mitsubishi, Peugeot, Toyota, Volkswagen, Chrysler
 OEMs with > 1 million vehicles p.a.; suppliers with revenue of >€20m; engineering services providers with revenue of >€20m)

ies Source: OESA (Original Equipment Supplier Association), press research, Oliver Wyman analysis



Globalisation is the key to future growth. The European share in Asian markets is relatively small, but will grow. China goes global!



% share of German production abroad (PC + Trucks)

Passenger Cars:

Production

in Germany 5.532.030

51%

Production

abroad 5.286.699

49%

Trucks:

Production

abroad 724,620

59%

Production

in Germany 513,700

41%

- Long-term growth depends on a global footprint.
- 40% of passenger cars and 59% of commercial vehicles are already produced abroad.
- The trend indicates even more production outside Germany.
- Asia will be a future "hot spot".
- Europe expects more Asian brands to come.

Source: VDA



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CO₂ technologies, high R&D spending and, at the same time, decreasing price acceptance and competition will put pressure on margins.

Development



Causes

- New legal regulations and a change in the consumers' environmental awareness place high technological demands on OEMs
- Example EU: as of 2015, the emissions threshold for new vehicles will be 120 g CO₂ per km
- It is likely that OEMs will face even stricter requirements in the future (e.g. regarding safety and climate protection)



Consequences

- Considerable technological challenges esp. for OEMs with a large engine fleet (e.g. BMW) to reduce emissions
- In addition to CO₂ regulations, ZEV, PM, NOx, and pedestrian protection, etc. place further demands on OEMs
- OEMs are under pressure to innovate; on average, they invest between 4 and 6% of their revenue in R&D
- The demands on R&D are high and manifold. Unsuccessful innovations must be avoided at all costs for cost and resource reasons

Source: JP Morgan (March 2009), Oliver Wyman analysis



Overcapacity is the major threat in the global automotive industry.



Causes

- For many years, the automotive industry has been characterized by high overcapacities, particularly in the U.S.
- Plant closures, etc., have not led to an adequate adjustment of capacities
- Powerful trade unions (e.g. UAW) have prevented restructuring programs
- Spin-off of supplier plants, e.g. Delphi (GM), Visteon (Ford) only gave rise to other problems, frequent supplier insolvencies



Consequences

- On average, OEMs overproduce 2% p.a. This corresponds to approx. 1m vehicles or approx. €20m p.a.
- Overproduction goes hand in hand with capital tie-up, interest costs, and unfavorable prices in the market
- Actual overproduction was probably considerably higher in the past; OEMs are adopting numerous measures to increase their sales figures (one-day registrations, business vehicles, fleet business, etc.)
- A continuing decline in sales in 2009 will further increase overproduction

Source: Deutsche Bank (December 2008), Global Insight (January 2009), Goldman Sachs (January 2009), Oliver Wyman analysis



Europe is also affected by overcapacity.

Capacity utilization in Europe, 2008

Capacity, production in thousand units



- Lower sales figures in Europe influence capacity utilization by European OEMs.
- In 2008, average capacity utilization had already declined to approx. 73%.
- Capacity utilization in Europe by some OEMs is critical, e.g. GM, Renault.
- In 2009, critical capacity utilization values are expected to increase, despite an improvement over Q1, e.g. Renault.

Source: Deutsche Bank (Dec. 2008), J.D. Power and Associates (April 2009), **Oliver Wyman analysis**



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Downsizing will challenge existing technologies, but will lead to higher efficiency.



Causes

- Increasing crude oil prices impact fuel price development; fuel prices have increased fivefold since 1992
- Additional drivers are the demand for fuel and limited refinery capacities
- Total costs of car mobility have increased significantly since 2000. Fuel costs are the major driver
- Fuel prices largely influence how consumers perceive the cost of driving

Implications



Consequences

- In many instances, smaller engines with lower displacement have been developed
- As a rule, the engines have supercharging, i.e. the same performance despite lower displacement (downsizing by OEMs)
- In the past years, consumers have increasingly chosen smaller engines (down trading by consumers)



Source: Deutsche Bank (December 2008), CSM Worldwide (August 2008), KBA (March 2009), Oliver Wyman analysis

E-mobility might lack economies of scale for years and consume high R&D, but will definitely be a trend medium / long-term.



Source: Oliver Wyman



It is still an open question, whether the customer is ready to pay for "green solutions" and to what extent.

	Internal Combustion Engine (ICE)	Mild Hybrid (MH)	Full Hybrid (FH)	Plug-In Hybrid (PHEV)	Electric Vehicle (EV)	Fuel Cell (FC)
Example	Mercedes C-Class	Honda Insight	Toyota Prius	Chevrolet Volt	Tesla Roadster	Honda FCX Clarity
Fuel savings	10-20%	10-20%	15-40%	40-65%	up to 100%	100%
Current add. costs	€500-3.000	€1.000-4.000	€3.000-6.000	€10.000-16.000	>€10.000	>€30000
Electric driving range (km)	-	-	<8	50	100-250	250-400
Battery capacity (kWh)	-	1	2-5	10-15	20-30	-
Power (kW) -	<20	<60	<120	50-200	50-200

Quelle: Oliver Wyman expert interviews, TU Vienna, company information, press clippings



Suppliers are in a squeeze position but are indispensable for a functioning value chain.

Price pressure p.a.

Connectors	-2.1%
Turbocharger components	-1.0%
Forgings	-1.5%
Sheet metal parts	-2.0%
Seals volume segment	-2.5%
Fuel tank installations	-1.3%
Kinematic parts for the interior	-4.0%
Aluminum components	-3.0%
Electric plugs	-3.0%
Hydraulic modules	-3.0%
Mirror actuators	-2.8%
Aluminum wheels	-3.5%
Average	-2.4%

Profit and price pressure



• The supplier industry must improve its productivity by at least 2-3% p.a.

Source: Results derived from Oliver Wyman consulting projects



Suppliers will generate losses until 2010 and will not reach their 2007 level again before 2014.

Revenue and profit forecast for the automotive supplier industry

Oliver Wyman's base case modeling, median companies 2007 revenue = 100



Source: Oliver Wyman's financial database of automotive suppliers, Oliver Wyman / VDA automotive supplier CEO interviews March-April 2009, Oliver Wyman research and analyses



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Volume is important for economies of scales, but product, brand, distribution network, after sales and financial services are equally important.



•	20% of profits come
	from production and
	sales.

- But 80% of profits in the total value chain are gained from:
 - After sales
 - Financial Services
 - Used Car Business
 - Insurance, etc.

20%	35%	35%	10%
Production &	After Sales	Financial Services	Used
Sales			Cars

Source: IXIS, Mercer, Booz Allen Hamilton, Arthur D. Little



Risks and success factors will have considerable impact on the future crisis management of suppliers (and OEMs as well!).





Vertical integration in Europe is different from Keiretsu in Asia.



- German OEMs and suppliers have good experience with value chain organisation in comparison to high degree of dependancy in Keiretsu (Japan).
- Trend towards rein sourcing as overcapacity in times of crisis lead to excess of labour.
- Re-in sourcing, where balance of power seems affected.
- Re-in sourcing to ensure system-know how.
- E-car will lead to a new supplier landscape.

Source: Statistisches Bundesamt, VDA



Europe plays a strong role in R&D and therefore respect the protection of patents and intellectual property.



Patent statistics

(Source: EPO)

Active and passive safety technology (Source: VDA)

1978 Anti-block Braking Systems ABS
1980 Airbag, Belt tensioner
1987 Acceleration Slip Regulation ASR
1995 Rain Sensor
1995 Electronic Stability Program ESP
1996 Brake Assistant BAS
1998 Voice Recognition
1998 Active Cruise Control
1999 Tyre Pressure Indicator Systems RDK
1999 Active Body Control ABC
2002 PRE-SAFE
2003 Active Corning Lights
2006 Active Brake Assistant

Success factor profile of successful companies¹ (Source: Oliver Wyman)





Corporate Governance, "how to be a good corporate investor and a good corporate citizen" and a modern management style are indispensable for attracting skilled employees and for being accepted in the society.



Source: Daimler



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Conclusions:

- Europe and especially Germany are demanding highly developed and sophisticated market places.
- There are barriers to entry for newcomers.
- But there are opportunities as well.
- The crisis offers unexpected chance to expand into Europe.
- Newcomers need a deep understanding of the European culture to avoid failures.



If you need help, AutoValue GmbH, Frankfurt is offering automotive consulting services:



- More than 38 years experience in the automotive industry.
- 25 years Mercedes-Benz (Former Board Member Commercial Vehicles worldwide).
- 11 years President of the Association of the German Automotive Industry (VDA).
- Close network with OEMs, suppliers, Associations, Politics, Financial Institutions, other industries in Germany, Europe and worldwide.
- Our core competencies are: Market analyses, forecasts, expertise in the global automotive business, strategic consult for suppliers, value creation strategies, internationalisation, restructuring and technological trend analyses.

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