

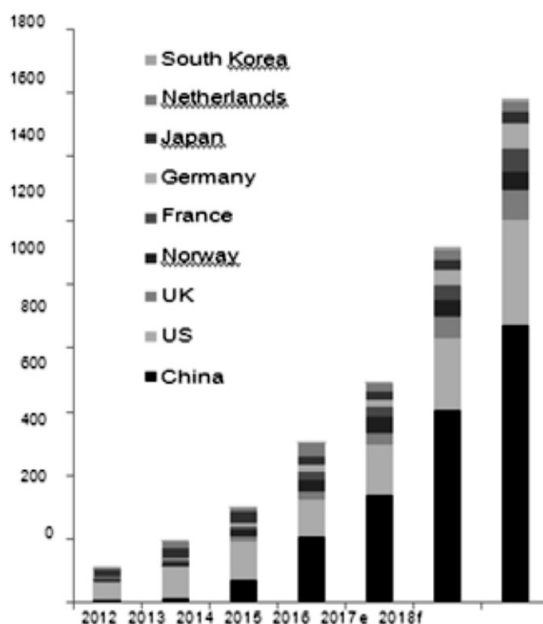
STATS WINDOW

Global Auto Industry 2018

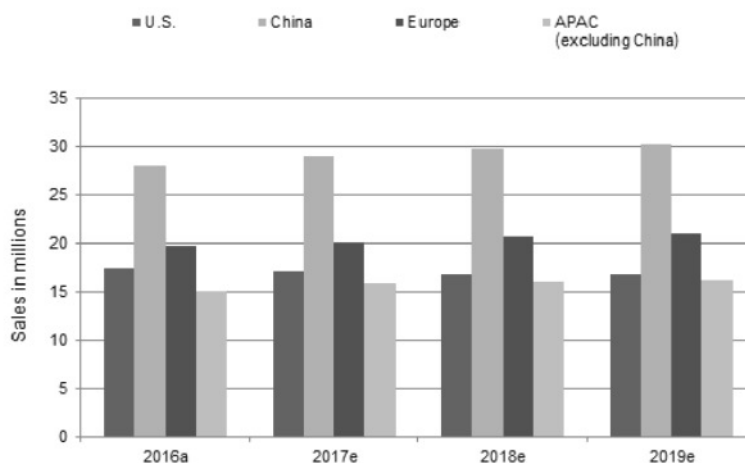
The global automotive industry is at--or at least rapidly nearing--a major crossroad that could determine its long-term trajectory. Unlike the past cycles of booms and busts, we're now seeing accelerating technological transfor-

mation and changing consumer tastes and demands, which are likely to result ultimately in an industry that bears little resemblance to what it was just a decade or two ago.

EV Vehicle New Registrations (in thousand)



Light Vehicle Sales For 2016-2019



a--Actual. e--Estimate. Source: S&P Global Ratings.

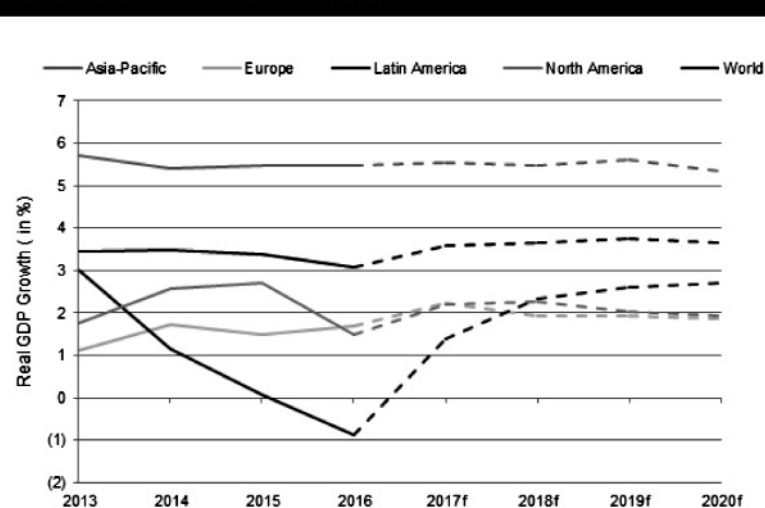
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Table 1

Light Vehicle Sales				
	2018e		2019e	
	Units (in mil.)	% change (year on year)	Units (in mil.)	% change (year on year)
U.S.	16.6-17.1	(2)0	16.5-17.0	(0.5)0.0
China	29.5-30.0	1.5-3.5	30.0-30.5	1.5-3.0
Europe	20.5-21.0	2.0-3.5	20.8-21.1	2.0-3.5
APAC (excluding China)	15.8-16.3	1.0-2.0	16.0-16.5	1.0-2.0
Global	95.0-97.0	2.0-3.0	97.0-100.0	1.0-2.0

e--Estimate. Source: S&P Global Ratings.

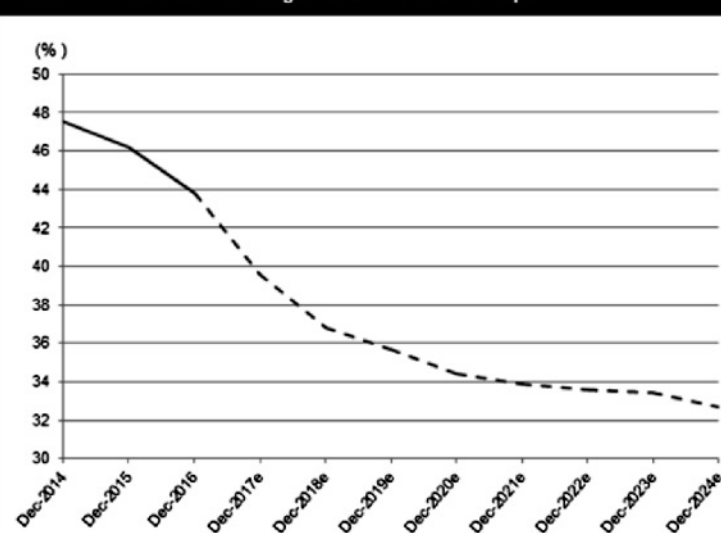
S&P Global Economic Forecast 2017-2020



f--Forecast. Source: S&P Global Ratings.

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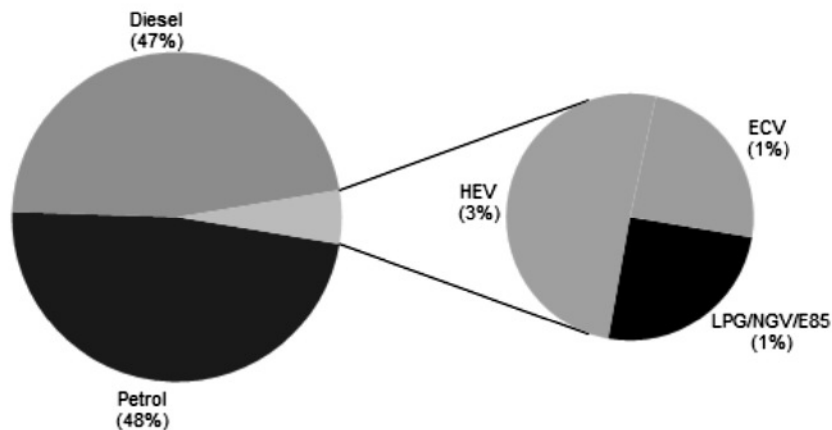
Diesel's Share Of New Passenger Cars In Western Europe



e--Estimate. Source: LMC Automotive.

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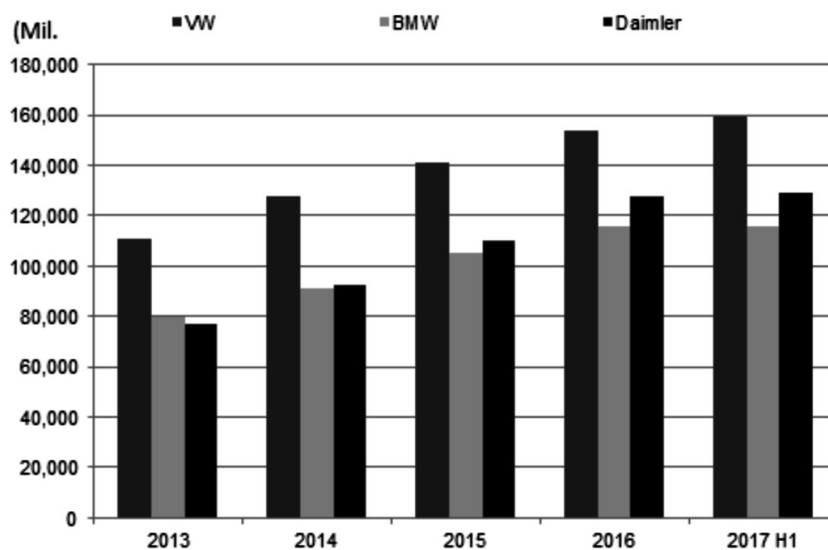
New Passenger Cars By Fuel Type In The EU-15



Data as of the first half of 2017. LPG—Liquid petroleum gas. NGV—Natural gas vehicle. E85—Ethanol 85%. HEV—Hybrid electric vehicle. ECV—Electric chargeable vehicle. Source:ACEA.

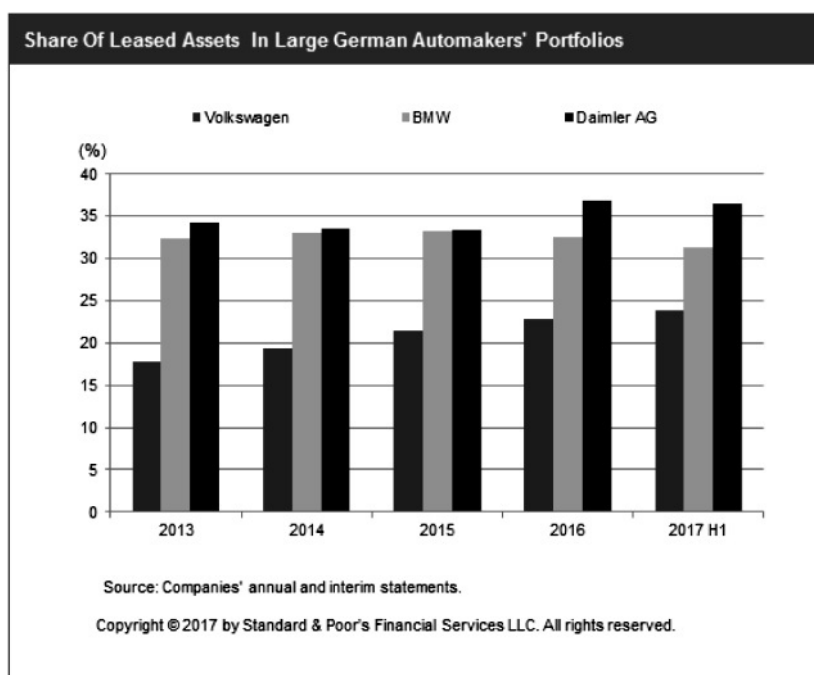
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Large German Automakers' Captive Finance Assets



Source: Companies' annual and interim reports.

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Top 20 Car Manufacturers' Average Carbon Dioxide Emissions

	Average Co2 emission for 2016 (g/km)	Average Co2 emission for 2015 (g/km)	Change in average emissions yoy (g/km)	Rankin g 2016	Ranking 2015
Peugeot	101.9	103.5	(1.6)	1	1
Citroen	103.3	105.6	(2.3)	2	2
Toyota	104.0	107.6	(3.6)	3	4
Renault	105.6	105.9	(0.3)	4	3
Skoda	111.8	115.4	(3.6)	5	6
Nissan	115.0	114.1	0.9	6	5
SEAT	115.8	116.7	(0.9)	7	7
FIAT	116.0	117.6	(1.6)	8	9
Mini	116.4	117.0	(0.6)	9	8
Dacia	117.6	121.9	(4.3)	10	12
Volkswagen	117.7	117.8	(0.1)	11	10

Top 20 Car Manufacturers' Average Carbon Dioxide Emissions (cont.)

	Average Co2 emission for 2016 (g/km)	Average Co2 emission for 2015 (g/km)	Change in average emissions yoy (g/km)	Ranking 2016	Ranking 2015
Ford	120.1	118.0	2.1	12	11
VOLVO	122.0	122.8	(0.8)	13	13
OPEL/VAUXHALL	122.4	126.3	(3.9)	14	14
BMW	123.2	128.0	(4.8)	15	19
KIA	124.5	127.7	(3.2)	16	18
AUDI	124.7	127.3	(2.6)	17	15
Hyundai	124.8	127.4	(2.6)	18	16
Mercedes	127.5	128.1	(0.6)	19	20
Mazda	127.7	127.5	0.2	20	17
Average	117.1	118.8	(1.7)		

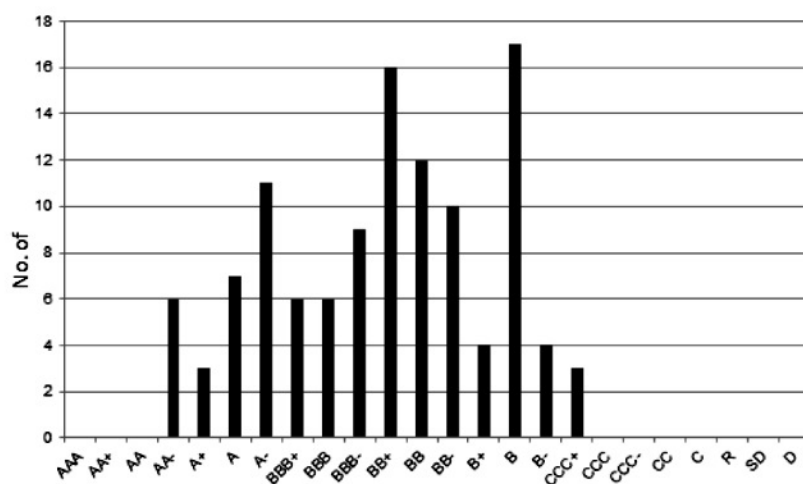
Source: Jato. Yoy--Year on year.

Ratings Outlook For Global Automakers And Suppliers

Ratings on U.S. companies are stable, but not likely to rise much. The rating outlook for U.S. automotive companies is generally stable, with limited upside. We think ratings are approaching a ceiling for most U.S. carmakers and

supplier, with nearly 80% of those we rate carrying a stable outlook (see chart 8). Furthermore, nearly 75% of U.S. rated issuers are at or above pre-recession rating levels. Following their upgrade to the investment-grade category in 2013-2014, the country's two biggest carmakers, General Motors (GM) and Ford, have both seen further upgrades to 'BBB'.

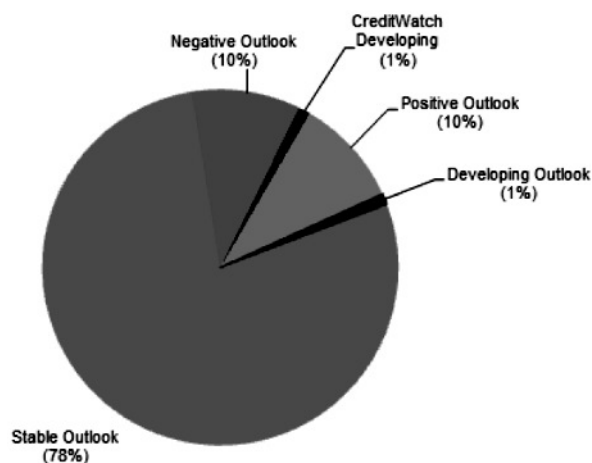
Ratings Distribution For Global Carmakers And Auto Suppliers



Long-term local currency issuer credit ratings as of Sept.30, 2017. Source: S&P Global Ratings. SD--Selective default. D--Default.

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Outlook And CreditWatch Distribution For Global Carmakers And Auto Suppliers



Source: S&P Global Ratings. Ratings data as of Sept. 30, 2017.

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Global Automotive industry

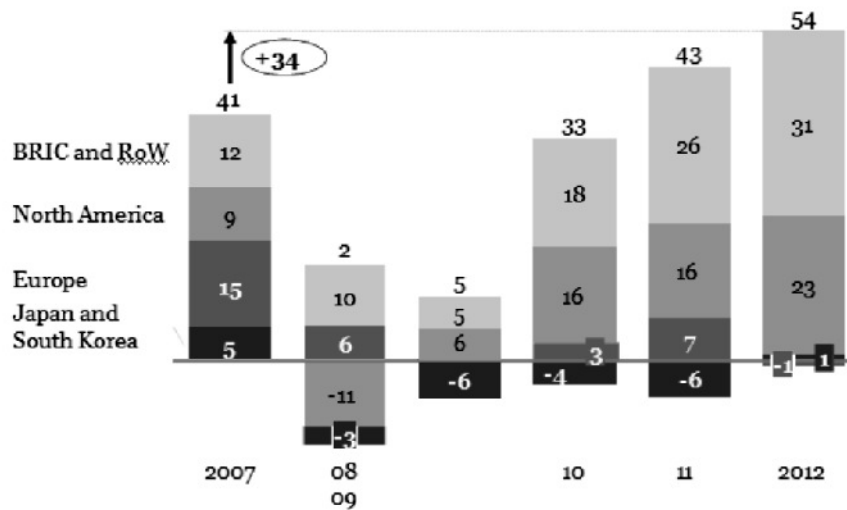
Globally, the automotive industry has recovered from the economic crisis.. By 2020, global profits could increase by

another EUR 25 billion, to EUR 79 billion. That is good news, but the benefits will not be distributed equally across all geographies or all types of cars. Instead, some regions and segments will do much better than others.

Automotive profits now exceed precrisis levels, but the sources have changed

Global passenger car profit development by geography¹

EUR billions

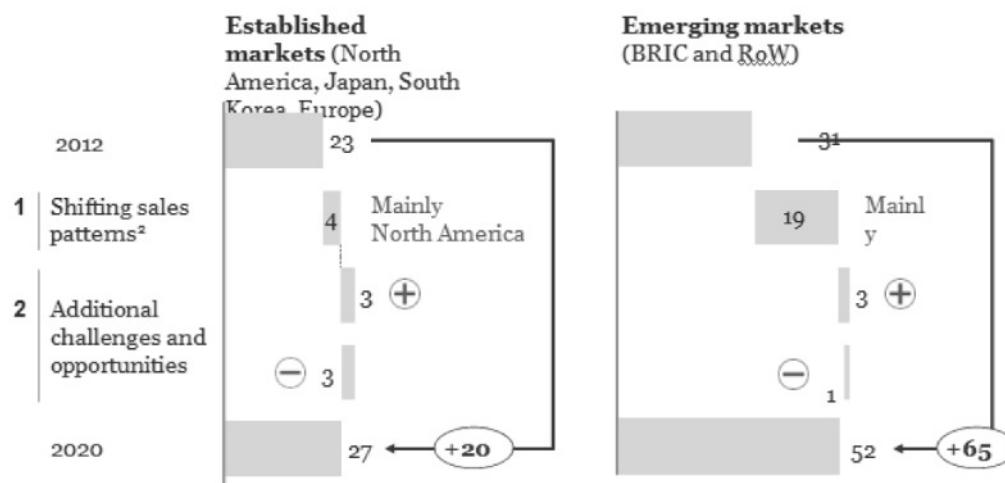


¹ Profits captured by top 17 OEMs
SOURCE: IHS Automotive; McKinsey

The next 7 years will be profitable with emerging markets driving the majority of gains

Overall automotive industry profit growth, 2012 - 20²⁰

EUR billions



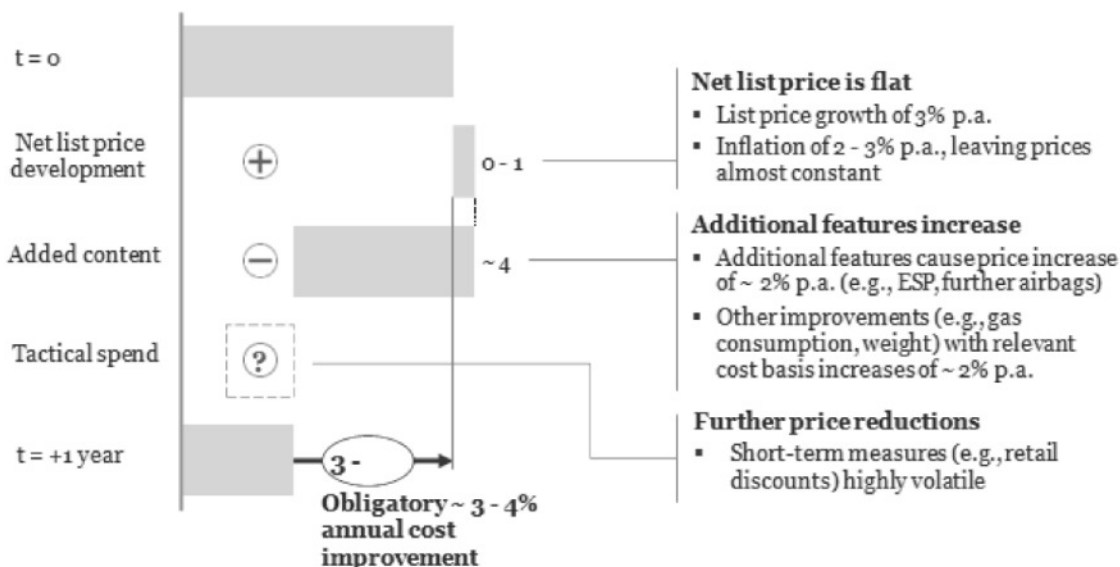
¹ Profits captured by top 17 OEMs
² Including vehicle segmentation shifts to higher-value segments
SOURCE: McKinsey

Price growth at the pace of inflation plus added content have led to a decline in profit per vehicle

Profit per vehicle

Percent of revenue, 1998 - 2011

Description



SOURCE: EC car price reports; automobile review; Edmunds; McKinsey

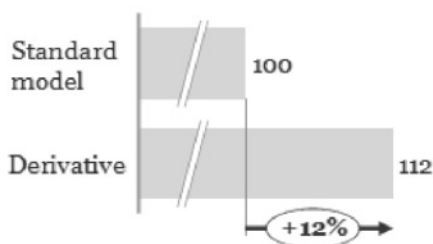
Profits based on derivatives are likely to stagnate in the medium term

Derivatives with additional pricing potential for OEMs ...

... but number of new derivatives will be limited due to market size

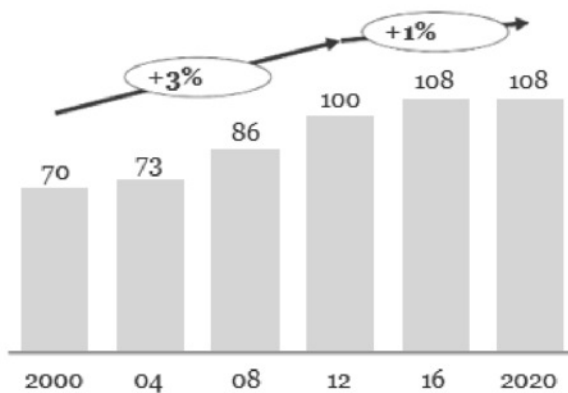
Average list price

Values normalized¹



Body types per premium sales brand

Indexed, 2012 = 100



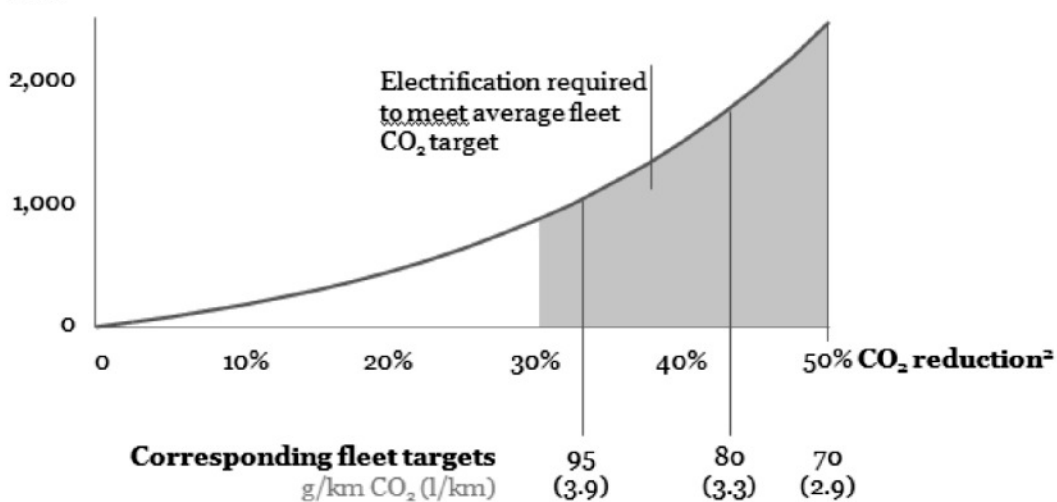
¹ Average price of standard model = 100 (46 models investigated)

SOURCE: McKinsey

Tougher emissions regulations will encourage OEMs to invest in e-mobility

C-CLASS VEHICLES

Additional manufacturing costs¹



¹ Anticipated for 2020, average for gasoline and diesel internal combustion engines

² Relative to 2010 baseline

SOURCE: ICCT; McKinsey

Small cars show big potential in emerging markets

Small cars with significant sales share

Global sales volume

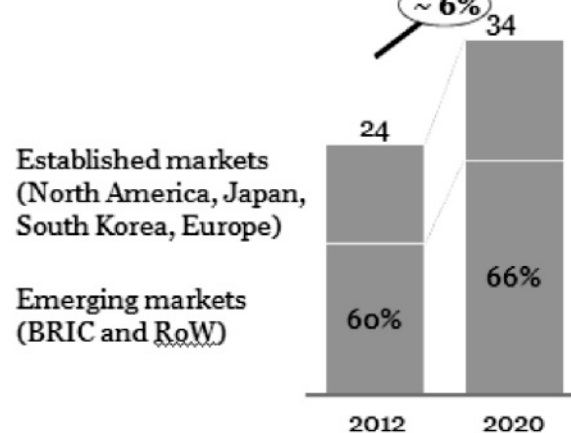
Million units



Strong growth of small cars in emerging markets

Development of small car sales

Million units

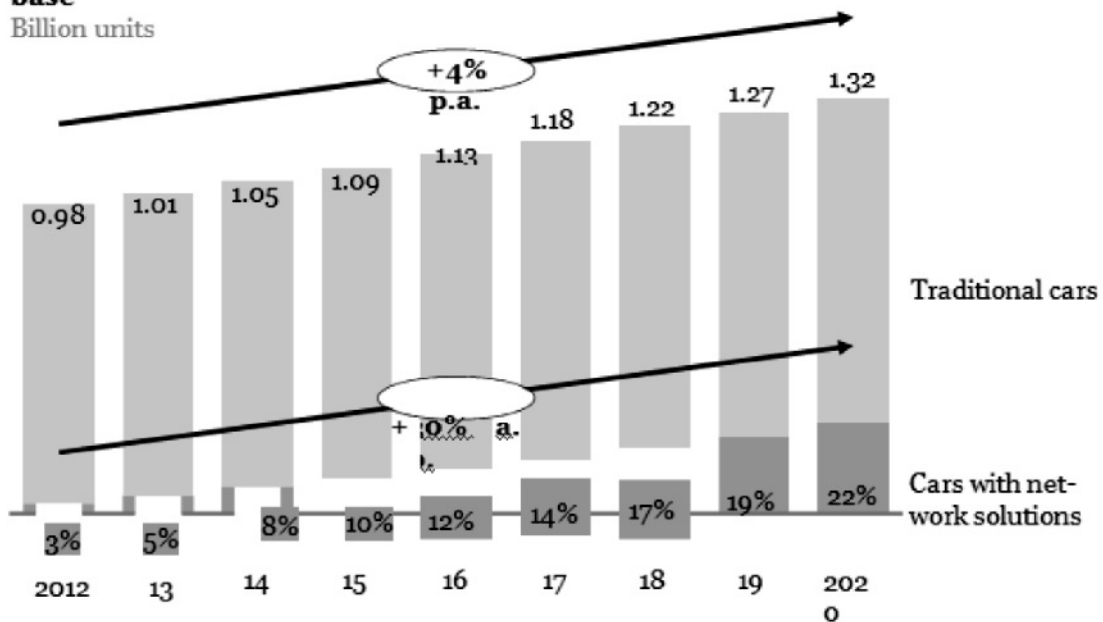


¹ Including class A and B with subcompacts, microcars, and superminis

SOURCE: IHS Automotive; McKinsey

Internet-connected cars are on the rise

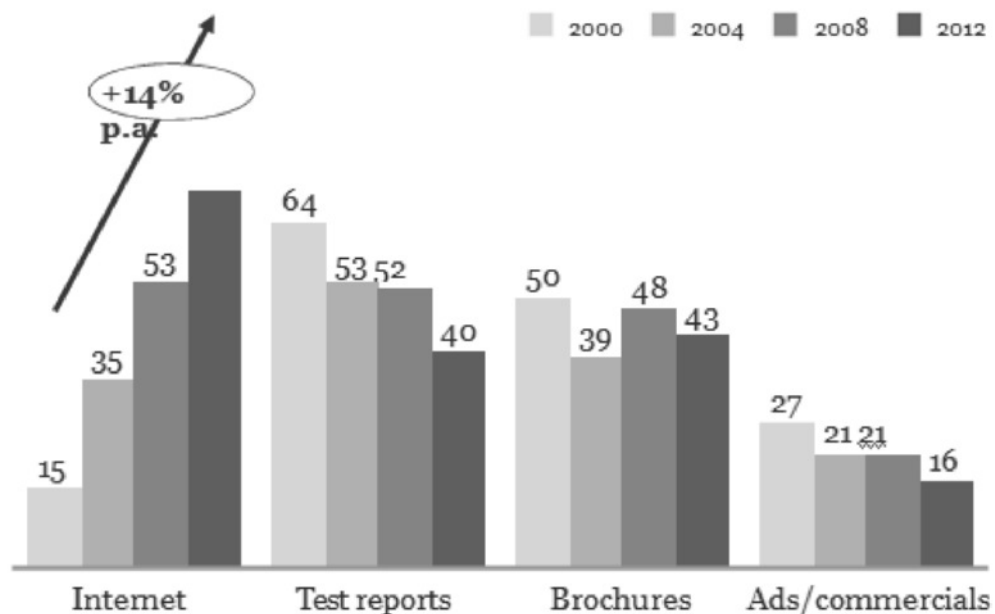
Global installed car base
Billion units



SOURCE: Capgemini, McKinsey

Influence on buyers' purchasing decision

Top influencing sources for new buyers' purchasing decision in Germany
Percent¹



¹ Multiple answers possible

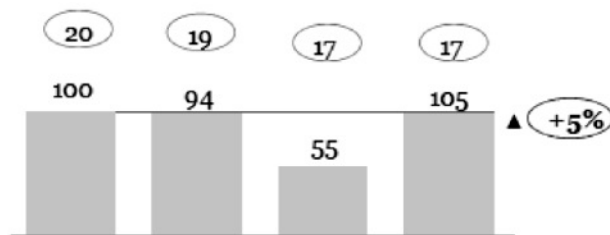
SOURCE: DAT Reports for German market

Consolidation in the US may be a model for addressing overcapacity in Europe

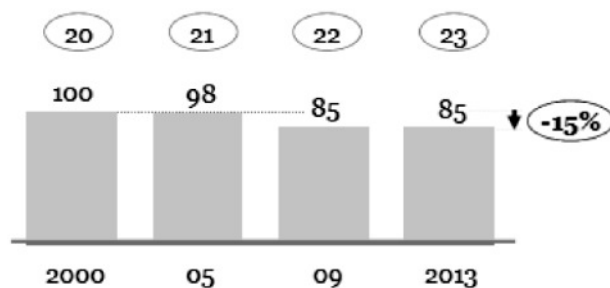
Utilization rate of vehicle production facilities¹

Indexed, 2000 = 100

Consolidation
in North
America



Growing
overcapacities
in Europe



¹ Based on maximum production capacity; theoretically 24 hours, 7 days per week; usually constrained by paint line capacity

SOURCE: IHS Automotive; McKinsey