

# FIELDTrip EVERCORE ISI

November 19<sup>th</sup>, 2019

Audi e-tron Power consumption combined\*: 24.6-23.7 kWh/100km (NEFZ); CO<sub>2</sub>-emissions combined\*: 0 g/km

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## AGENDA FOR TODAY

### LATEST FINANCIALS & STRATEGIC OVERVIEW

**ANTON POLL** Head of investor relations

### AUDI E-TRON & PPE DRIVETRAIN STRATEGY

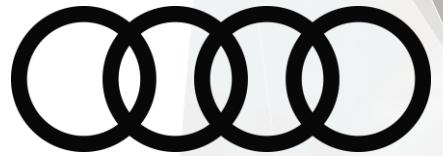
**DR.-ING. JOACHIM DOERR** Head of electric motor design & electric axle drive design

### SUSTAINABILITY IN AUDI'S SUPPLY CHAIN

**MARCO PHILIPPI** Head of strategy procurement

# DRIVING EXPERIENCE

AUDI SQ8 TDI | AUDI Q5 TFSI e | AUDI e-tron



# LATEST FINANCIALS & STRATEGIC OVERVIEW

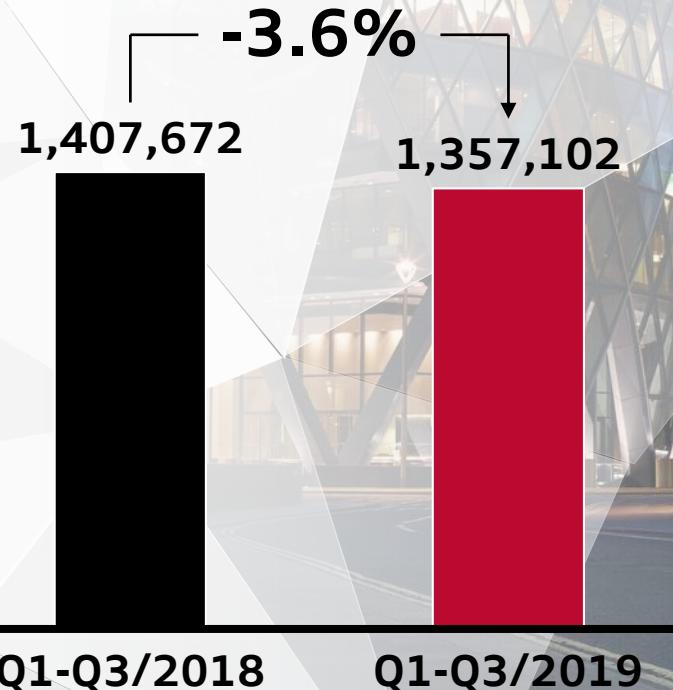
Anton Poll, Head of Investor Relations

November 19<sup>th</sup>, 2019

# SOLID DELIVERIES IN DIFFICULT MARKET ENVIRONMENT

## DELIVERIES

Audi brand, worldwide, in units



EUROPE  
-3.4%

CHINA  
+1.7%

USA  
-5.3%

# ROBUST FINANCIAL PERFORMANCE IN TURBULENT TIMES

## REVENUE

in m euros

-6.6%

44,257

+3.3%  
w/o one-time  
effect<sup>1)</sup>

41,332

Q1-Q3/2018

Q1-Q3/2019

## OPERATING PROFIT

in m euros, in percent

-11.8%

-0.5 ppt.  
w/o one-time  
effect<sup>2)</sup>

2,871

6.5%

+12.8%

3,239

7.8%

Q1-Q3/2018

Q1-Q3/2019

1) deconsolidation of multibrand national sales companies

2) 0.8 bn euros fine issued by German prosecutors' investigation in Q3 2018 over "deviations from regulatory requirements" in diesel engines

## STRONG CASH CONVERSION

NET CASH FLOW

small impact from  
one time effect<sup>1)</sup>

**3.3 bn euros**

(Q1-Q3/2018: 3.1 bn euros<sup>2)</sup>)

NET LIQUIDITY

**22.1 bn euros**

(30.09. 2018: 21.4 bn euros<sup>2)</sup>)

1) deconsolidation of multibrand national sales companies; 2) prior year figure with positive impact from inflows from changes in participations

Audi A8 Fuel consumption combined\*: 8.3-5.7 l/100km CO<sub>2</sub>-emissions combined\*: 190-151 g/km

# SMALL ADJUSTMENT TO THE FULL YEAR GUIDANCE

2018:  
1,812,485

**DELIVERIES**

before:  
moderate increase

**slight increase**

2018:  
53,617<sup>1)</sup>

**REVENUE**

**slight increase**

2018:  
6.6%<sup>1)</sup>

**OPERATING**

**RETURN ON SALES**

**7.0 % to 8.5 %**

2018:  
2,080<sup>1)</sup>

**NET CASH FLOW**

**2.5 to 3.0 bn euros**

1) adjusted for deconsolidation of multibrand national sales companies

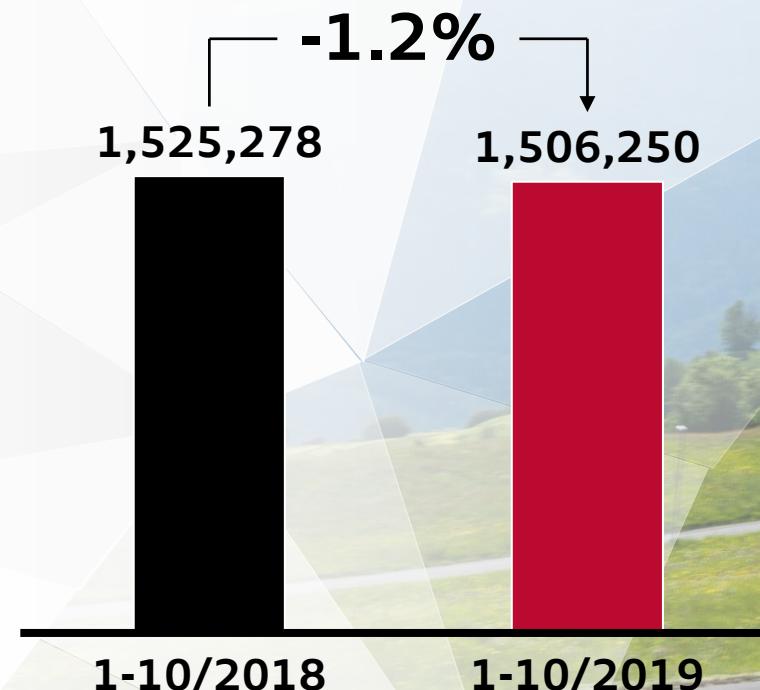
Audi e-tron Power consumption combined\*: 24.6-23.7 kWh/100km (NEFZ); CO<sub>2</sub>-emissions combined\*: 0 g/km

OCTOBER DELIVERIES UP 27%

WE ARE ON TRACK TO FULFILL THE GUIDANCE

## DELIVERIES

Audi brand, worldwide, in units



EUROPE  
+0.2%

CHINA  
+2.1%

USA  
-3.2%

**OUR VISION**

**Unleash the beauty  
of sustainable  
mobility**



**BRAND POSITIONING**

**MOST PROGRESSIVE PREMIUM BRAND**

**customer experience**

exciting customer-relevant

**innovations**

breathtaking

**design**



## OUR VISION

| **CO<sub>2</sub>-neutral mobility** with strongest range of **electric models** amongst the premium competitors

| increasing **expectations** for plug-in hybrids and electric cars to **40%** of unit sales

| reducing **CO<sub>2</sub> footprint** of Audi fleet over its entire lifecycle **by 2025**

| in the long-term perspective, **to manage without CO<sub>2</sub> emissions** throughout the company



# Consistently Audi

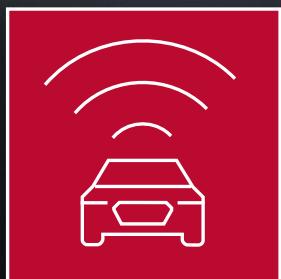
## What:



consistently  
**customer**



consistently  
**electric**

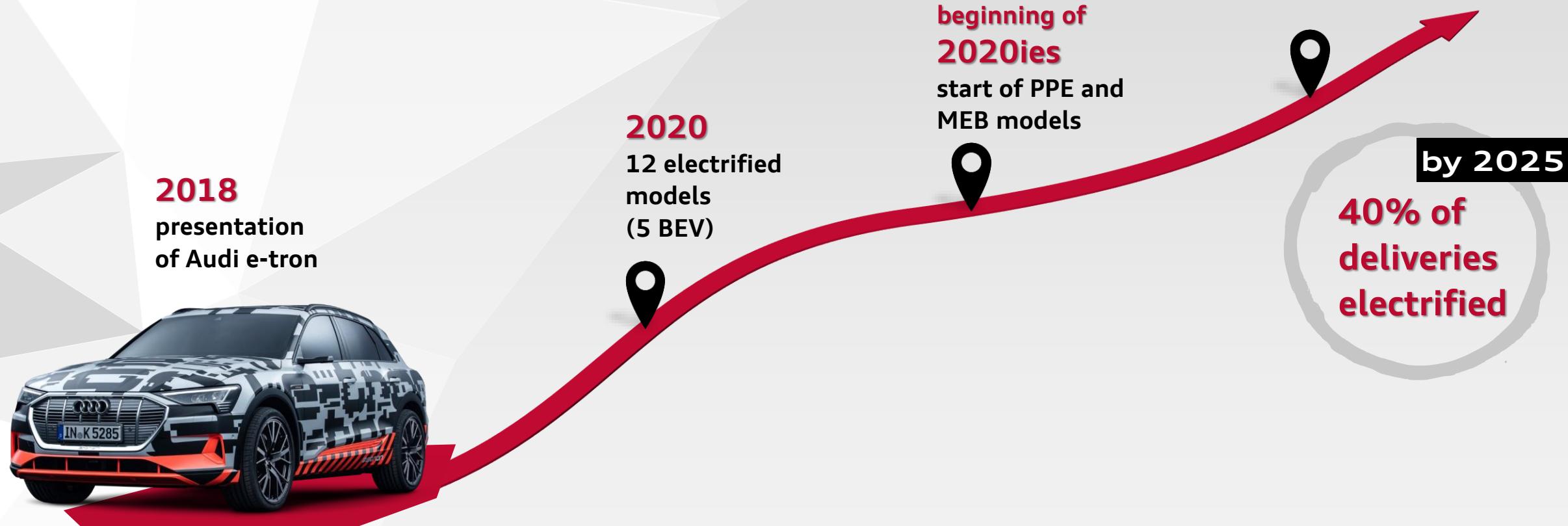


consistently  
**connected**



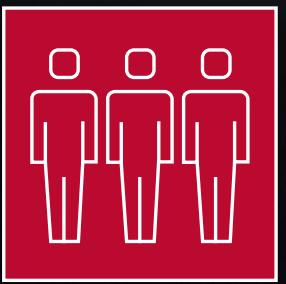
consistently  
**sustainable**

# ELECTRIFICATION IS IN THE CORE OF THE AUDI STRATEGY

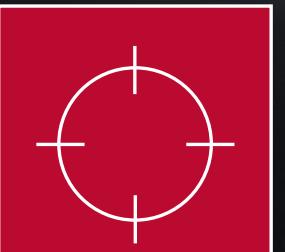


# Consistently Audi

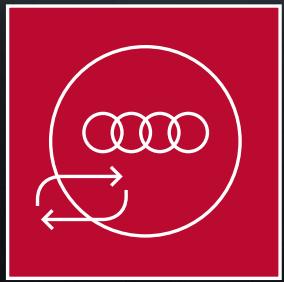
## How:



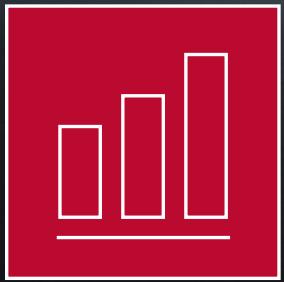
consistently  
**team**



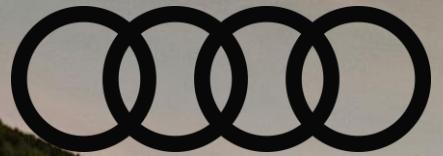
consistently  
**focused**



consistently  
**synergetic**



consistently  
**profitable**



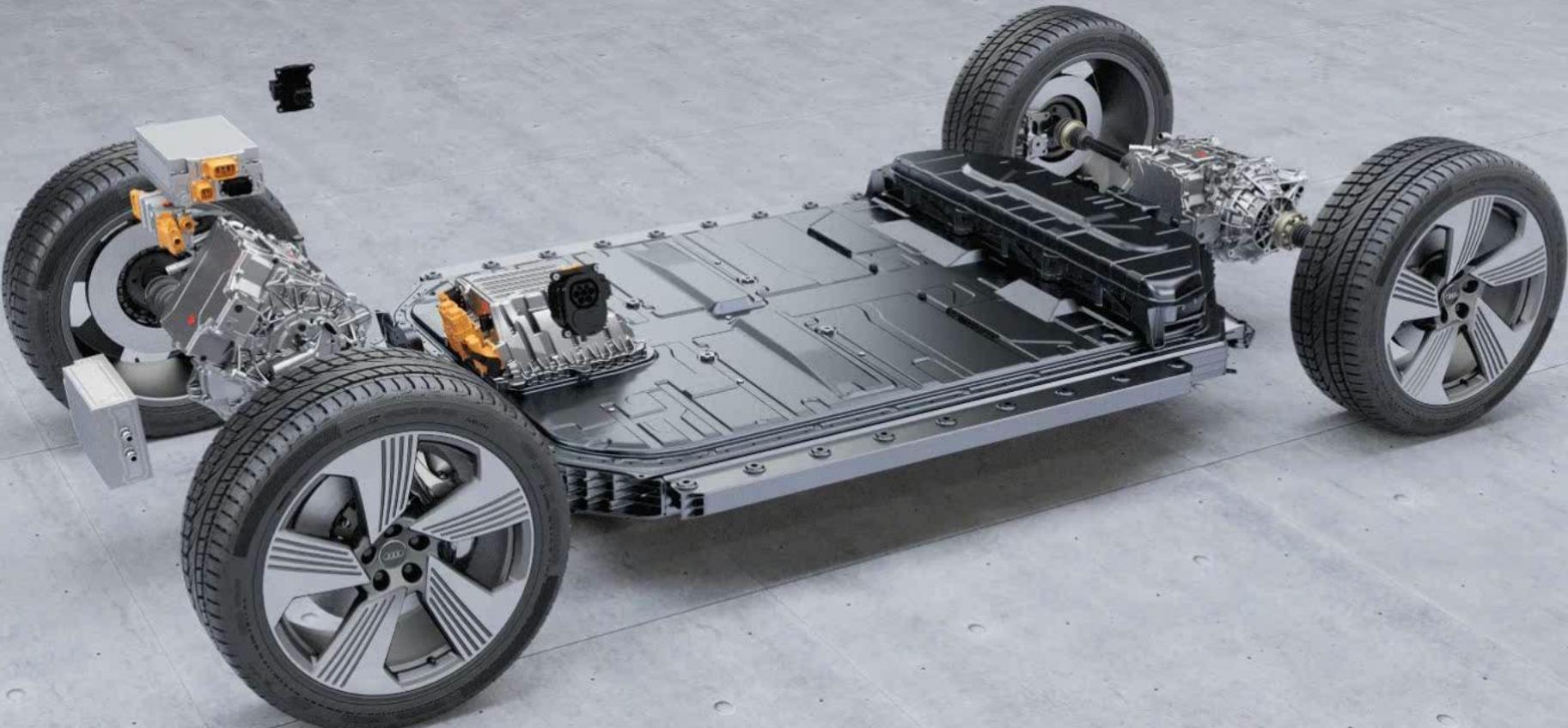
# AUDI E-TRON ELECTRIC DRIVETRAIN & PPE DRIVETRAIN STRATEGY

Dr.-Ing. Joachim Doerr, Head of electric motor design & electric axle drive design

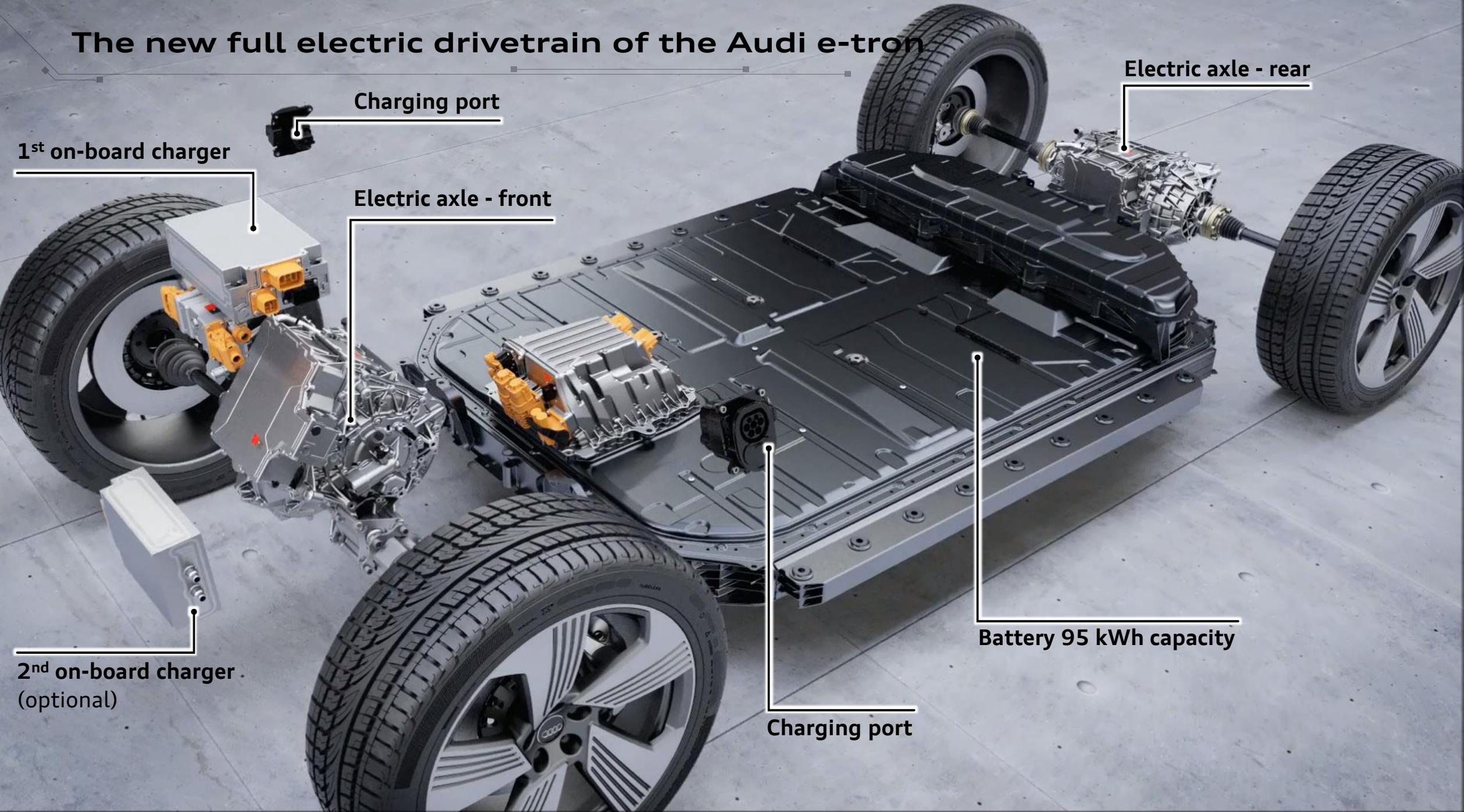
November 19<sup>th</sup>, 2019



## The new full electric drivetrain of the Audi e-tron



# The new full electric drivetrain of the Audi e-tron

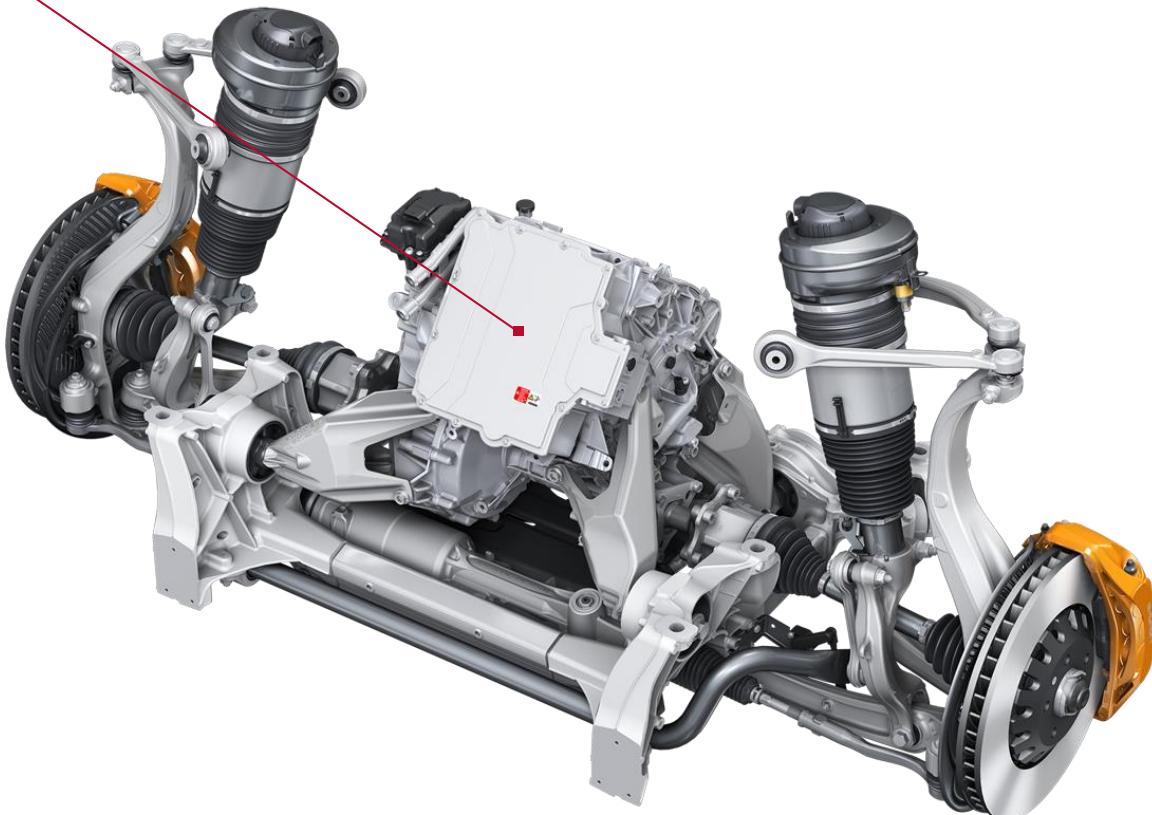


**Two E-axles have a combined power of 265 kW (300kW in boost mode)**

**front electric motor**

axial parallel, approx. 250Nm (APA250)

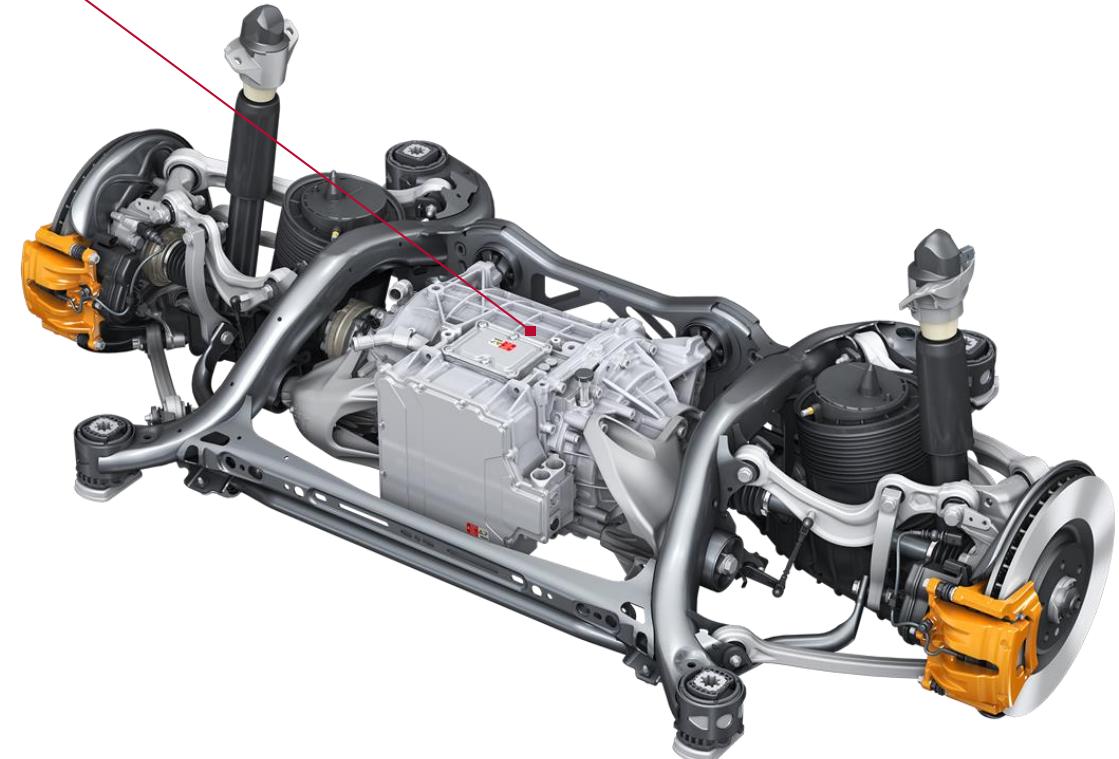
**Power: 125 kW [+10 kW boost mode]**



**rear electric motor**

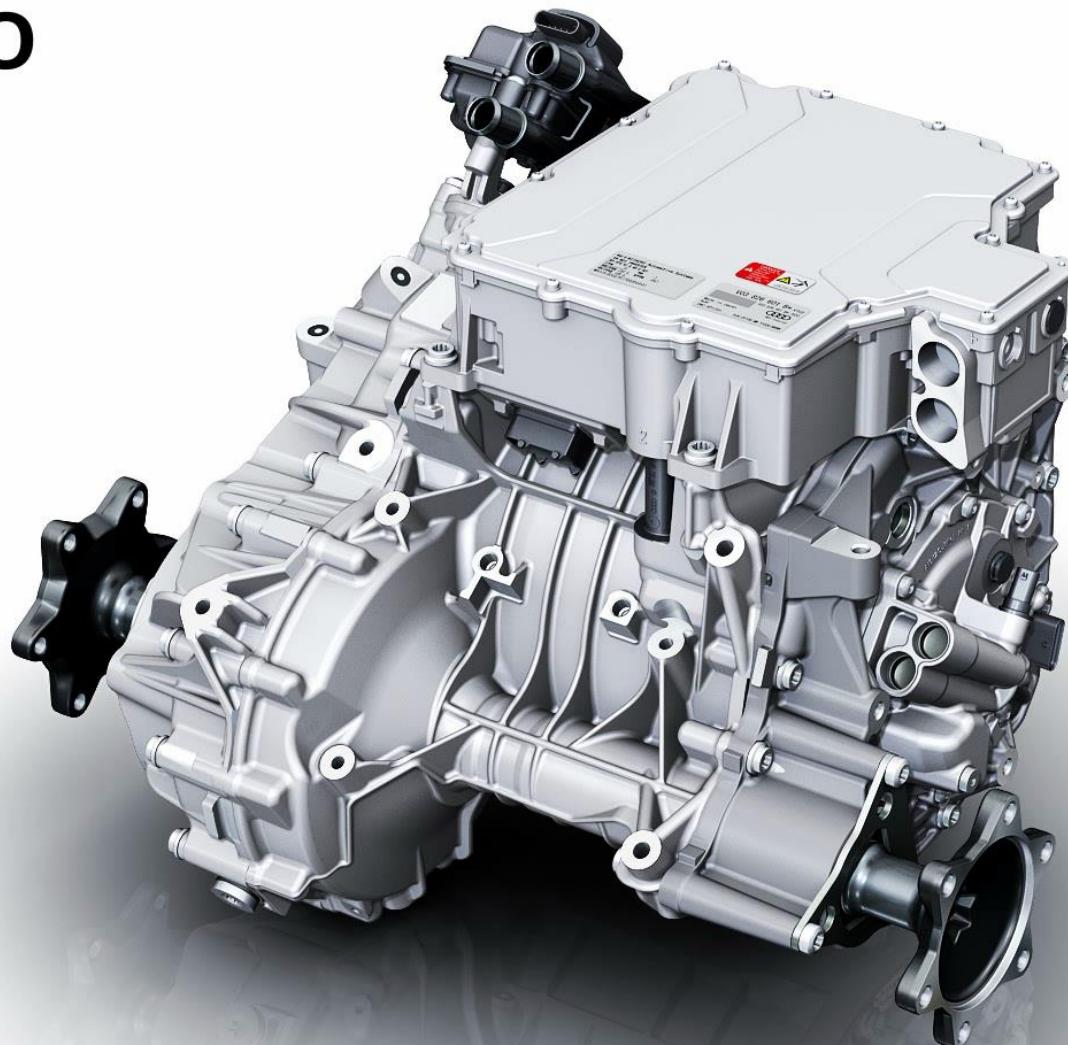
coaxial, approx. 320 Nm (AKA320)

**Power: 140 kW [+25 kW boost mode]**



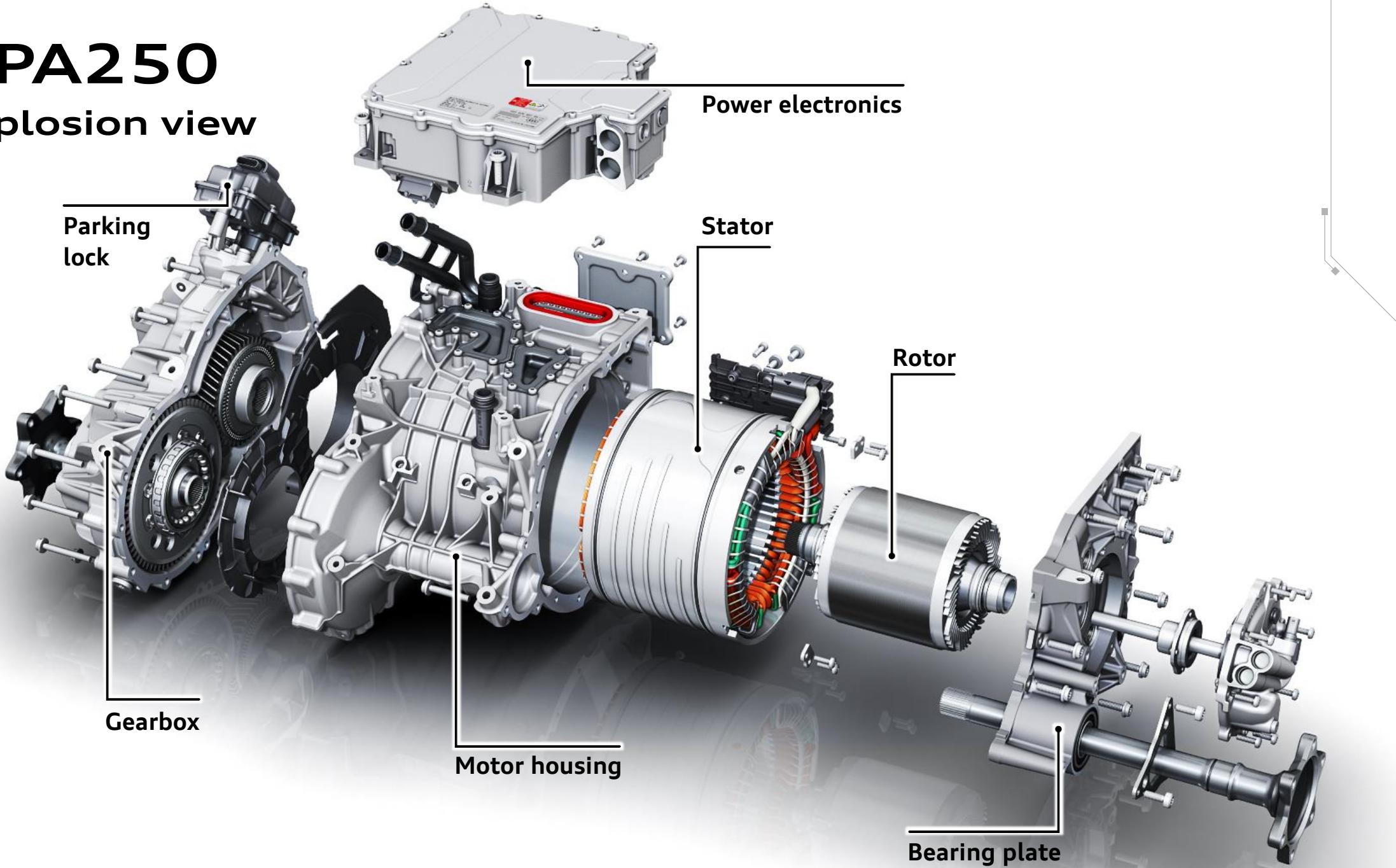
Front and rear E-axles largely use the same components...

## APA250

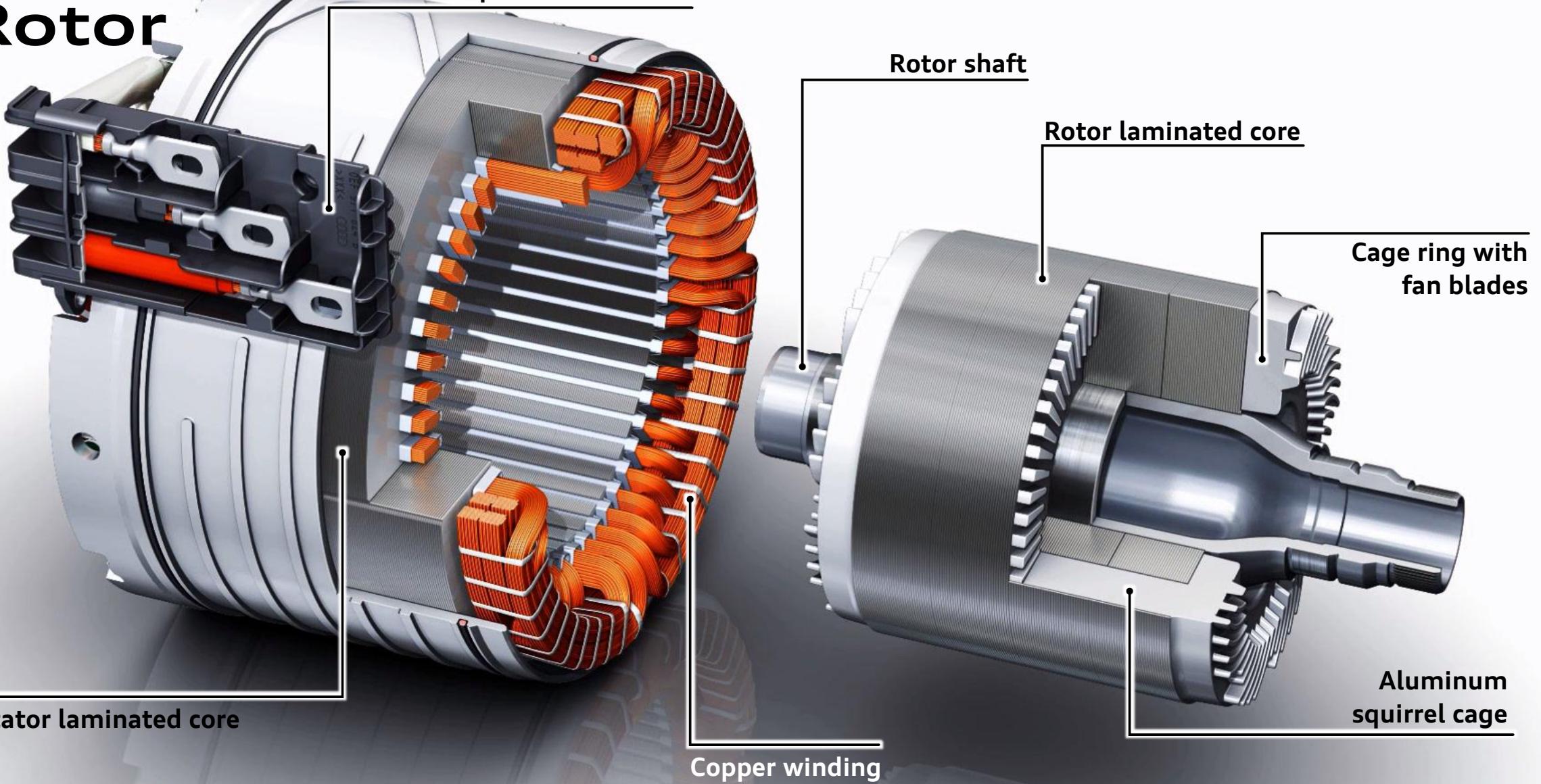


# APA250

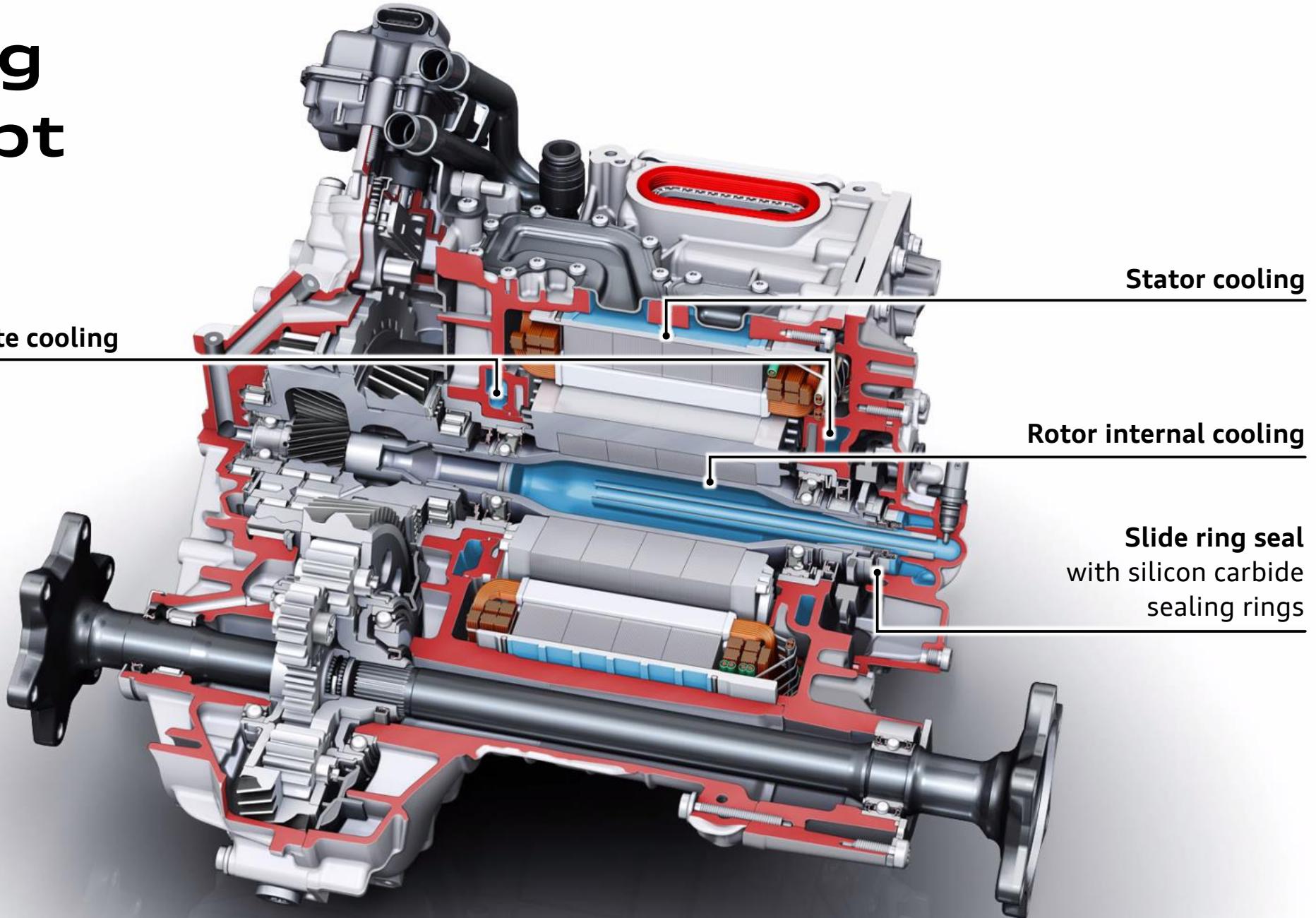
## Explosion view



# Stator & Rotor

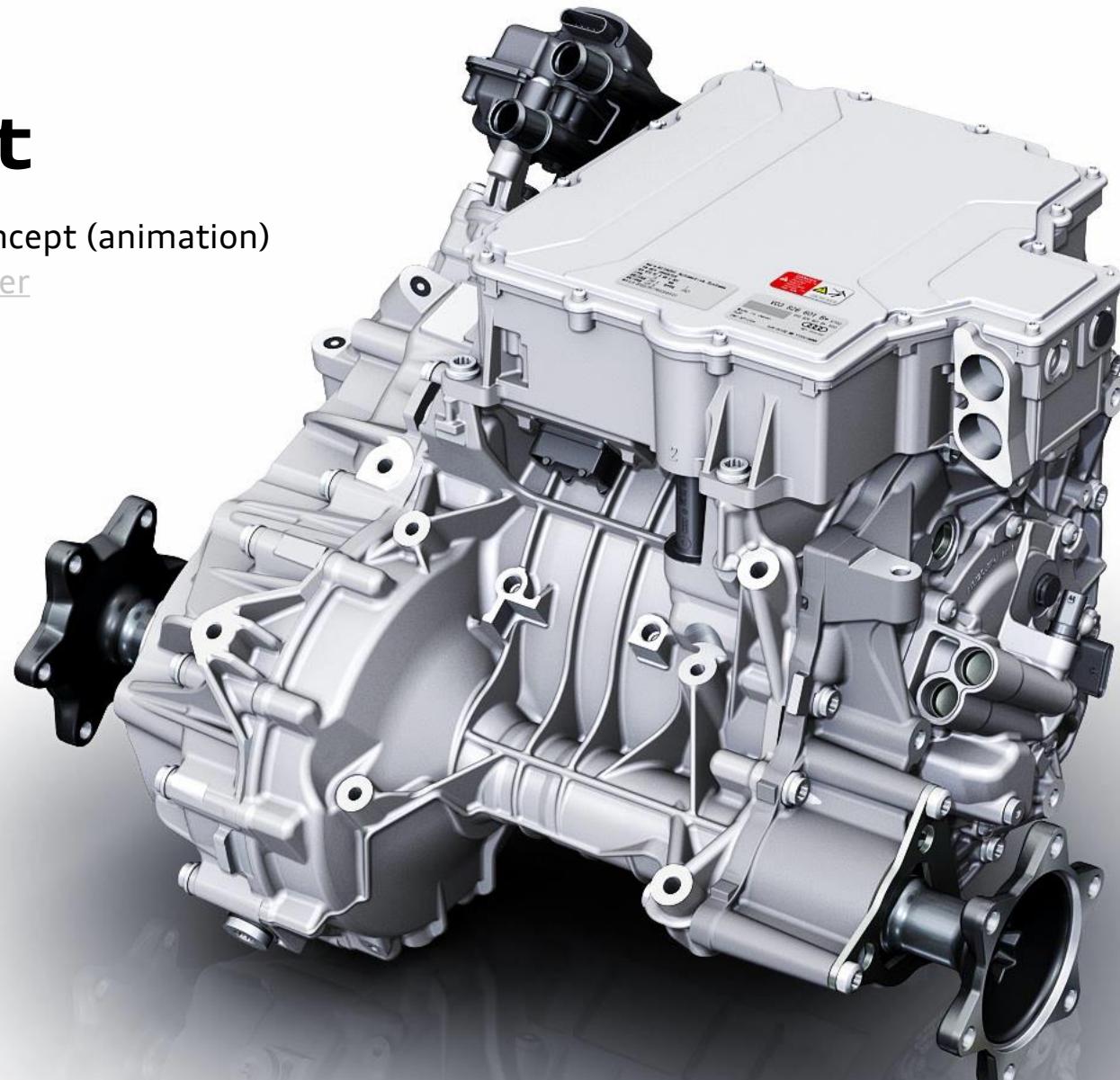


# Cooling Concept

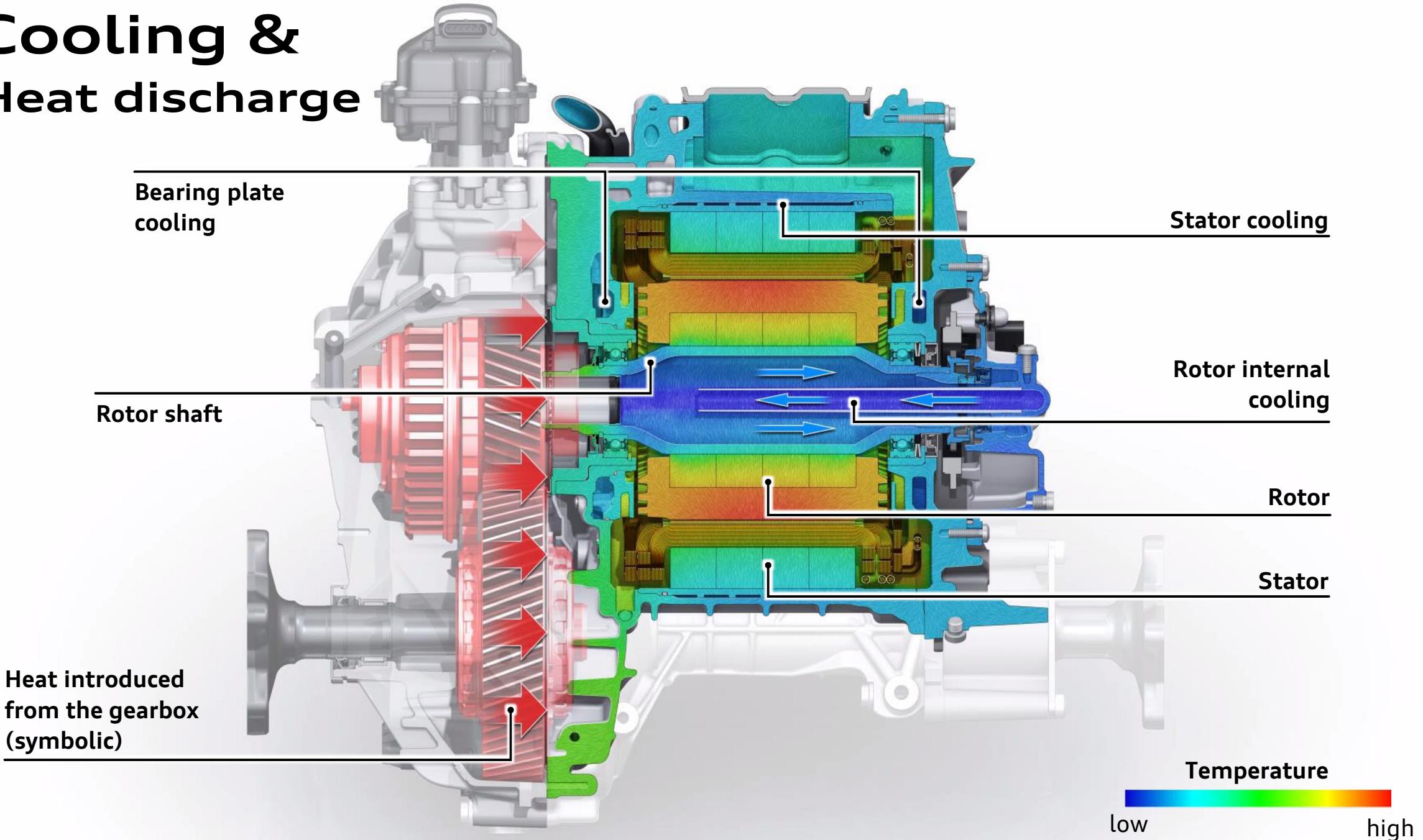


# Cooling Concept

Audi e-tron cooling concept (animation)  
in the [Audi MediaCenter](#)



# Cooling & Heat discharge



# Driving Performance

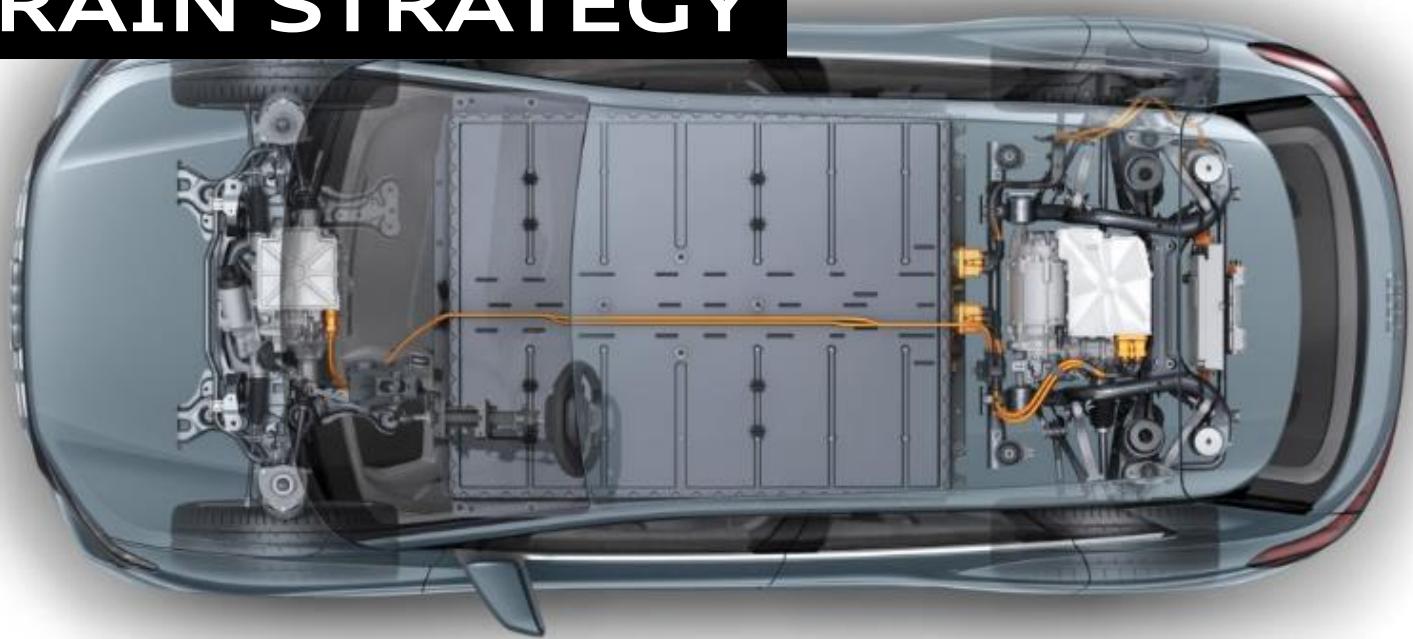
## Boost Mode

- power output: **300 kW**
- torque: **664 Nm**
- 0-100 km/h: **5.7 s**
- 0-60 mph: **5.5 s**

- power output: **265 kW**
- torque: **561 Nm**
- 0-100 km/h: **6.6 s**
- 0-60 mph: **6.4 s**
- V<sub>max</sub>: **200 kph**



# OUTLOOK: PPE DRIVETRAIN STRATEGY



Upcoming Audi models are based on VW Group platforms

**MEB** 2021  
Modular Electrification Toolkit  
Audi Q4 e-tron concept

**J1** 2020  
Performance Platform  
Audi e-tron GT concept

2018  
**MLB evo**  
Audi e-tron

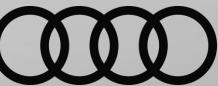
2022  
**PPE**  
Premium Platform Electric



# Audi and Porsche develop Premium Platform electric (PPE)

**MEB**   
Modular Electrification Toolkit

**J1**   
Performance Platform

  **PPE**  
Premium Platform Electric



 **MLB evo**

Audi BEV Platforms (animation) in [Audi MediaCenter](#)

## To sum it up...



- › **Electric drivetrain is a strategically important component** to maintain technological leadership in the electric age
- › **Audi leads the way in E-axle development** for the Premium Platform Electric (PPE) and is **Center of Competence** for E-axle in the Volkswagen Group
- › **In-house development** allows Audi to build up **know-how** to achieve **superior efficiency** and **performance** and **minimize procurement risks**
- › **Design-to-cost and design-to-manufacture** enable Audi to benefit from **economies of scale and reduced complexity** in development, procurement and production

A black and white photograph showing the interior of an Audi factory. In the foreground, several large industrial robots with yellow and grey bodies are working on the assembly line. They are positioned around a car chassis, which is being built from various metal components. The background shows more of the factory's complex machinery and structural framework.

# Implementing the four rings of sustainability in Audi's supply chain

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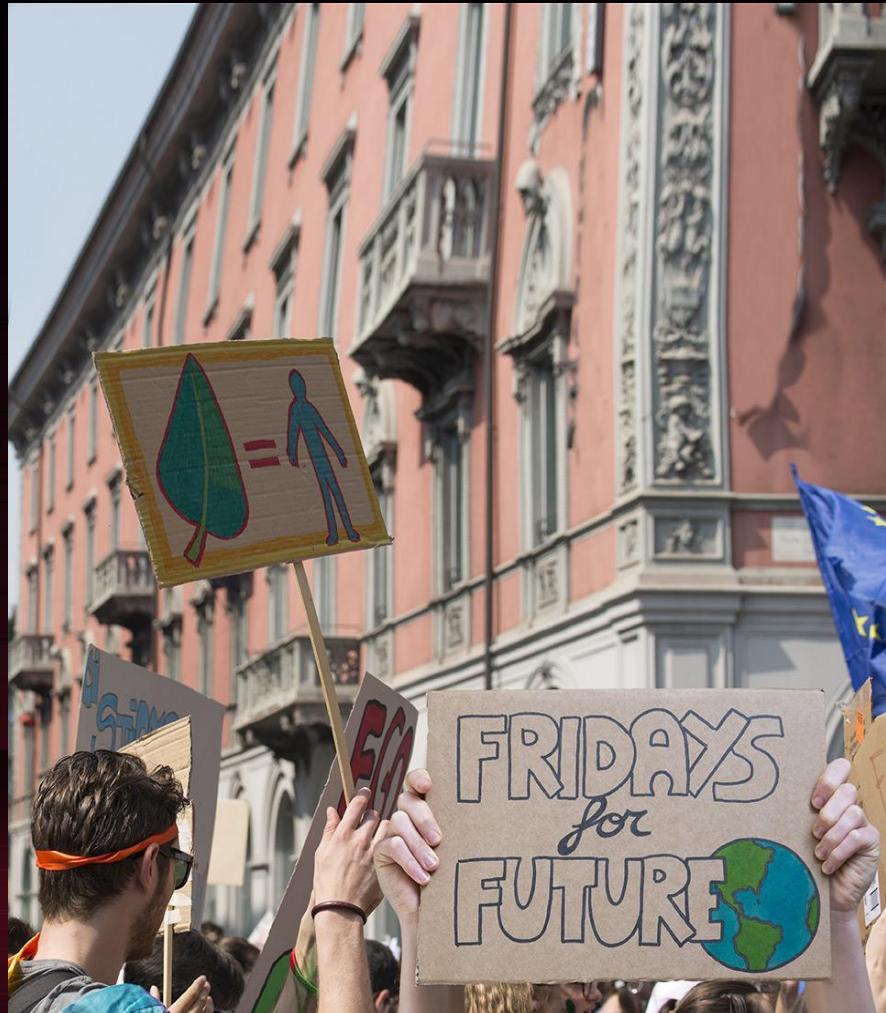
**INVESTOR meeting**

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November 19, 2019

Marco Philippi, Head of Strategy Procurement AUDI AG

# Global call for sustainability

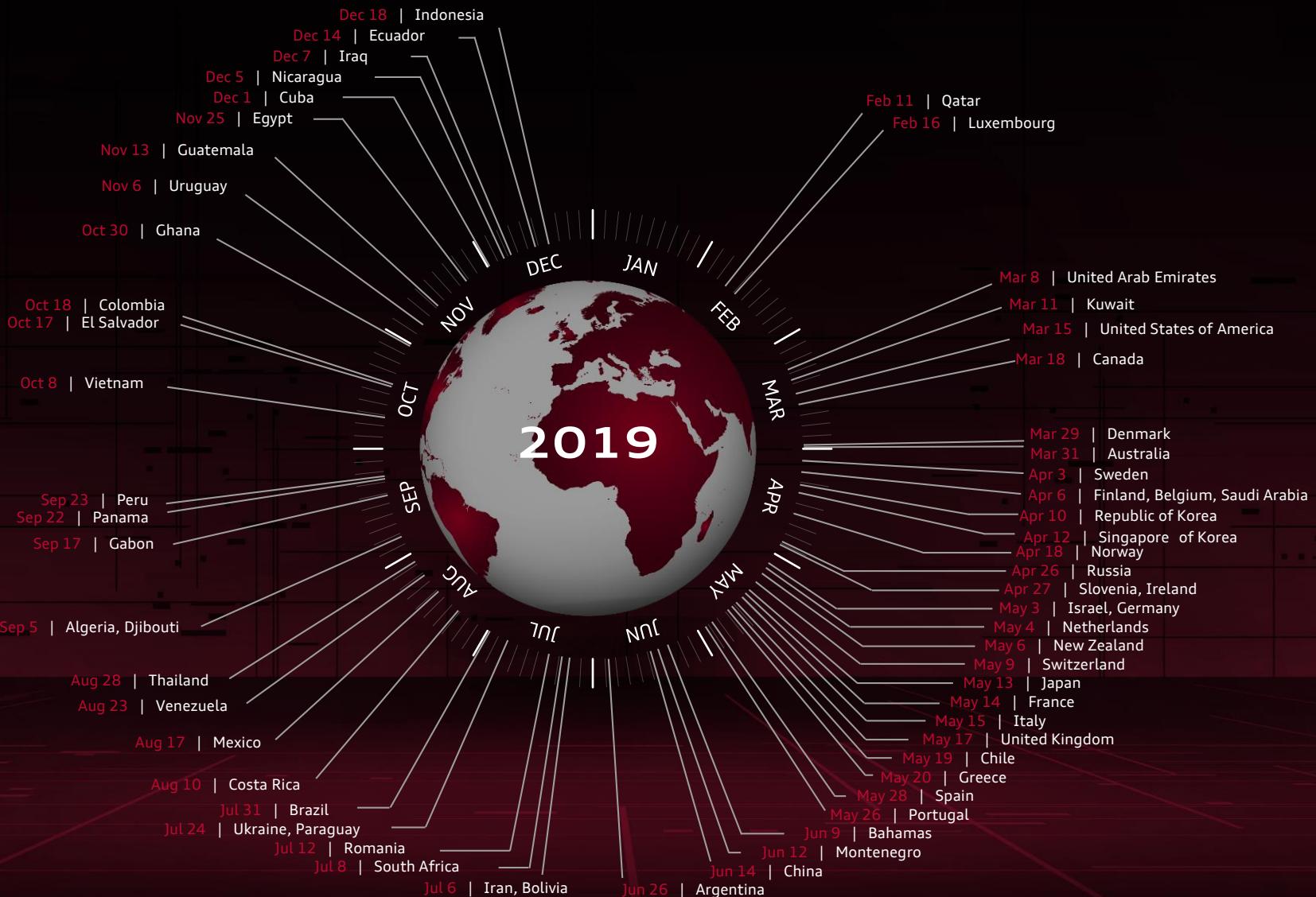


We are using the resources of 1.7 earths



*There is no  
Planet B*

# Country Overshoot Days 2019



# The four rings of sustainability



**Reduce**



**Re-use**



**Recycle**



**Rethink**

# The four rings of sustainability



**Reduce**



**Re-use**



**Recycle**

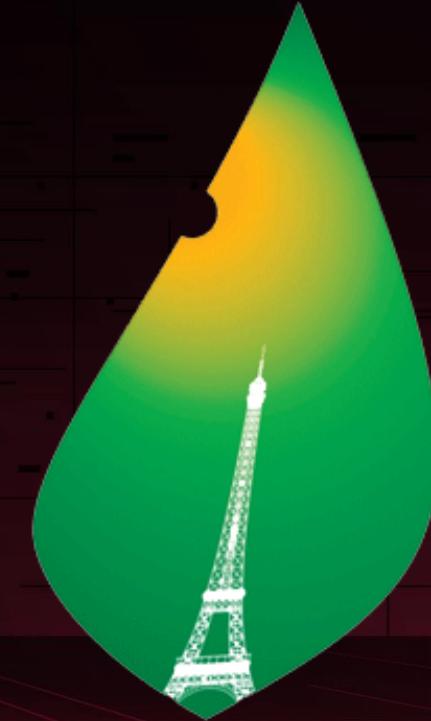


**Rethink**

# Commitment to the Paris Climate Agreement



COP21 · CMP11  
**PARIS 2015**  
UN CLIMATE CHANGE CONFERENCE



# Decarbonization of the value chain

On the way  
to CO<sub>2</sub>-neutral mobility



# Carbon neutrality

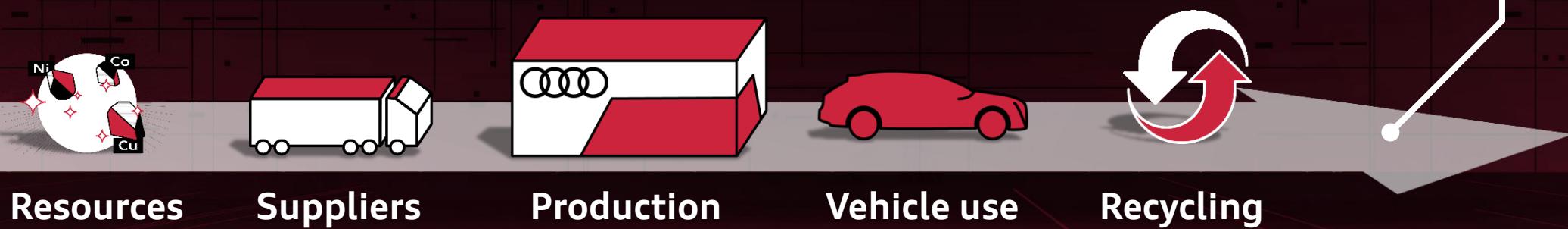


By 2050

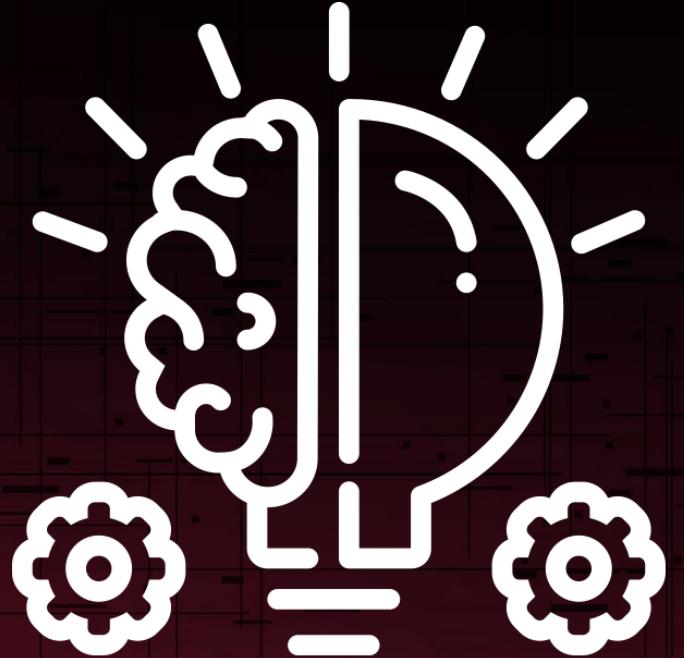
we aim to achieve  
corporate-wide  
**carbon neutrality**  
on balance

# CO<sub>2</sub> emissions

By 2025  
we aim to reduce CO<sub>2</sub> emissions  
by ~30%



# Decarbonization of the supply chain



## Workshops with suppliers



Closing of  
ressource cycles



Use of  
renewable  
energies



Increased  
proportion of  
recycled materials

**30** CO<sub>2</sub> workshops

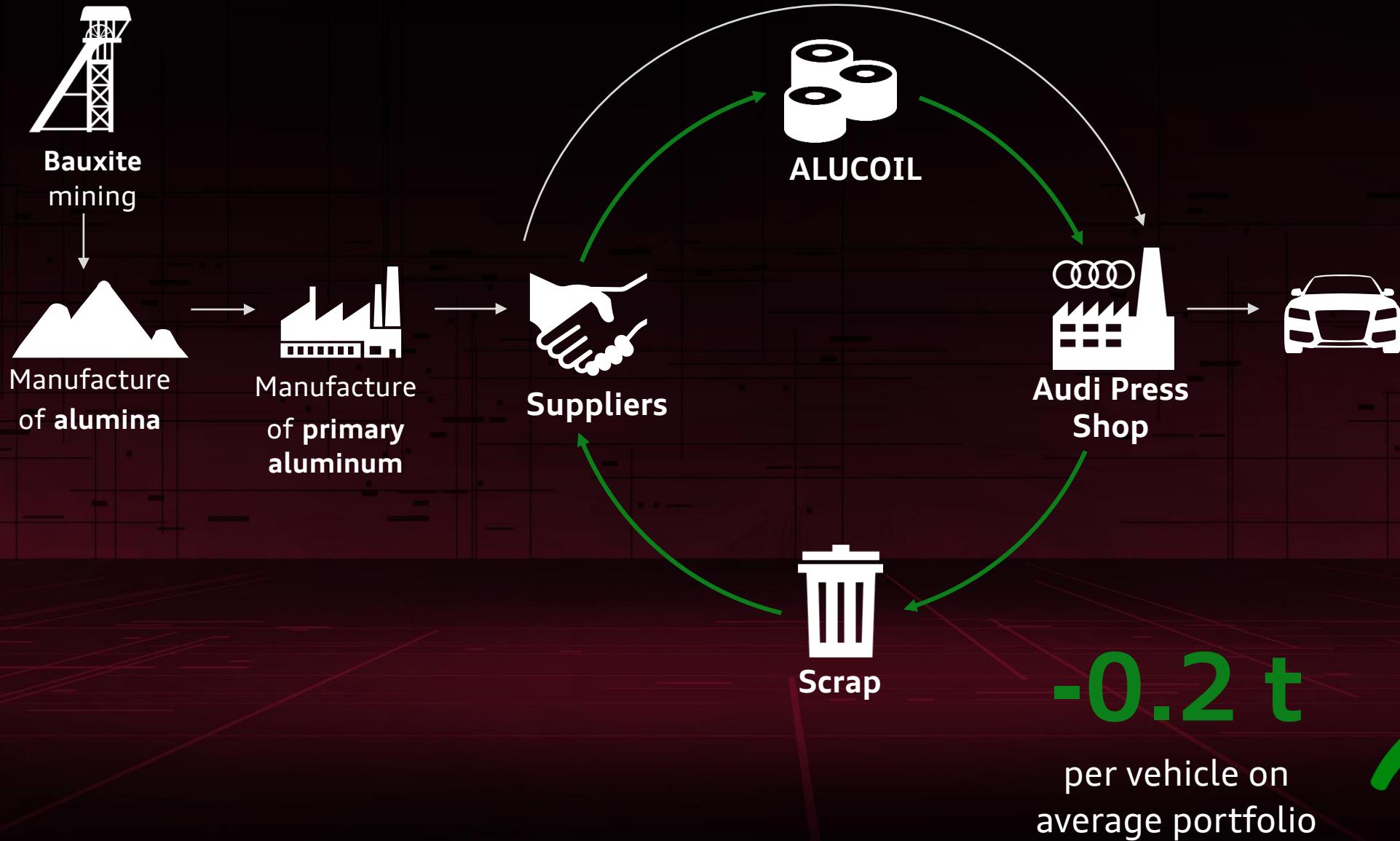
**50** measures to reduce CO<sub>2</sub>

**-1.2 t**

per vehicle



# Aluminum closed loop



# Renewable energy in cell production



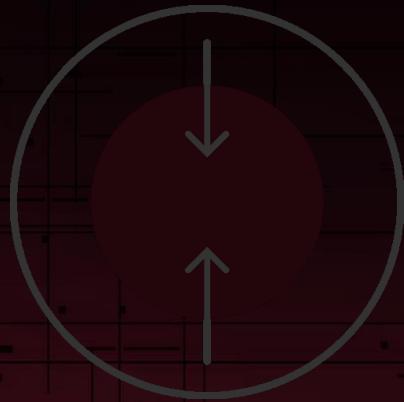
-0.5 t

per vehicle on  
average portfolio\*



\* -2t per Audi e-tron

# The four rings of sustainability



Reduce



Re-use



Recycle



Rethink

# Sustainability – a mandatory nomination criterion



Competitiveness



TE Rating



Quality  
Rating



Logistics  
Rating



Sustainability  
Rating



Environment



Social



Compliance

# Current status S-Rating

More than...

> 12,000 SAQ's completed

> 2,000 on-site checks done

> 670 suppliers locally trained



Sustainability  
Rating



Environment



Social



Compliance

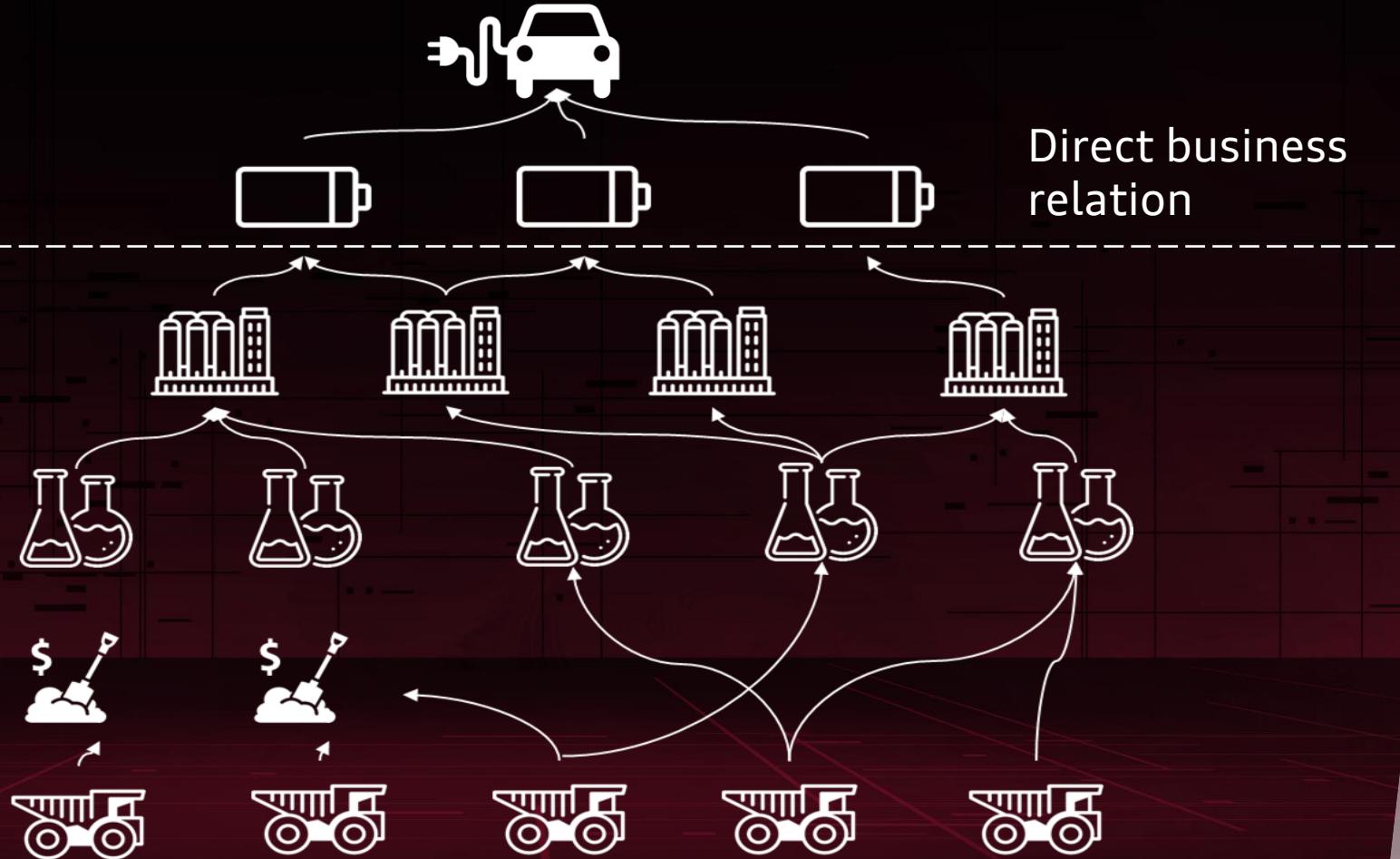
# Our responsibility goes much further than tier 1

Transparency

Supplier  
Direct components  
(Sub-) components  
Trader  
Raw material

Direct business relation

Risk exposure



# TOP 16 critical raw materials are identified



Conflict minerals

tin

tantalum

tungsten

gold

E-raw materials

cobalt

graphite

lithium

rare earths

Other materials

leather

alumi-num

copper

rubber

nickel

steel

platinum

mica

Material analysis component

Supply chain mapping

Audit hotspots

Certification

On-site projects

Commitment to initiatives



## New Technological approaches regarding transparency

### Process efficiency

- › Intelligent contracts and autonomous payment flows
- › Paperless processes

### Reliability of supply

- › Continual comparison of demand & capacity in entire SC network
- › Transparency of the entire down to tier-N sub-suppliers

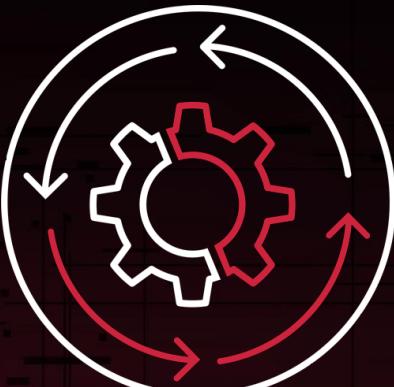
### Sustainability

- › Complete documentation of the Supply Chain
- › Detect and avoid high-risk material / sources

# The four rings of sustainability...



**Reduce**



**Re-use**



**Recycle**



**Rethink**

...within just one topic



# To sum it up...



We have set the foundation for Audi's vision for 2050: **to be entirely CO<sub>2</sub>-neutral**



**We take our responsibility seriously – beyond the Tier 1 level:**  
Focus on critical parts & materials, e.g. HV-Battery



**We have implemented control mechanisms** that ensure us to manage our supply chains – even though they are global, diverse & volatile



**Supply chain transparency** and traceability is essential for a resilient supply chain and our reputation



**We partner with suppliers and service providers** to identify supply chain actors and **pilot new technologies** for more transparency



\* Die angegebenen Verbrauchs- und Emissionswerte wurden nach den gesetzlich vorgeschriebenen Messverfahren ermittelt. Seit dem 1. September 2017 werden bestimmte Neuwagen bereits nach dem weltweit harmonisierten Prüfverfahren für Personenwagen und leichte Nutzfahrzeuge (Worldwide Harmonized Light Vehicles Test Procedure, WLTP), einem realistischeren Prüfverfahren zur Messung des Kraftstoffverbrauchs und der CO2-Emissionen, typgenehmigt. Ab dem 1. September 2018 wird der WLTP schrittweise den neuen europäischen Fahrzyklus (NEFZ) ersetzen. Wegen der realistischeren Prüfbedingungen sind die nach dem WLTP gemessenen Kraftstoffverbrauchs- und CO2-Emissionswerte in vielen Fällen höher als die nach dem NEFZ gemessenen. Dadurch können sich ab 1. September 2018 bei der Fahrzeugbesteuerung entsprechende Änderungen ergeben. Weitere Informationen zu den Unterschieden zwischen WLTP und NEFZ finden Sie unter [www.audi.de/wltp](http://www.audi.de/wltp).

Aktuell sind noch die NEFZ-Werte verpflichtend zu kommunizieren. Soweit es sich um Neuwagen handelt, die nach WLTP typgenehmigt sind, werden die NEFZ-Werte von den WLTP-Werten abgeleitet. Die zusätzliche Angabe der WLTP-Werte kann bis zu deren verpflichtender Verwendung freiwillig erfolgen. Soweit die NEFZ-Werte als Spannen angegeben werden, beziehen sie sich nicht auf ein einzelnes, individuelles Fahrzeug und sind nicht Bestandteil des Angebotes. Sie dienen allein Vergleichszwecken zwischen den verschiedenen Fahrzeugtypen. Zusatzausstattungen und Zubehör (Anbauteile, Reifenformat usw.) können relevante Fahrzeugparameter, wie z. B. Gewicht, Rollwiderstand und Aerodynamik verändern und neben Witterungs- und Verkehrsbedingungen sowie dem individuellen Fahrverhalten den Kraftstoffverbrauch, den Stromverbrauch, die CO2-Emissionen und die Fahrleistungswerte eines Fahrzeugs beeinflussen.

Weitere Informationen zum offiziellen Kraftstoffverbrauch und den offiziellen spezifischen CO2-Emissionen neuer Personenkraftwagen können dem „Leitfaden über den Kraftstoffverbrauch, die CO2-Emissionen und den Stromverbrauch neuer Personenkraftwagen“ entnommen werden, der an allen Verkaufsstellen und bei der DAT Deutsche Automobil Treuhand GmbH, Hellmuth-Hirth-Str. 1, D-73760 Ostfildern oder unter [www.dat.de](http://www.dat.de) unentgeltlich erhältlich ist.