

DAIMLER

Sustainability Management & Environment@Daimler

SRI Meeting, September 13th 2017, Frankfurt

- I. Organisation, Scope & Targets
- II. Holistic approach towards Environmental Challenges
- III. Production related Issues
- IV. CO₂ & Electrification
- V. CASE



Our Sustainability Management Daimler Group

Board of Management

Member of the Board of Management/
Co-Chair CSB
reports to the General Management

Corporate Sustainability Board (CSB)

Human
Resources

Communication

Policy and
External
Relations

Purchasing

Group Research &
MB Cars
Development

Integrity and
Legal Affairs

Environmental
Protection

Mercedes-Benz Cars



Daimler Trucks



Mercedes-Benz Vans



Daimler Buses



Daimler
Financial Services



Responsibilities and interfaces of Corporate Environmental Protection



Daimler Sustainability Program with Target Horizon 2022



MBC fleet consumption: -25 %



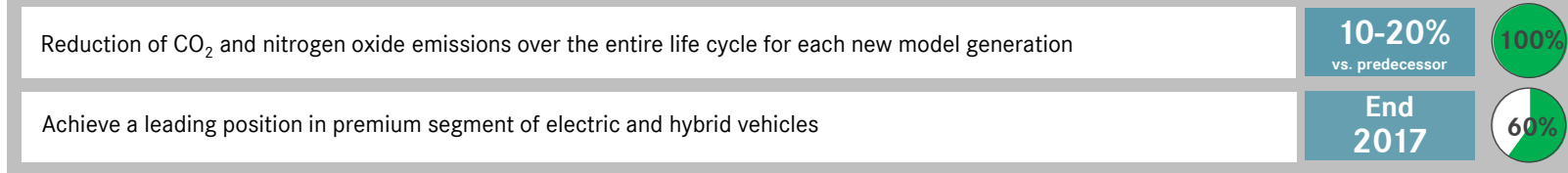
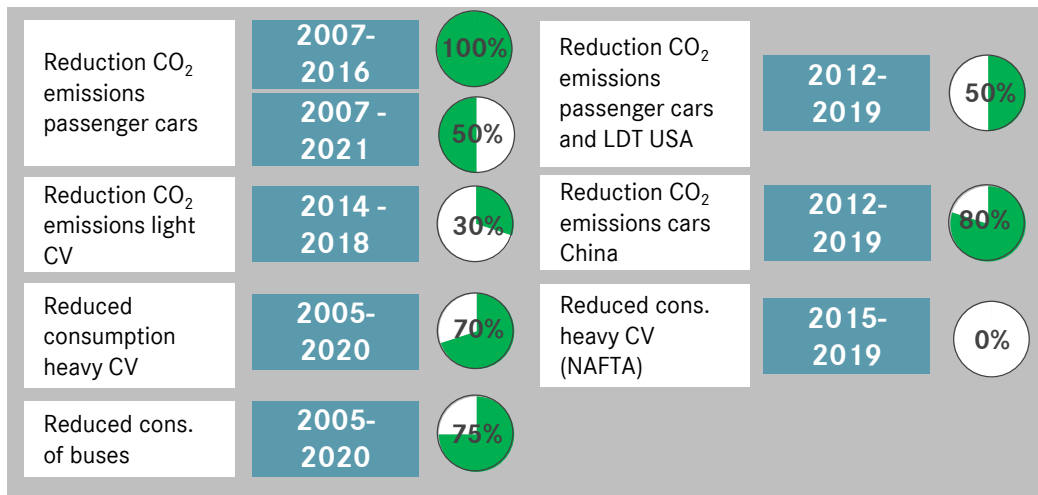
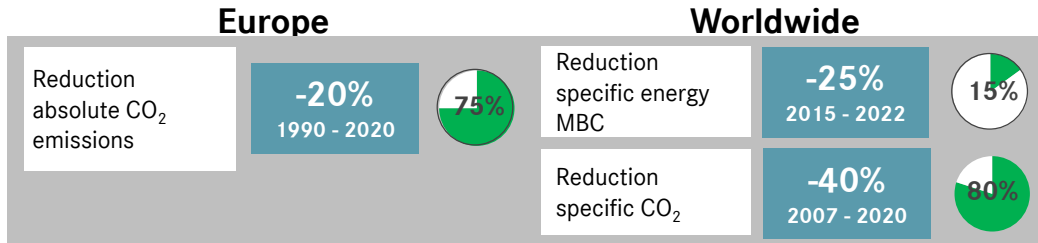
Our contribution to the implementation of the UN Sustainability Goals (SDG)



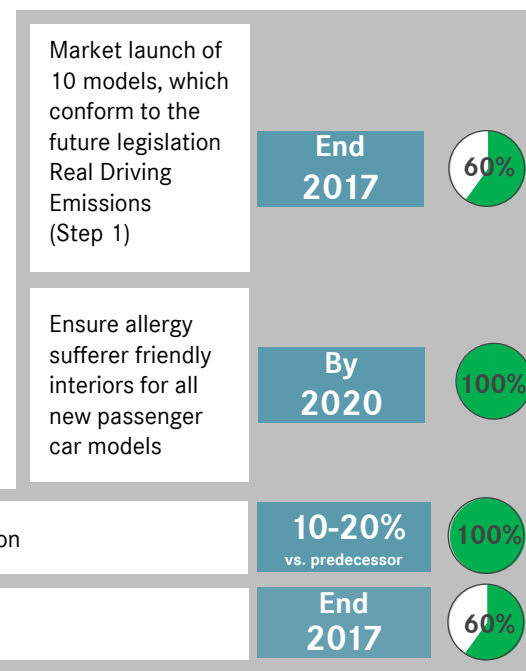
Daimler environmental protection targets 2022 structured by...



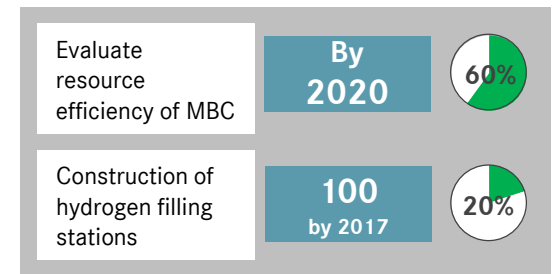
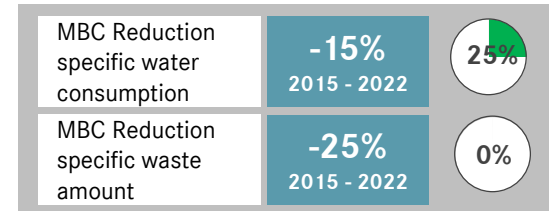
Climate Protection & Energy



Air Quality & Health



Resource Conservation



Daimler Sustainability Report 2016

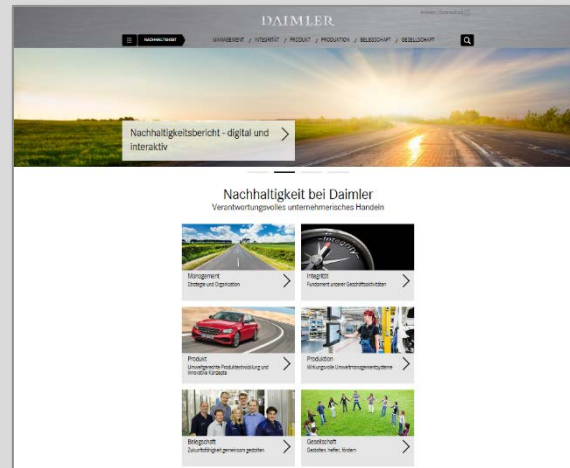
Accountability Report

Sustainability Report



Online

www.daimler.com/sustainability



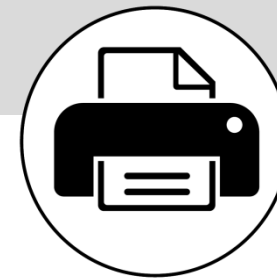
Brochure

Focus on Sustainability

Focus on Electromobility



Further topics



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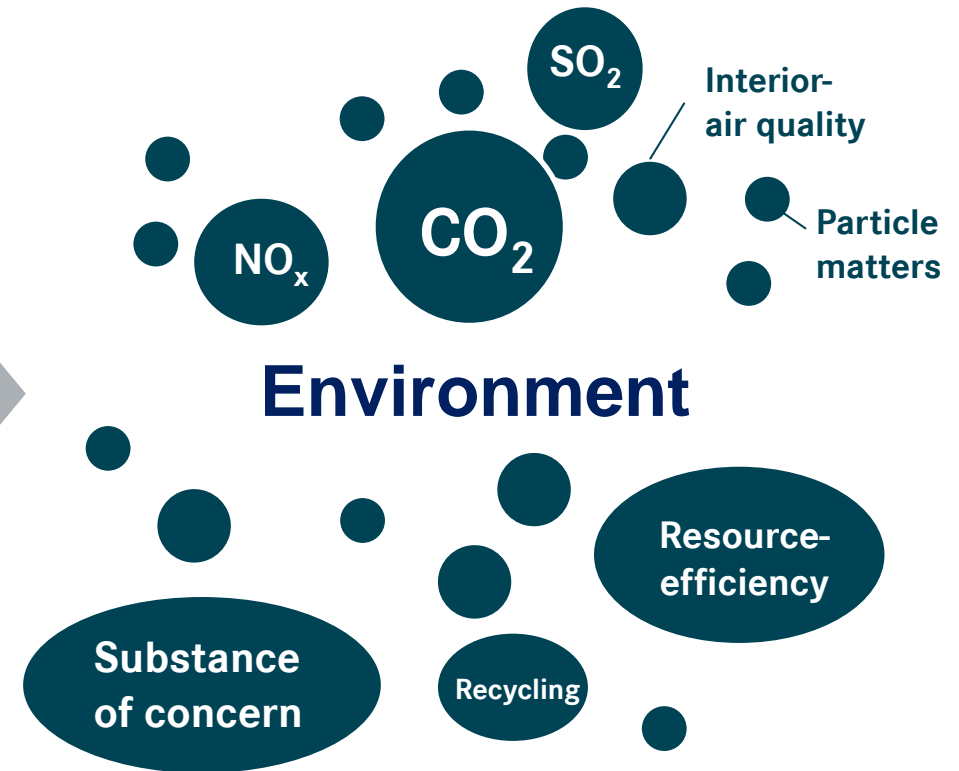
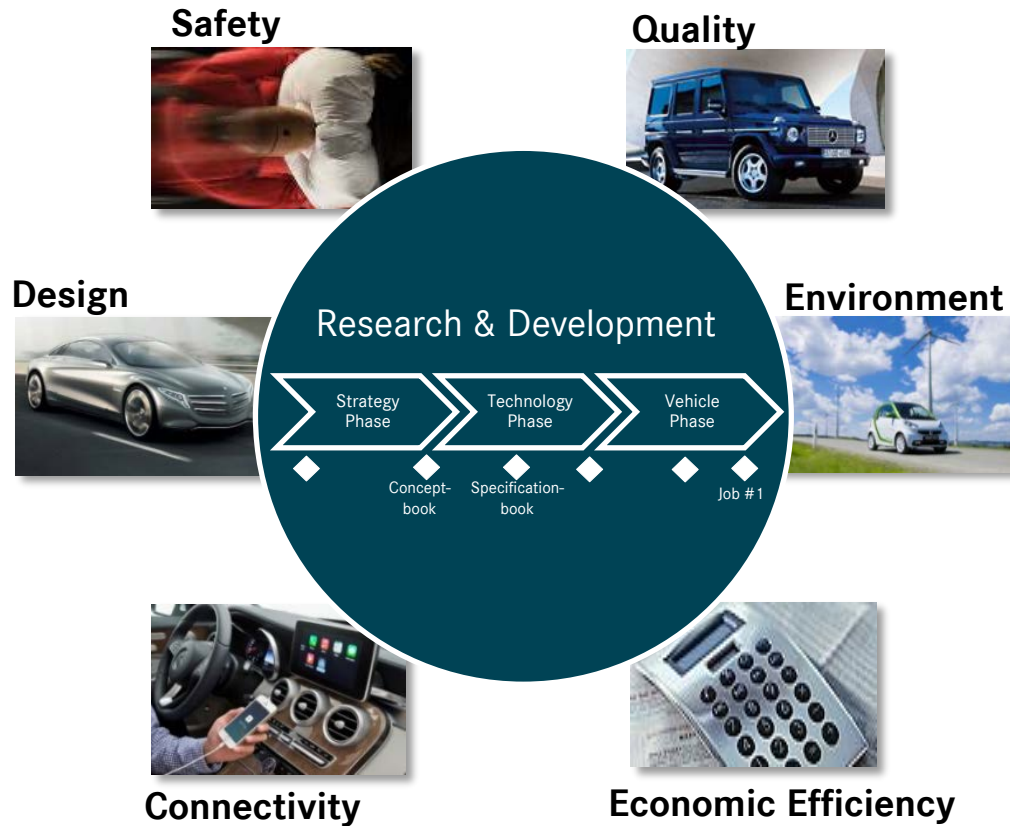
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Elements of the environmental management system RD with focus on design for environment



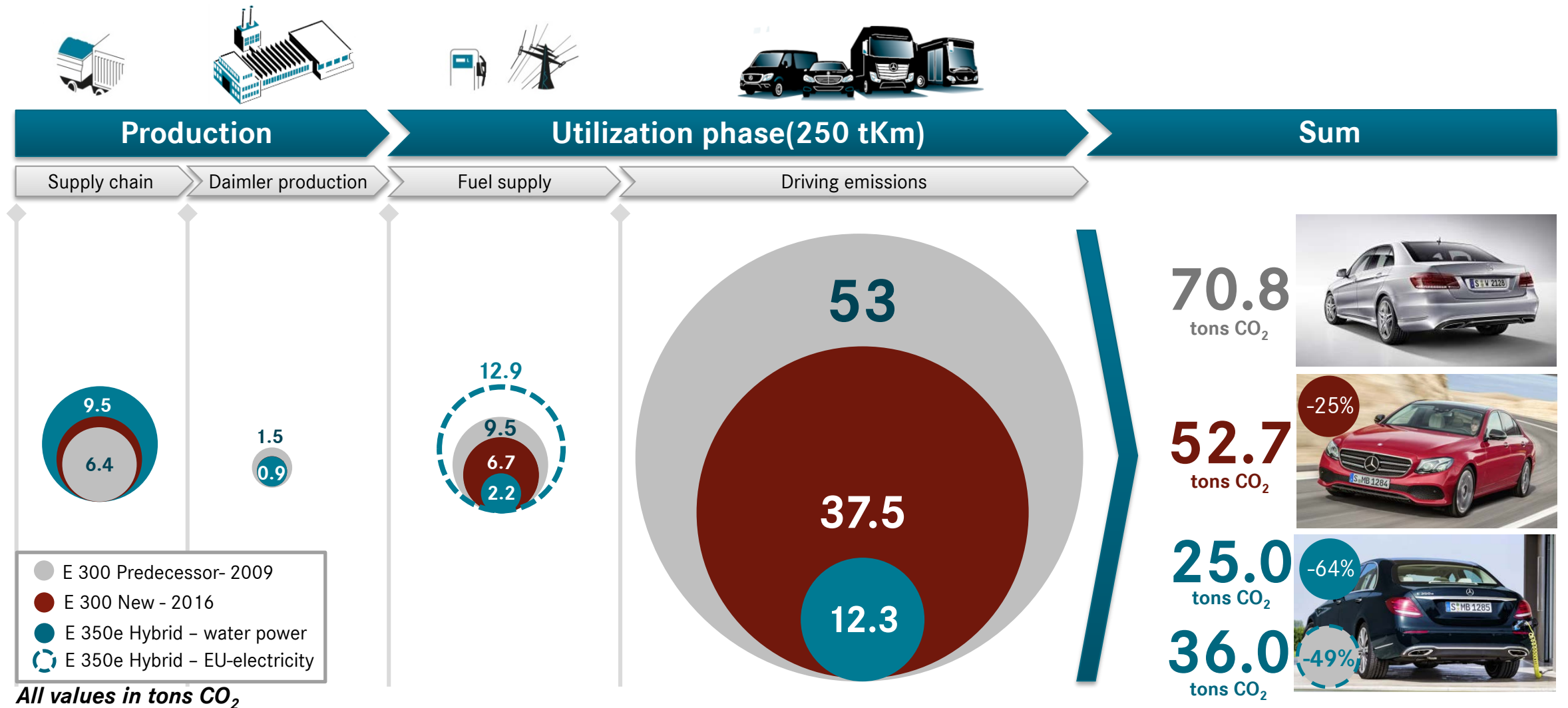
Challenges for research & development of automobiles



Balancing of disparate requirements in a permanent task in Research & Development

Within the different environmental targets contradictory effects are possible

For our Products a look at the whole life cycle is crucial – E-Class Plug-In Hybrid E 350 e



The resource input of C 250 and C 350 e

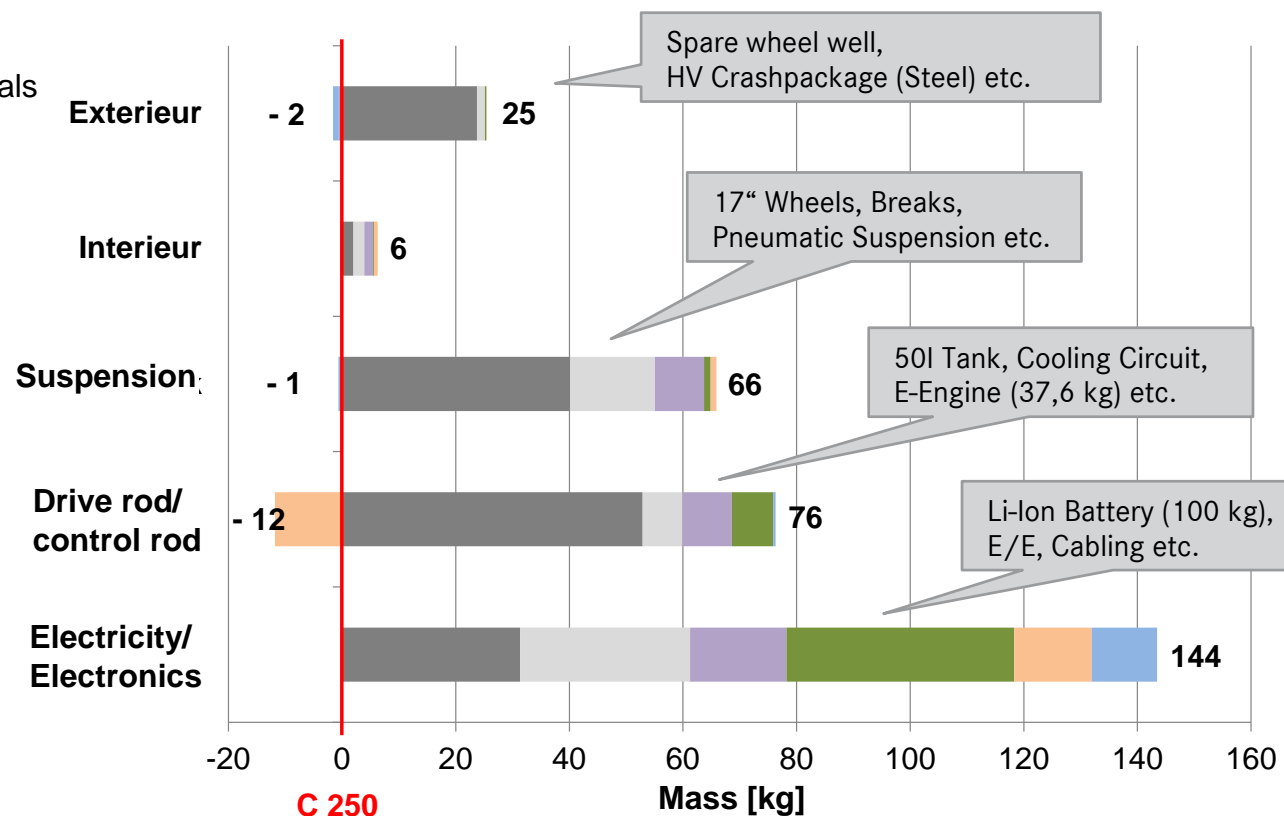
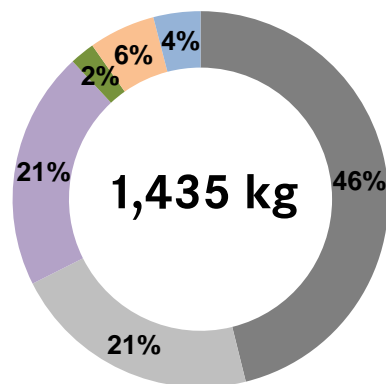
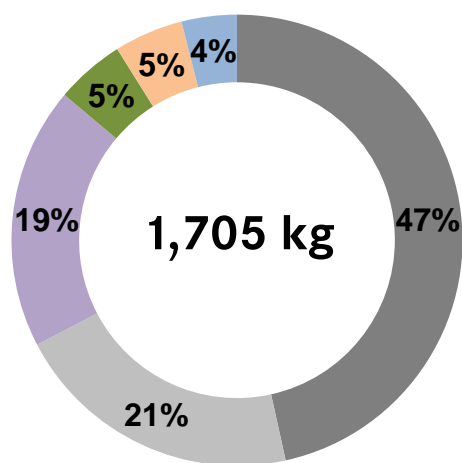
Comparison of Material Composition

+ 270 kg additional weight of C 350 e compared with C 250

Comparison of Modules [kg] (C 250 vs. C 350 e)



- Steel/Ferrous Materials
- Light Metal
- Polymer Material
- Other Metals
- Operating Liquids
- Other Materials

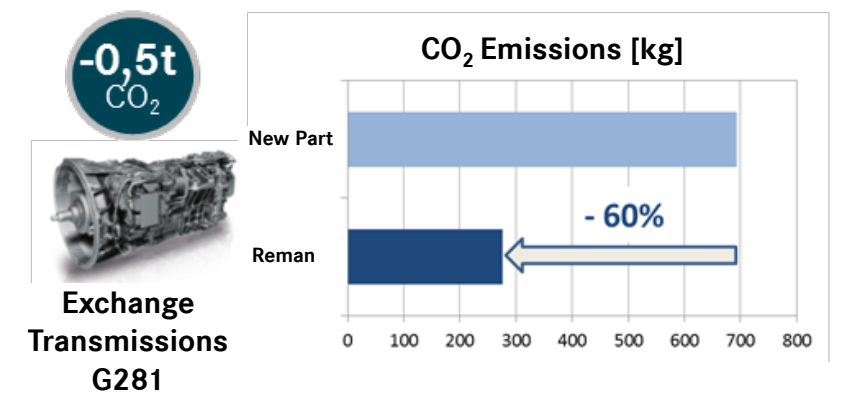
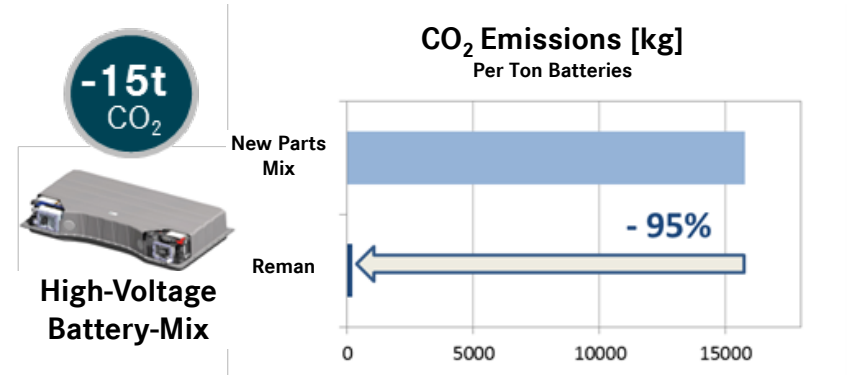
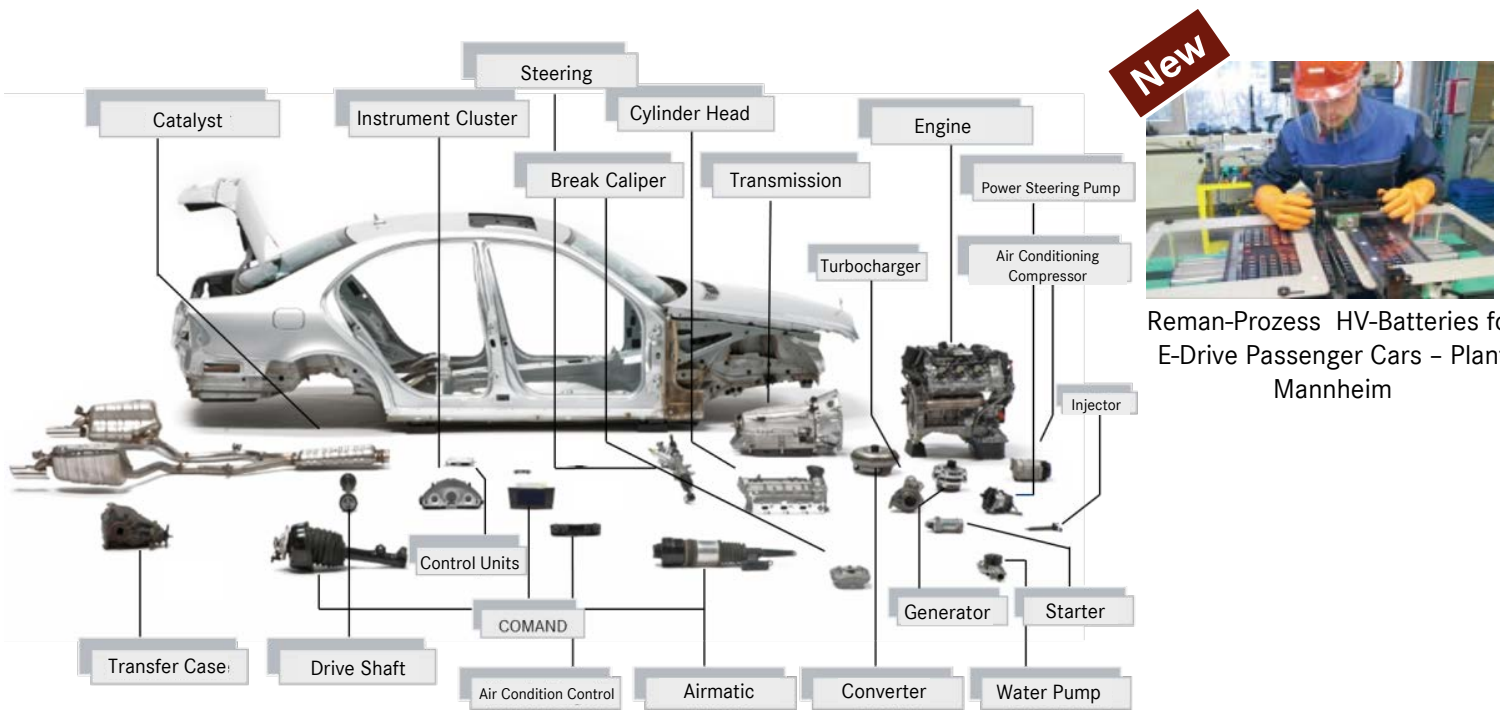


Remanufacturing / Product Recycling

New Life for Used Parts

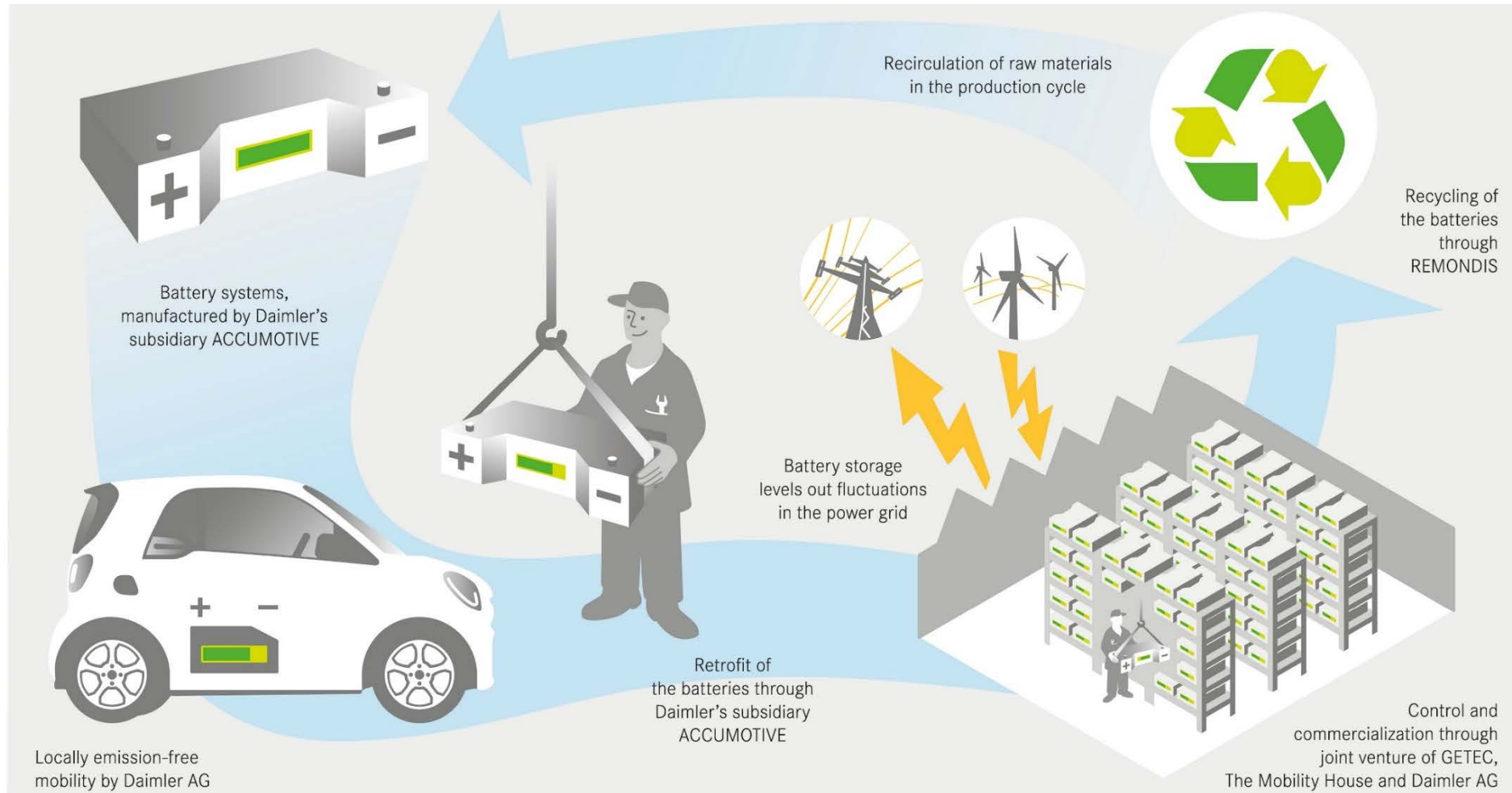
Over 12,000 Parts in Reman Portfolio - incl. E-Drive Components...

...with significant environmental benefits



E-Mobility thought to the end

World's largest 2nd-use battery storage (13MW) in operation

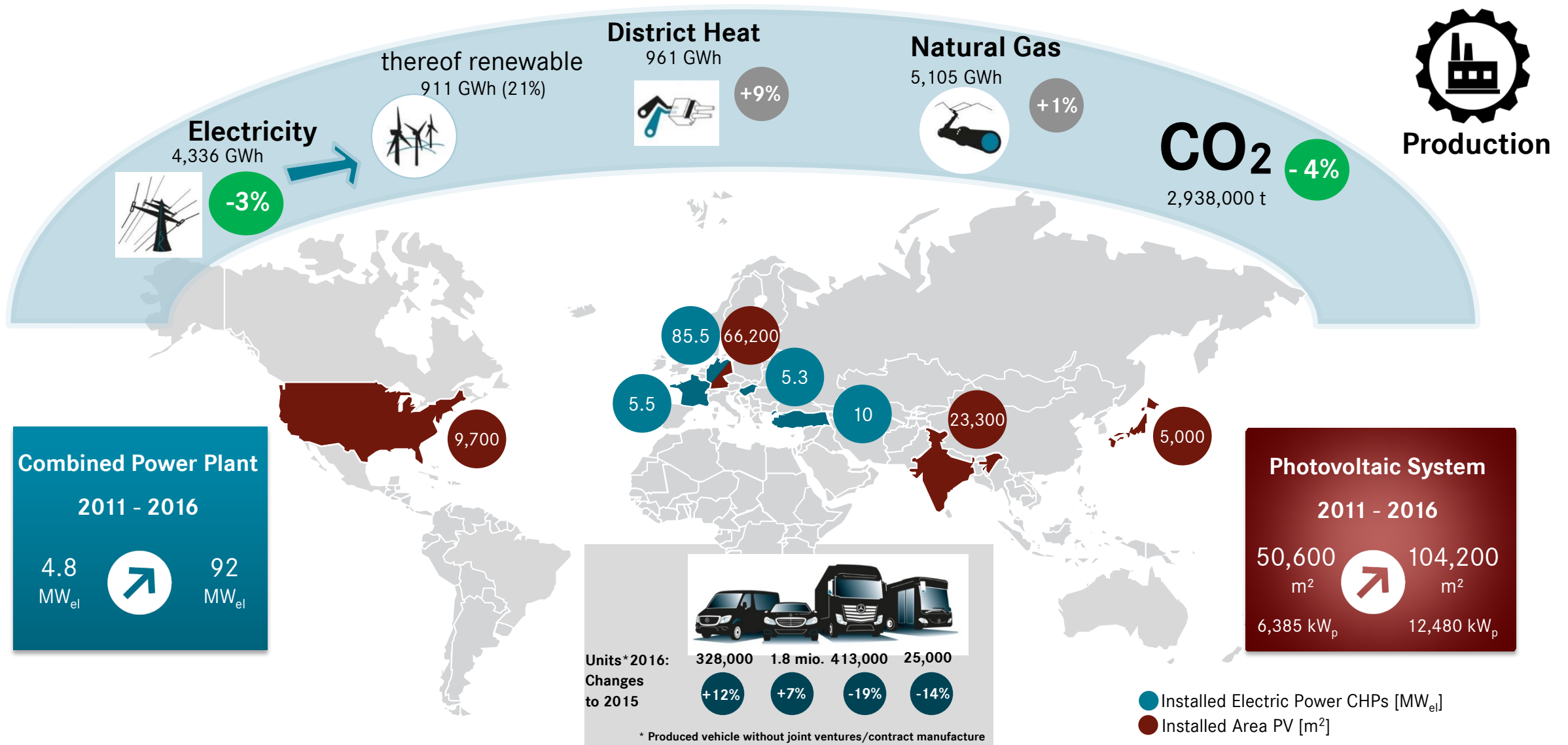


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CO₂-Reduction and Energy Efficiency in our Daimler Plants



AREUS: EU-Project for Automotive Production in the future



Production

Challenges:

- Volatile electricity grid quality and renewable energy supply
- Rising electricity prices

Project components:

- Reduction of Energy Consumption of Industrial Robotics
- New direct current architecture
- Intelligent network management
- Energy generation by recuperation

Use:

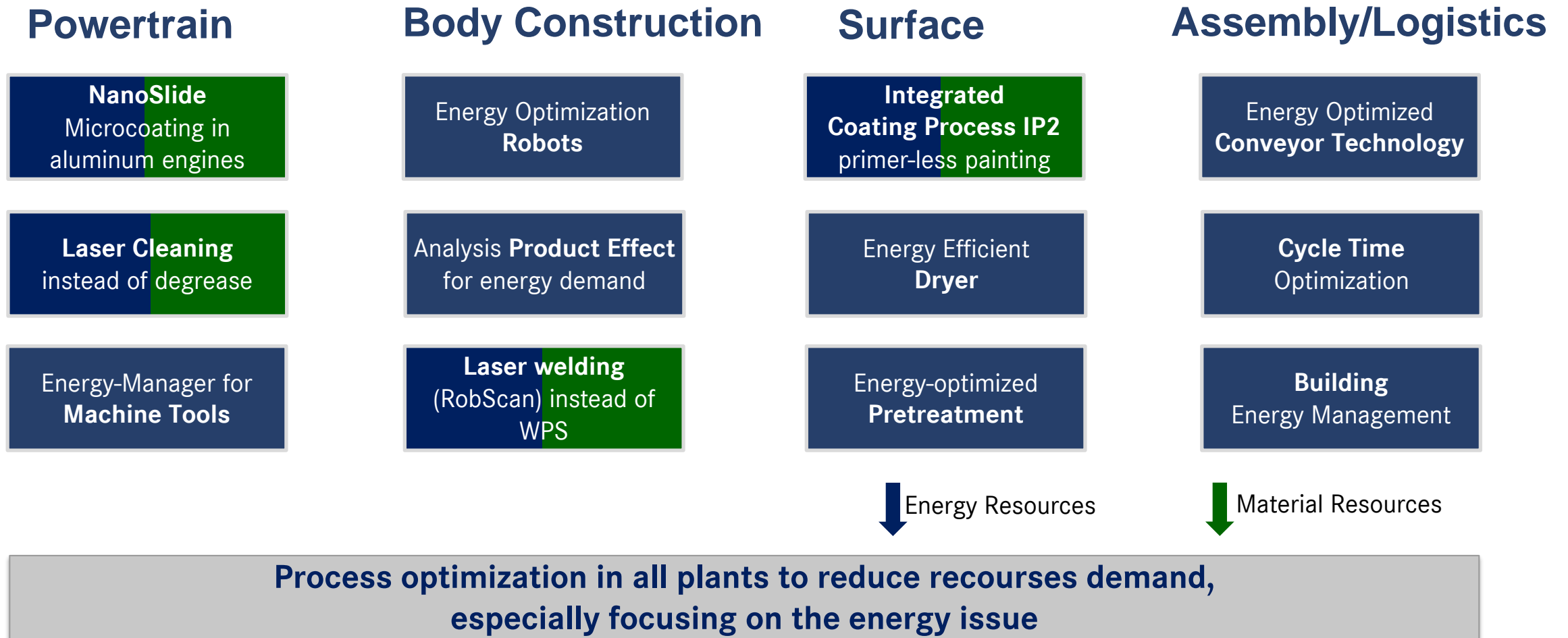
- Energy efficiency: +10-20 %
- Stability against electricity grid fluctuations
- Direct integration of renewable energies
- Possibility of buffer storage



Automation and Robotics for EUropean Sustainable manufacturing



Production: Technical Modules to improve environmental performance



And how do we achieve these values...

For example new Nanoslide Coating Technology

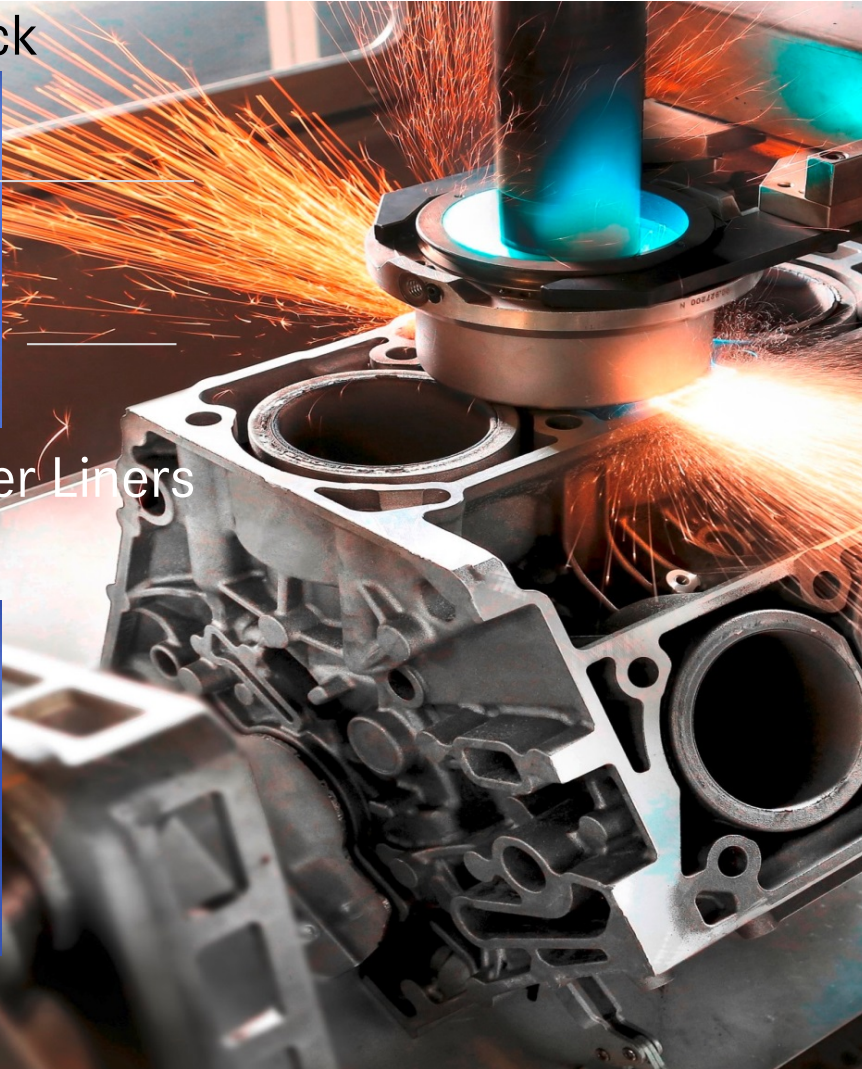
Aluminum Engine Block



Grey Cast Iron Cylinder Liners



Nanoslide Coating



Process Optimization

(2nd Generation*)

Mechanically Roughening

instead of

High-Pressure Water Jet

Electric Energy

- ca. 700 MWh/a per module (Plan: 4 modules)
- ca. 22,500 MWh over life cycle

Process Water

- ca. 15,000 m³/a per module (Plan: 4 modules)
- ca. 480,000 m³ water over life cycle

Recirculation of aluminum chips

- Reduction of 8% primary aluminum
- Elimination of 15 t/a aluminum slurry

*) FAME = Family of Modular Engines = new family of state-of-the-art
ku = kilo units

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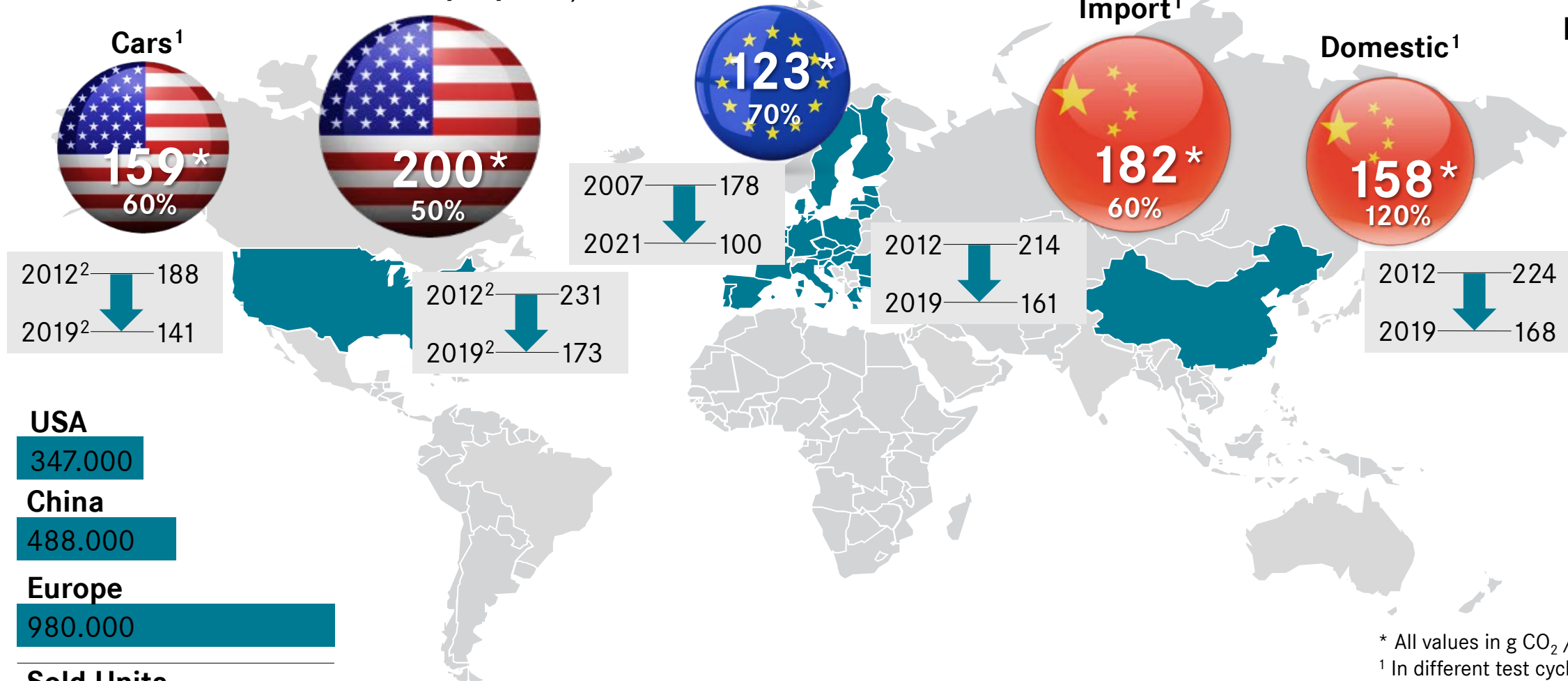


CO₂-Emissions of our Car Fleet is well on the Way



Products

'SUV and Pickup' up to 7,5t¹



* All values in g CO₂ / km
¹ In different test cycles
² Model year

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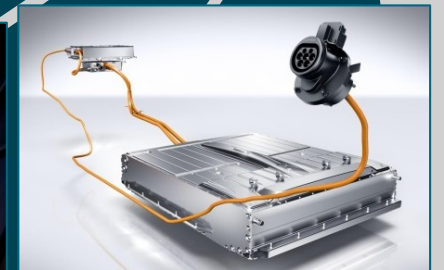
Our road to emission-free driving



High-tech
combustion engines



Consequent
hybridization



Electric vehicles
with battery and fuel-cell

Powerful and efficient: The new 4-Cylinder Diesel OM 654 sets standards in terms of environmental compatibility

- ↘ **17%** Weight Reduction
- ↘ **24%** Friction Losses
- ↘ **13%** CO₂-Reduction
- ↘ **80%** NOx-Reduction
- ↗ **14%** Performance Increase
- ↗ **11%** Improved Acceleration



- Aluminum-Crankcase
- Nanoslide Coating
- Stepped Combustion Bowls
- Engine-Related Emission Control

Rollout of plug-in-hybrids as important step: Already 8 models on the market and more to come soon...

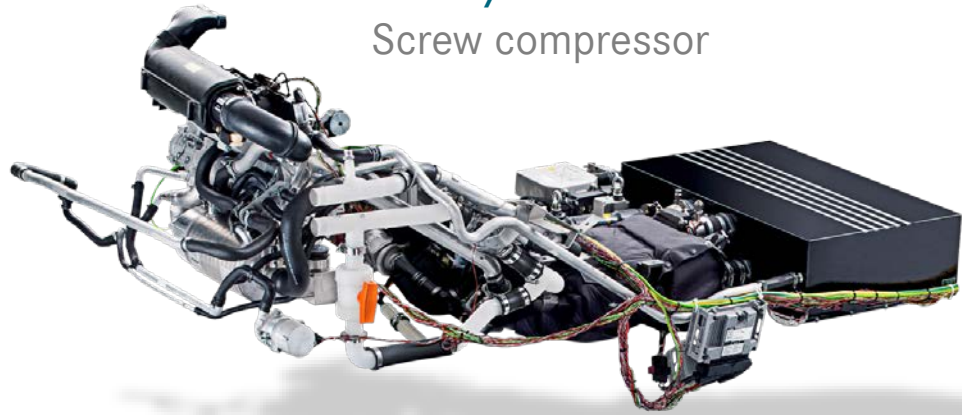


Electric drive vehicles



Next generation fuel-cell system: huge technological progress

2010: Underfloor package
4 kW / m² active area
Screw compressor

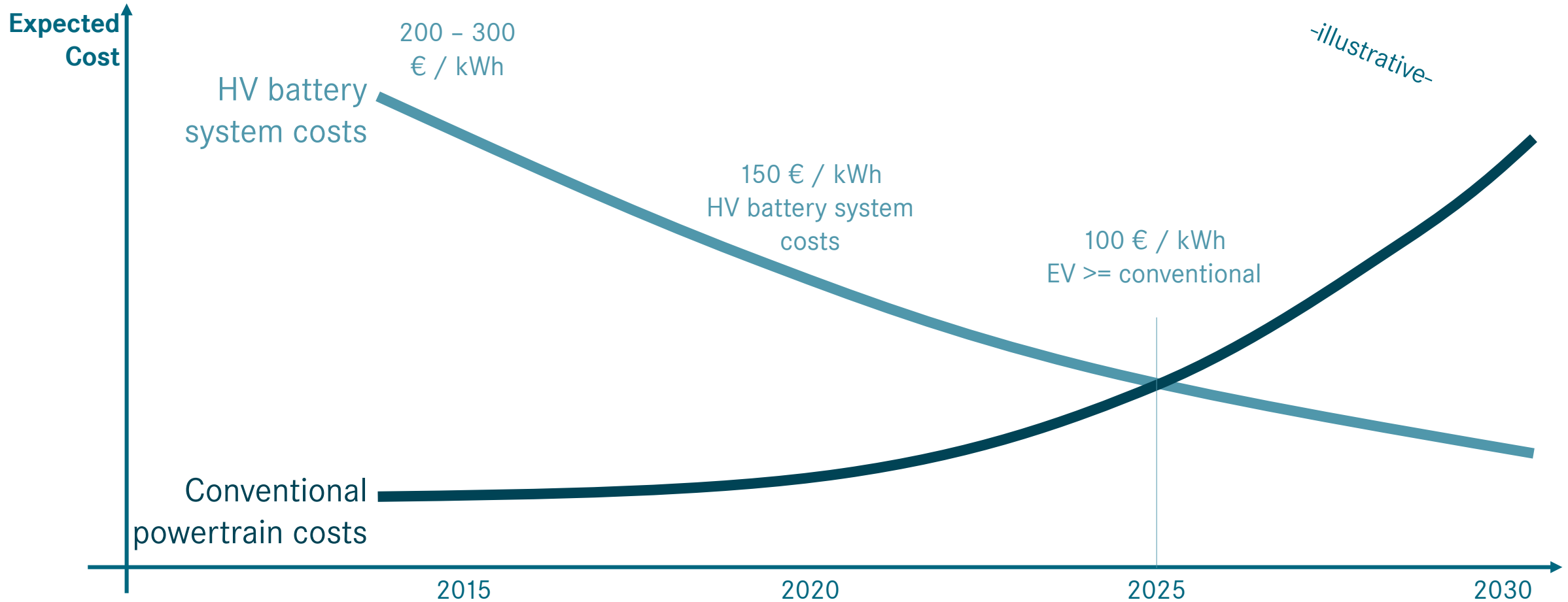


2017: Compartment package
9 kW / m² active area
Electric turbo charger with turbine

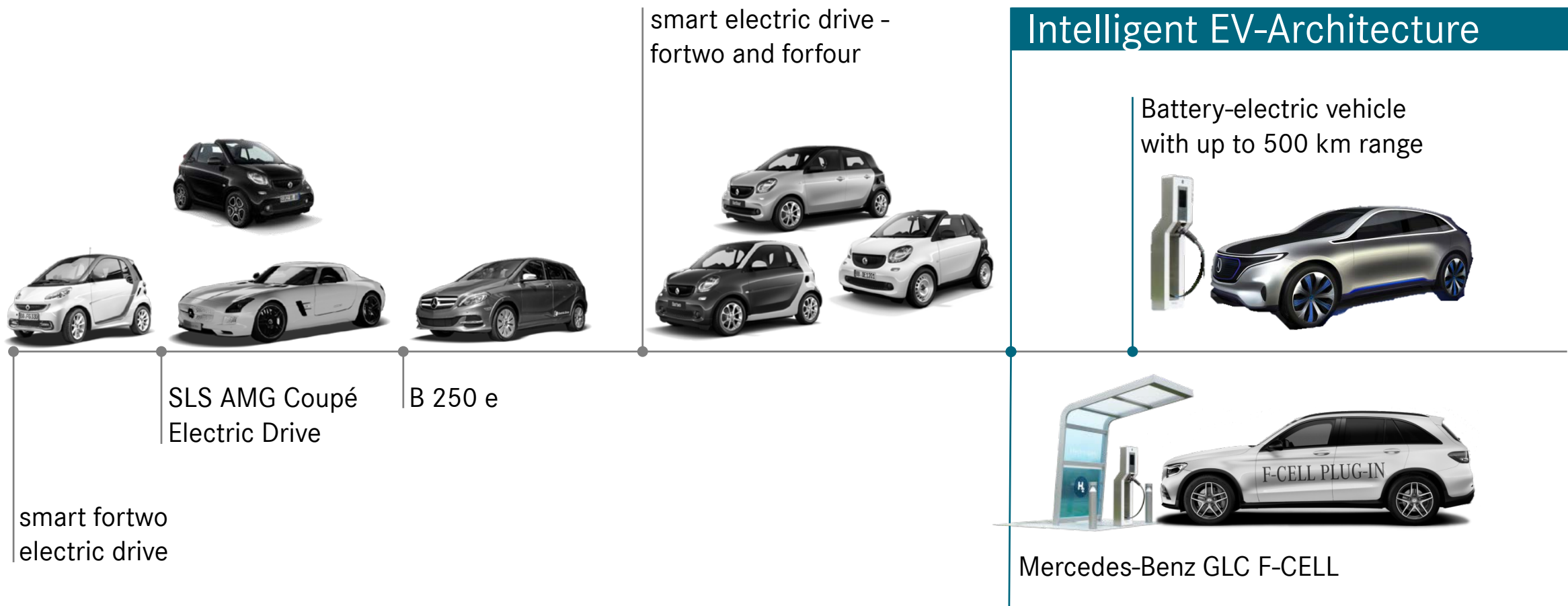


- ↘ **30%** reduction fuel cell engine size
- ↘ **90%** reduction of Platinum
- ↗ **30%** higher electric range in future vehicles
- ↗ **40%** higher system performance

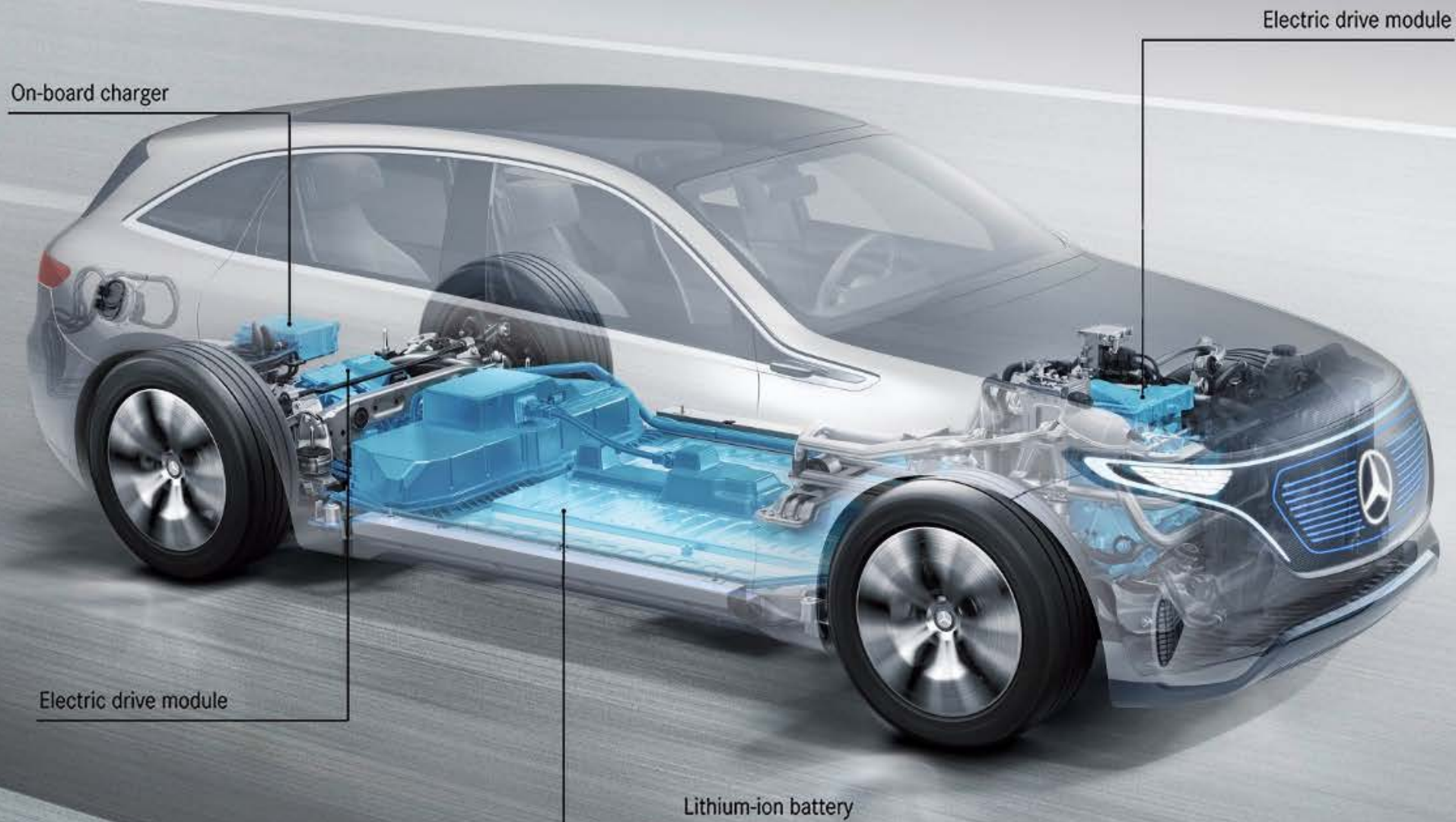
Emission regulations and battery technology development favour battery cost position



Electric Line Up extended into the Future

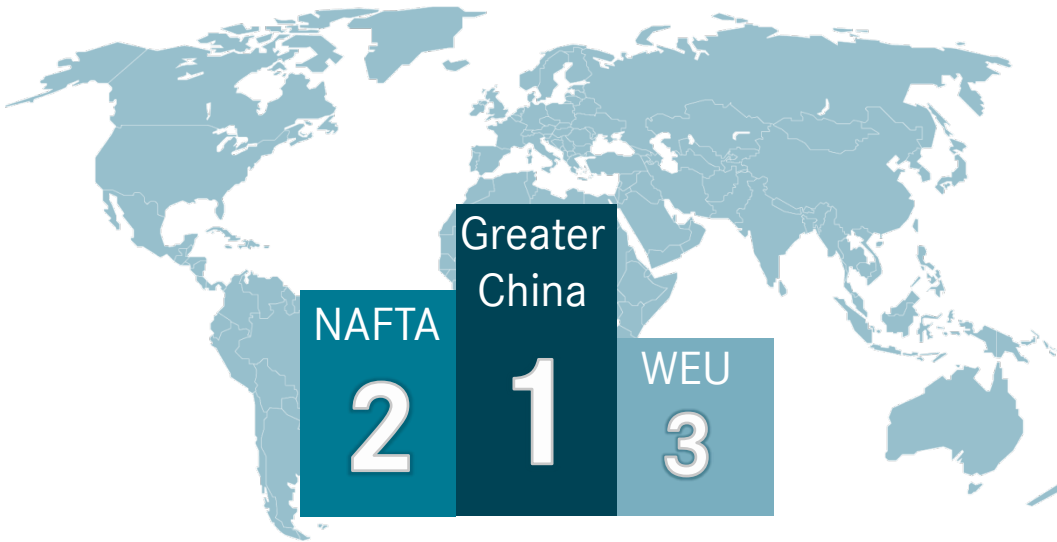


Foundation of new Mercedes-Benz electric vehicle strategy



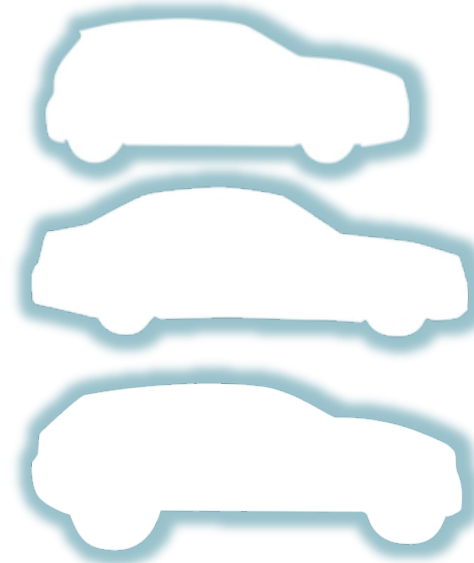
Rollout E-Mobility: Markets, Vehicle- & Drive Train Portfolio

I. Rollout into the main markets



2025: Share 15 – 25 %

II. Integration in Vehicle Portfolio



2022: >10 Electric Vehicles

III. Modular Battery Concept

Entry



Mid



High



„Ecosystem“ Electromobility

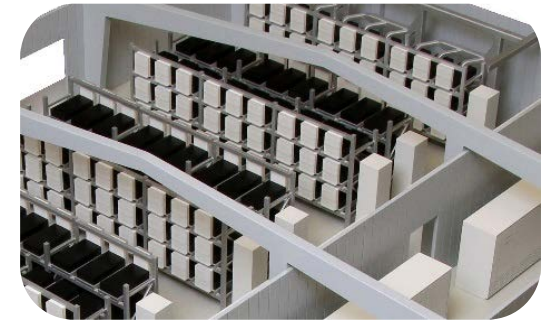
Inductive Charging



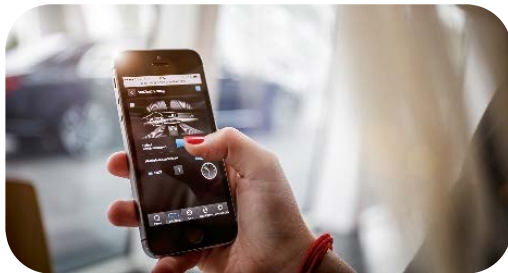
Own Battery Factory



2nd-Use-Battery



Connected Services



Charging Infrastructure



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CASE

Connecting

Autonomous

Shared & services

Electrified

Within a digital ecosystem Daimler Financial Services caters to a broad range of mobility demands



We are preparing for the mobility value chain of tomorrow



Vehicle Manufacturer

“Somebody needs to **develop, produce** and **sell** the vehicle”



Mercedes-Benz



Asset Provider

“Somebody needs to **pay for** and **own** the vehicle”



Mercedes-Benz Financial

Daimler Truck Financial

Mercedes-Benz Insurance

CharterWay

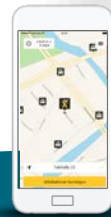


Fleet Operator

“Somebody needs to **take care** of the vehicles”



Mercedes-Benz Rent



Service Platform

“Somebody needs to **offer** the individual **mobility service** to customers”



BLACKLANE

CROOVE

FLIXBUS



Aggregator Platform

“Somebody needs to turn various mobility options into **one-stop-shopping solutions**”



Meta Platform

“Customers will expect mobility options to be seamlessly **integrated** into their **digital life sphere**”

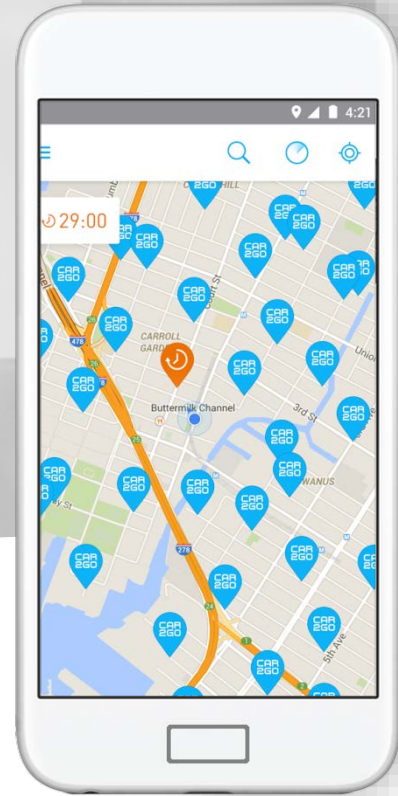


Mobility Customer

Consuming „mobility-as-a-service/ robo car services“



is the world's market leader in flexible car sharing



Find | Find a car2go next to you – with or without reservation. Whenever you need it. Available in 26 cities as of June 30, 2017.



Drive | Simply open your car2go with your smartphone and start driving – as long as you want.



Park | After having arrived, park your car2go on any parking lot within the business area. That's it!

Number of customers [in mn]



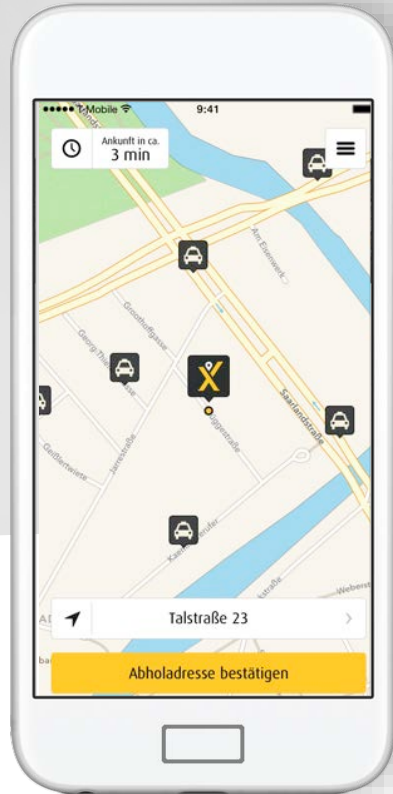
+30%

Transactions in millions



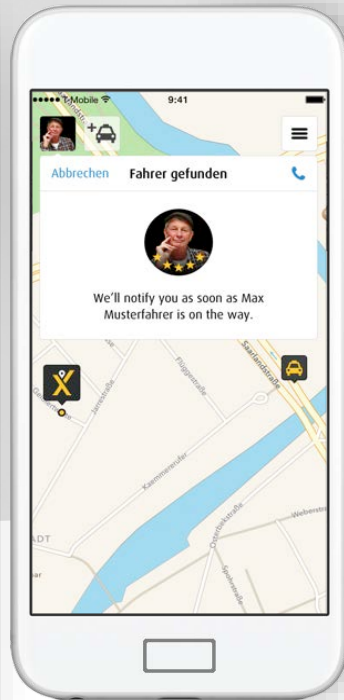
12.5
YTD 06/17

Xmytaxi has become Europe's largest taxi-hailing provider



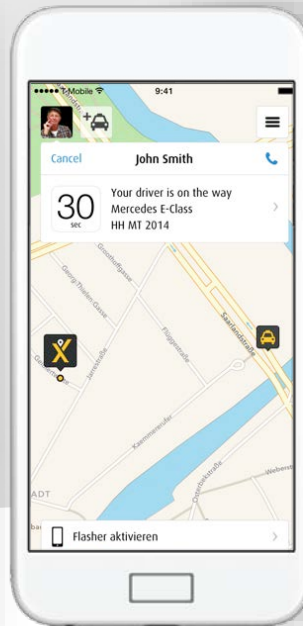
Step 1

Order your cab **via your smartphone**. Available in more than 65 cities as of June 30, 2017.



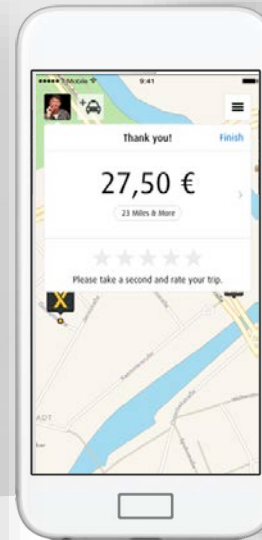
Step 2

Directly get in touch with **your driver**



Step 3

Get **real-time information** about estimated arrival



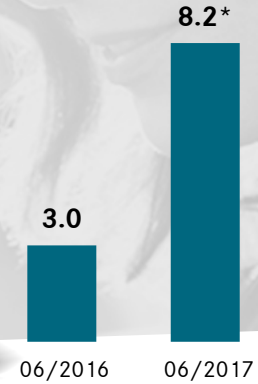
Step 4

Pay your ride with just one **swipe**



Number of customers [in mn]

+177%



* Including: customers of Hailo merger and Taxibeat acquisition
Excluding: Clever Taxi

Transactions in millions

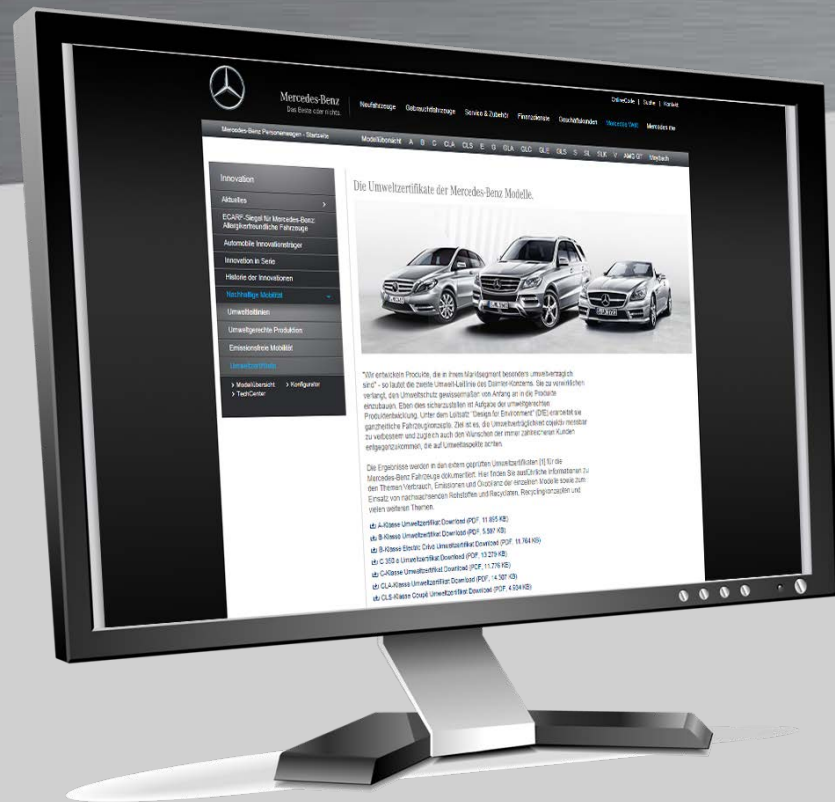


26.0
YTD 06/17

Leadership in Future Mobility will be determined by the combination of the four dimensions



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More Information at

www.Mercedes-Benz.com

Innovation – Sustainable mobility

www.Daimler.com

Sustainability

Disclaimer

This document contains forward-looking statements that reflect our current views about future events. The words “anticipate,” “assume,” “believe,” “estimate,” “expect,” “intend,” “may,” “can,” “could,” “plan,” “project,” “should” and similar expressions are used to identify forward-looking statements. These statements are subject to many risks and uncertainties, including an adverse development of global economic conditions, in particular a decline of demand in our most important markets; a deterioration of our refinancing possibilities on the credit and financial markets; events of force majeure including natural disasters, acts of terrorism, political unrest, armed conflicts, industrial accidents and their effects on our sales, purchasing, production or financial services activities; changes in currency exchange rates; a shift in consumer preferences towards smaller, lower-margin vehicles; a possible lack of acceptance of our products or services which limits our ability to achieve prices and adequately utilize our production capacities; price increases for fuel or raw materials; disruption of production due to shortages of materials, labor strikes or supplier insolvencies; a decline in resale prices of used vehicles; the effective implementation of cost-reduction and efficiency-optimization measures; the business outlook for companies in which we hold a significant equity interest; the successful implementation of strategic cooperations and joint ventures; changes in laws, regulations and government policies, particularly those relating to vehicle emissions, fuel economy and safety; the resolution of pending government investigations or of investigations requested by governments and the conclusion of pending or threatened future legal proceedings; and other risks and uncertainties, some of which we describe under the heading “Risk and Opportunity Report” in the current Annual Report. If any of these risks and uncertainties materializes or if the assumptions underlying any of our forward-looking statements prove to be incorrect, the actual results may be materially different from those we express or imply by such statements. We do not intend or assume any obligation to update these forward-looking statements since they are based solely on the circumstances at the date of publication.