



Schaeffler E-Mobility UBS German Electric / Autonomous Car: Virtual Tour 2020

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Sep 16, 2020

Disclaimer

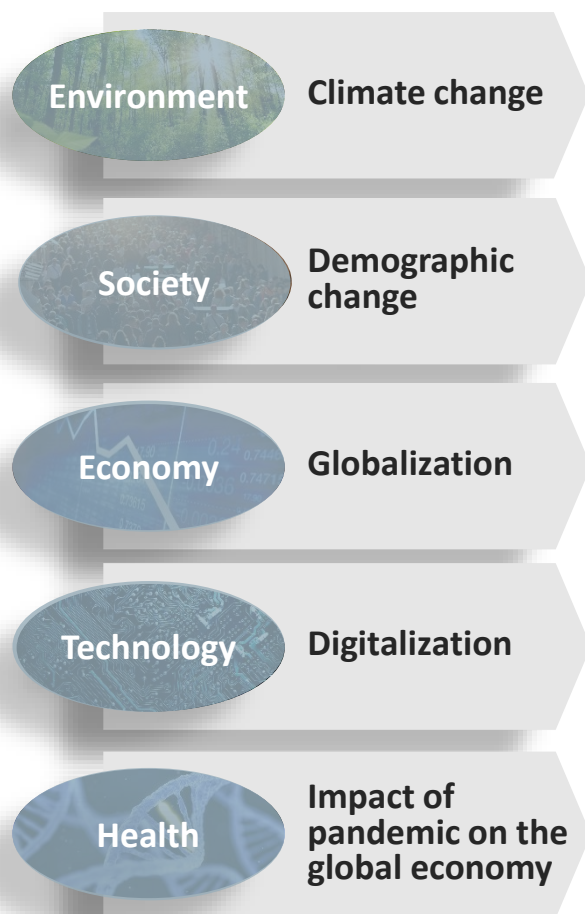
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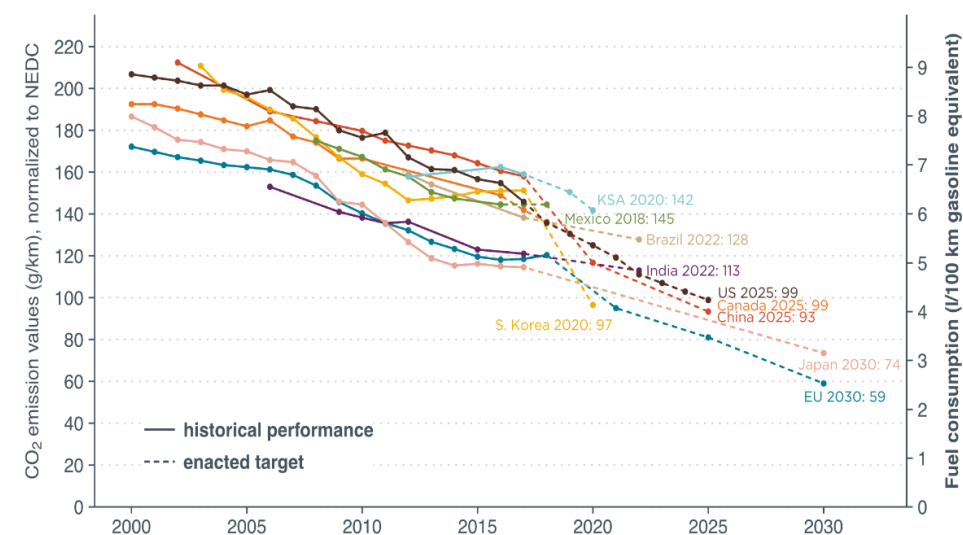
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Global megatrends and resulting automotive trends



CO₂ emission as key driver

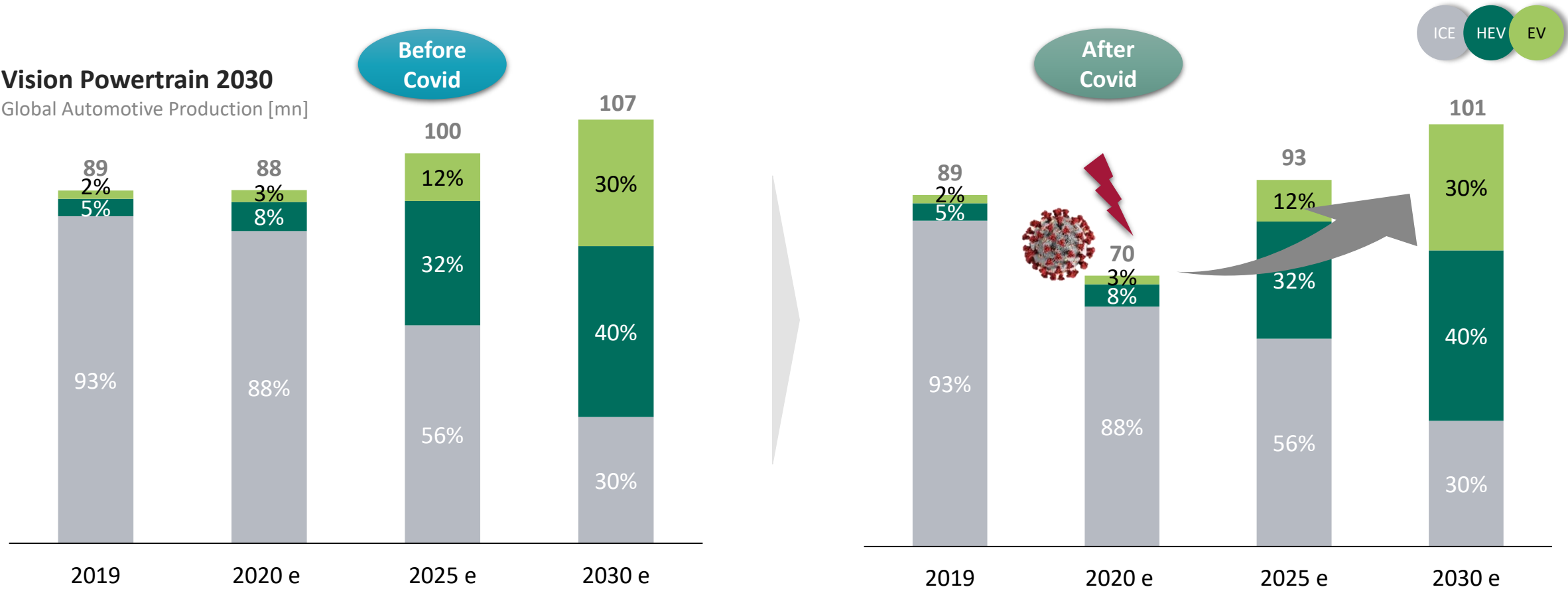


Updated June 2019
Details at www.theicct.org/info-tools/global-passenger-vehicle-standards

Source = ICCT, June 2019

*China's target reflects gasoline vehicles only. U.S. CO₂ emission values are derived from fuel economy standards set by NHTSA, reflecting tailpipe GHG emission (i.e., they exclude low-GWP refrigerant credits incorporated in the U.S. EPA GHG regulation). Gasoline in Brazil contains 22% ethanol (E22); all data in the chart has been converted to the gasoline (E00) equivalent. Supporting data can be found at www.theicct.org/info-tools/global-passenger-vehicle-standards.

The base of our E-Mobility strategy is our vision of the future automotive market



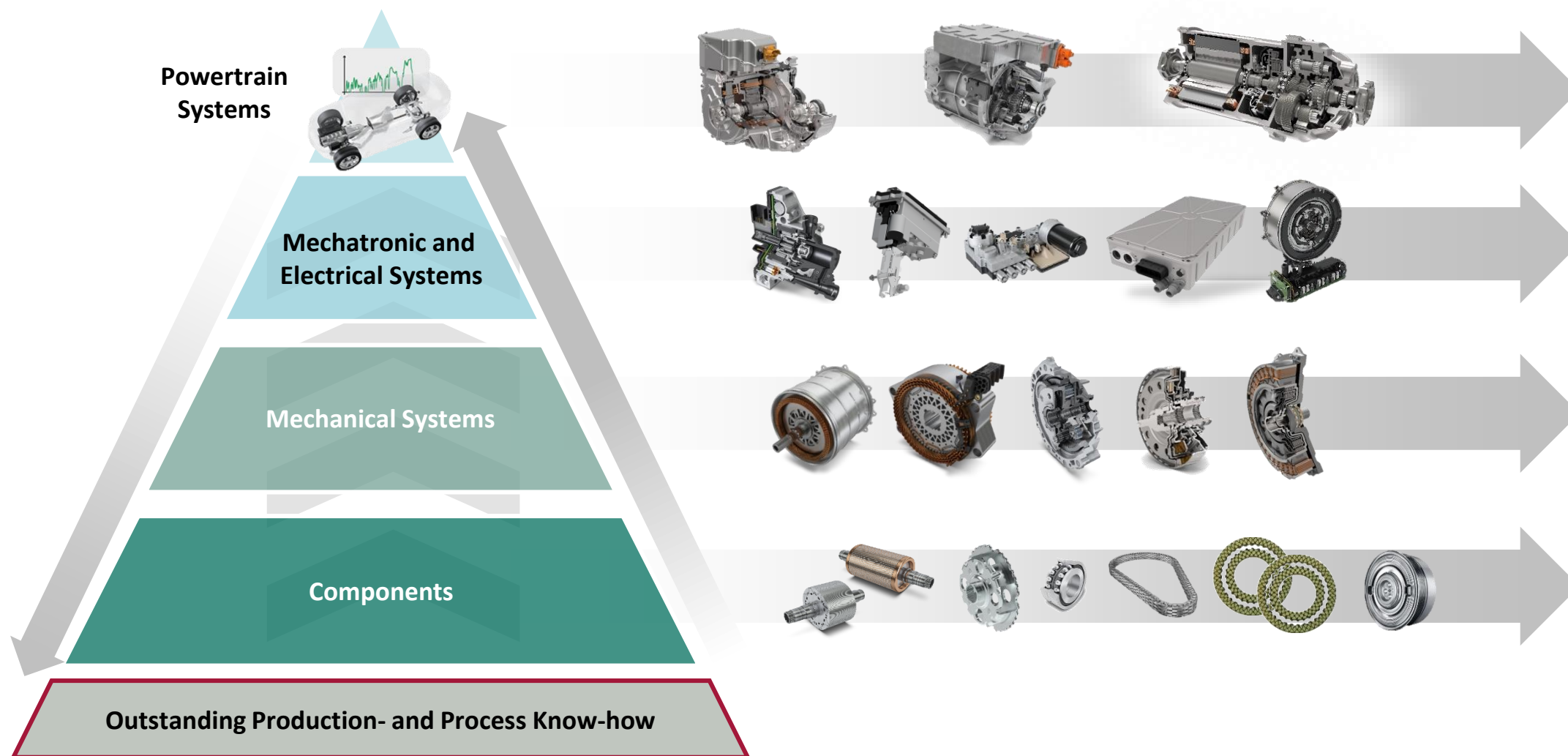
Source of global automotive production from IHS (September 2020)
Source of separation of EV, HEV and ICE is identified by Schaeffler

Our powertrain scenario 30-40-30 is confirmed and unchanged for 2030
Covid has a significant impact in 2020ff, however the relative growth of Hybrids and xEVs will continue

Major Milestones of E-Mobility at Schaeffler



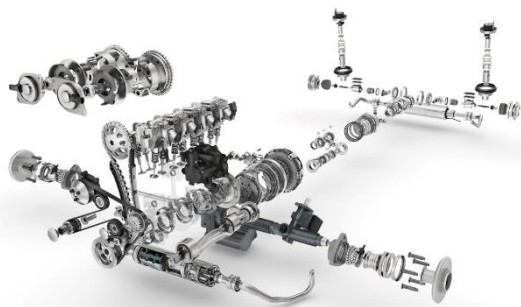
The strength of Schaeffler USP covers both powertrain system integration and component manufacturing



Schaeffler transformation is our key for success in E-Mobility

What do we stand for **today**:

- Customers trust since more than 50 years in automotive
- Highly innovative product portfolio
- Deep and profound powertrain know-how in:
 - Transmission systems and components
 - Engine systems and components
- Strong in manufacturing and high vertical integration



Our current **transformation** process

- We **transformed** more than **1,150 specialists¹ internally** from transmission & engine business divisions
- We **hired** more than **350 new specialists¹ externally**
- More than **100 Fit4Mechantronic training programs** set-up running with over **1,200 participants**
- Strategic **acquisitions** to accelerate filling remaining competence gaps

ELMOTEC STATOMAT

Compact
Dynamics

¹since 2018

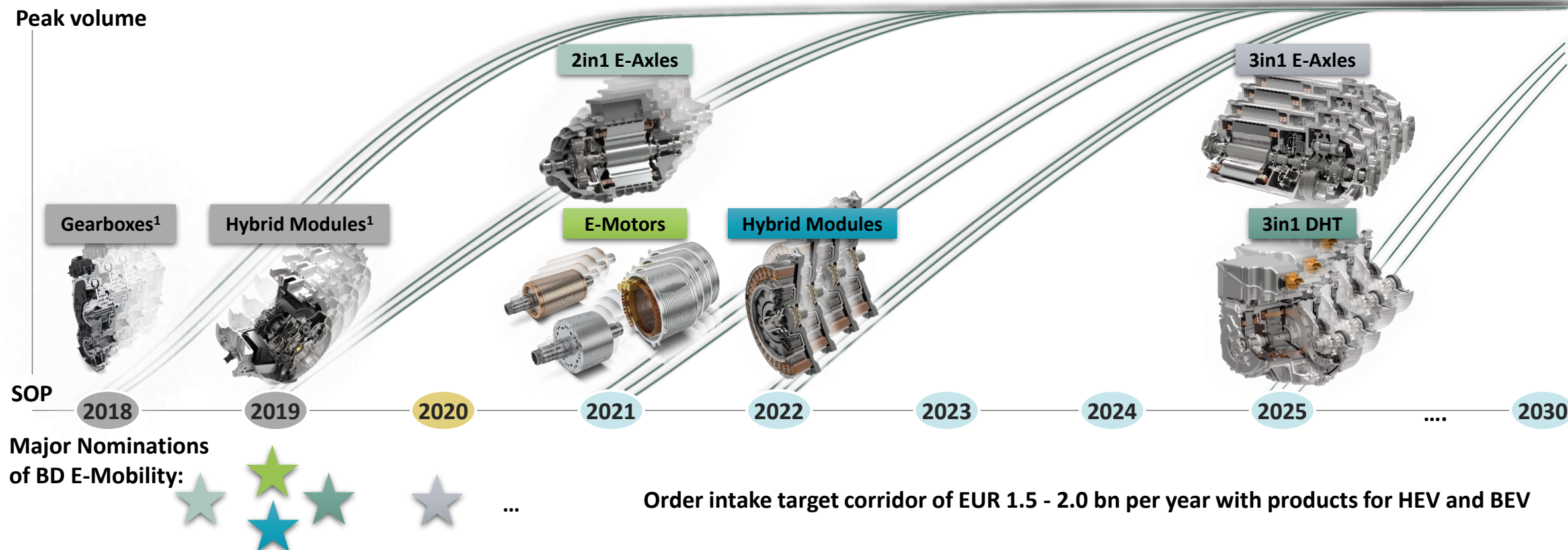


Where do we move to **tomorrow**:

- Further development of customers trust in automotive
- Continue innovating our component portfolio
- + **Become the preferred supplier of electrified drivetrains & components**
- + **Manufacturing of whole electric drivetrain systems**
- + **E-Motors supplier**
- + **Mechatronic & Electronic component supplier**
- + **Customers trust as major E-Mobility system supplier**



Start of production of our E-Mobility products in the next years

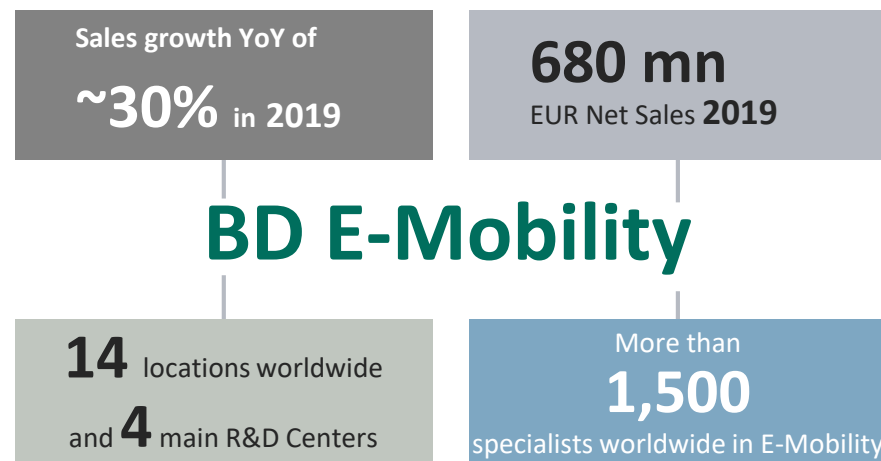


¹ Nominated before 2018

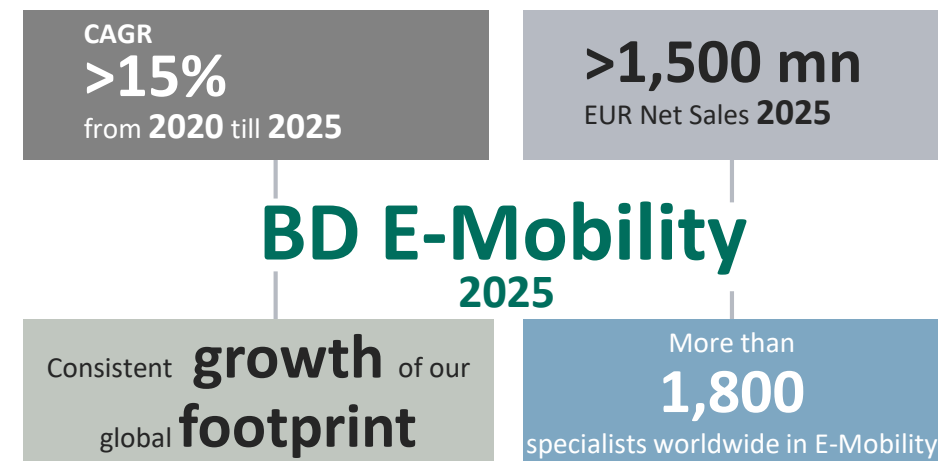
With our growing product portfolio and number of customer programs we will increasingly drive the E-Mobility growth

Business division E-Mobility in key figures – strong position and continuous growth

What do we stand for **today**:



Where do we move to **tomorrow**?

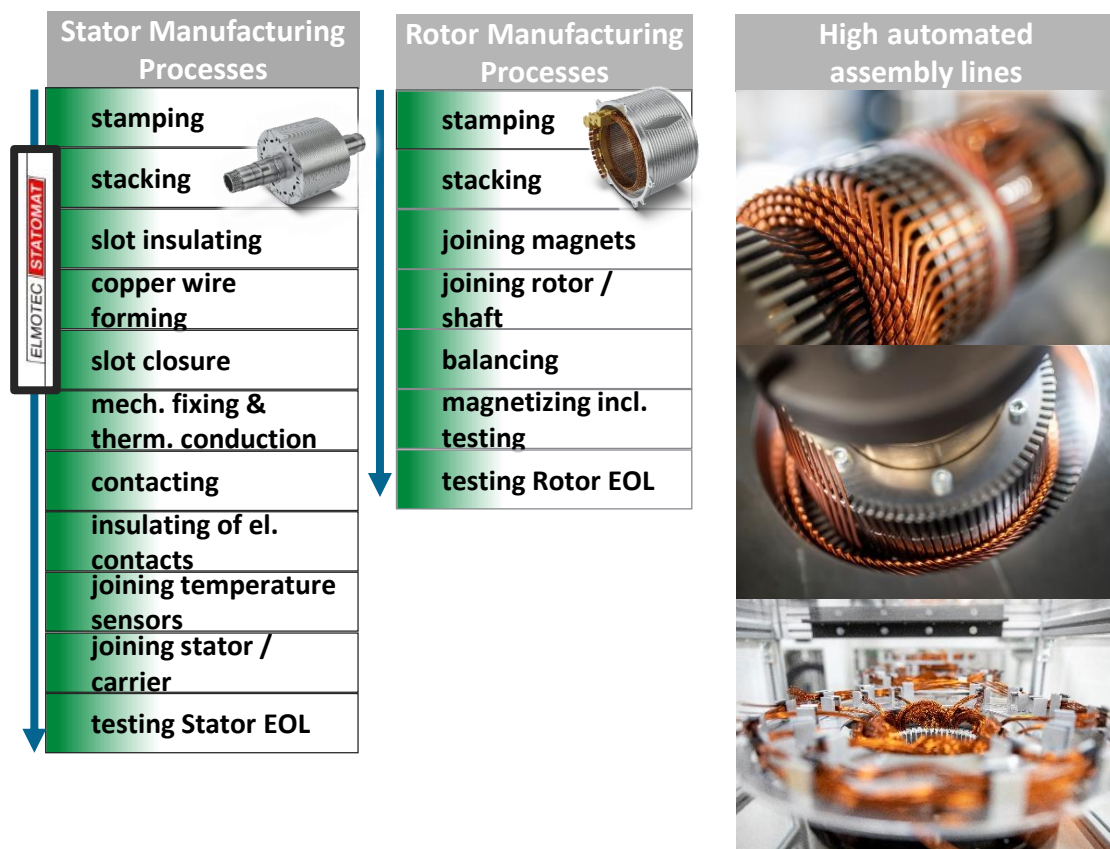


Our growth expectation is based on our powertrain scenario and our order intake annual target corridor

Our E-Motors are key components for our system products and convince customers also on component level

SCHAEFFLER E-Motors

Full value add in E-Motors from Schaeffler



in series production at Schaeffler today

ELMOTEC STATOMAT Compact Dynamics

Strategic relevance:

- Own E-Motors are used as a base for innovative systems
- Elmotec & Compact Dynamic strengthen our position as a highly innovative E-Motor supplier
- Use manufacturing competence of Schaeffler for high value add

USPs:

- Highest power density & efficiency of our E-Motors
- Innovative winding technology made by Elmotec, e.g. wave winding
- Outstanding innovation platform with Compact Dynamics
- Modular designs for a flexible inhouse production and more variance
- High vertical integration with our inhouse machinery & manufacturing

Our E-Motor competence combines innovation with experienced mass production skills and full vertical integration

New E-Mobility plant in Hungary – a sustainable factory for tomorrow



Overview:

- E-Mobility competence center for manufacturing of systems & components
- First product SOP in 2021
- Highly efficient production processes
- 18,000 m³ thereof 15,000 m³ production space (30 hectares area)
- DGNB¹ Gold certification
- Nearly CO₂ neutral

Features:

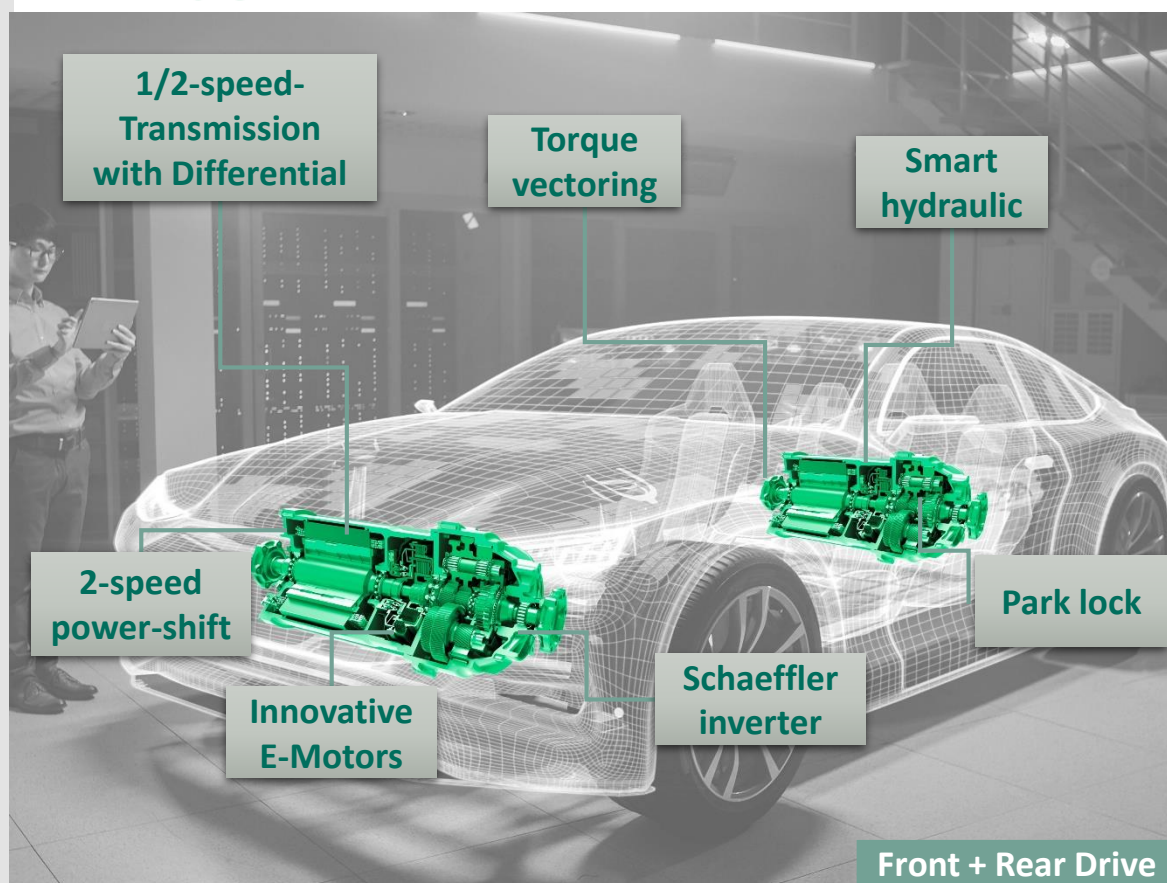
- Energy-saving (LED) and intelligent lighting
- Heat recovery compressors
- Photovoltaic system
- Green service-, rain- and wastewater treatment
- and much more

Our first pure E-Mobility plant in Szombathely is the next milestone in our E-Mobility transformation. It gives us space to grow and is a major step towards our sustainable production footprint of tomorrow

¹ Deutsche Gesellschaft für Nachhaltiges Bauen e.V.

We delivered on our promise - Schaeffler achieved the target to become a 3in1 E-Axle supplier

3in1 Performance E-Axle powered by **SCHAEFFLER**



Strategic relevance:

- High volume application for 3in1 E-Axle system for Schaeffler
- Highly innovative 800V performance E-Axle
- Modular kit with 5 variants for medium premium and sportscars

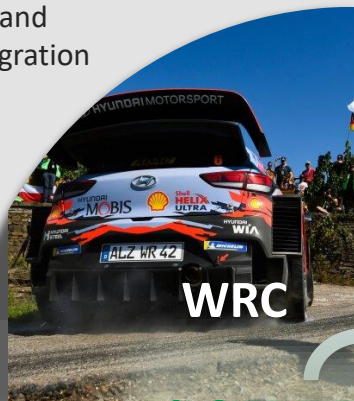
USPs:

- Development of a complete 3in1 powertrain portfolio for E-Axle
- Fully functional, integrated system of the E-Axle and components
- Best in class efficiency
- Outstanding power density supported by integrated cooling concept
- Innovative 800 V Inverter with complete system control
- Novel E-Motor technology with outstanding performance and efficiency

With our new 3in1 E-Axle we will step forward technologically in performance application, set a new benchmark in the market and enter with highly innovative concepts into future E-Axles

„Race to road“ at Schaeffler E-Mobility – Leveraging our race track experience

- Off road sport cars
- Full Hybrid drivetrain (P3)
3in1 E-Axle and battery integration
- Start: 2022



WRC

- High performance drivetrain based on battery

- E-Motor, PEU & gearbox parts
- Start: 2014



Formula E

SCHAEFFLER

- Almost zero emission racing league - highly innovative
- Hydrogen powertrain development
- Start: 2023



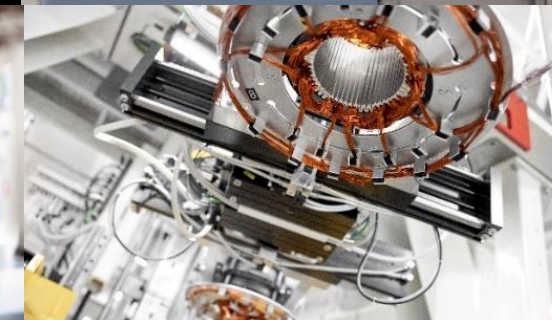
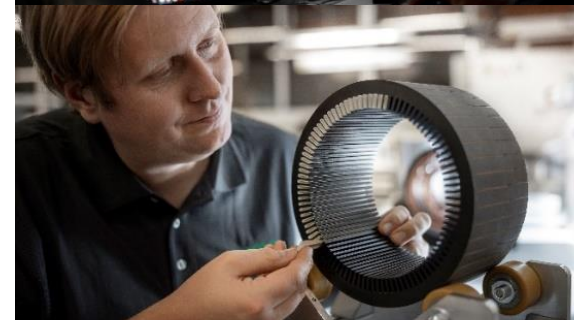
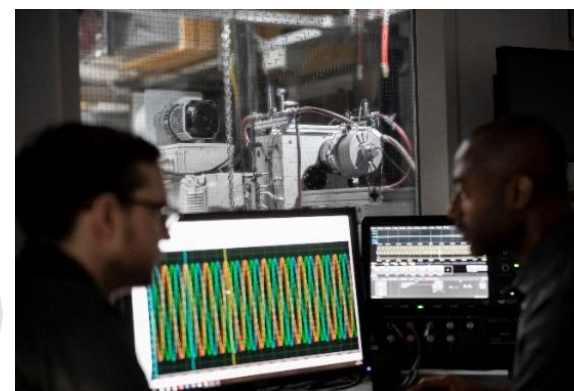
HYRAZE

4ePerformance



- Inhouse concept with over 1000 PS
- Platform for further predevelopments
- Start: 2018

- Our racing experience go directly into our development departments
- We have a broad spread represented with our different products



With our “Race to road” strategy we innovate on the racetrack and shape our revolutionary future products

We successfully shape our E-Mobility business

- 1 Our powertrain vision 30-40-30 remains our strategic guideline and we are fully prepared with our expanding product portfolio for the future mobility

- 2 We produce highly innovative E-Mobility components and systems in a sustainable production network

- 3 With our new innovative high performance 3in1 E-Axle project we delivered on our promises. We further complete and grow our product portfolio

- 4 With our wide range of products and deep process know-how we have a strong position in the market, and we will continue to grow

Schaeffler E-Mobility strategy is materializing successfully.

We are following our strategic path to become the preferred supplier of electrified drivetrain systems & components for our customers!