

Virtual Conference, Feb. 24th 2021

# **DIE ZUKUNFT DER ALTERNATIVEN ANTRIEBE IM NUTZFAHRZEUG**

## **THE FUTURE OF ALTERNATIVE DRIVETRAINS IN CV**

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- Important use cases
- What about other studies on alternative drivetrains?
- Key factors influencing the relative viability of drivetrains
- What does TRATON see as future drivetrain or fuel in long-haul?

# COMPARISON OF USE CASES PASS CAR / CV B2B

**Commercial Vehicle**

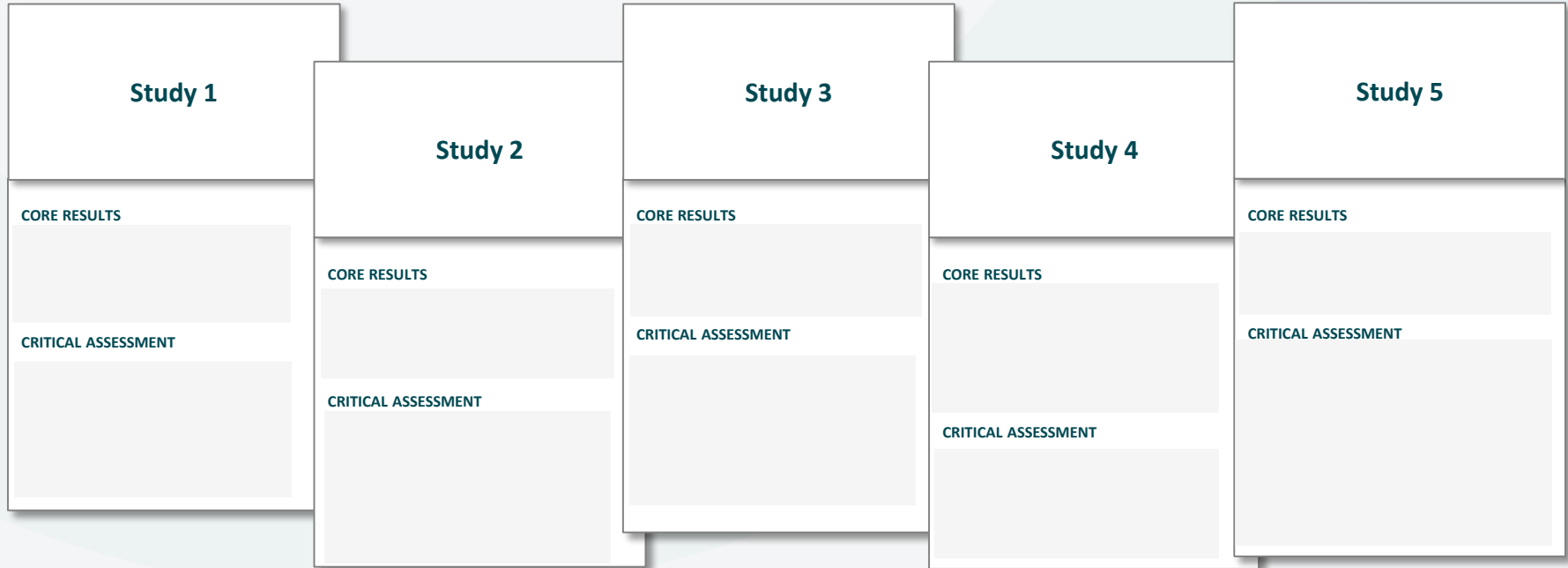


**Pass car**



Urban / Regional / Long Haul	Long Haul	Urban / City / Regional	Long Haul / Intercity
Depot (Logistic oder Bus) Supermarket (Laderampe)	Highway / Autohof	Employee- / Company cars- Parking Area / Fleets	Highway / Autohof
<u>Overnight-Charging</u> CCS 50-150 kW but as well interim charging CCS 150-350 kW MCS >500 kW	<u>Overnight-Charging</u> CCS 50-150 kW <u>Interim Charging</u> (45 min Break) CCS 150-350 kW MCS >500 kW	<u>Overnight-Charging</u> AC 11-22 kW but as well interim charging CCS 50-150 kW	<u>Interim Charging</u> CCS 150-350 kW

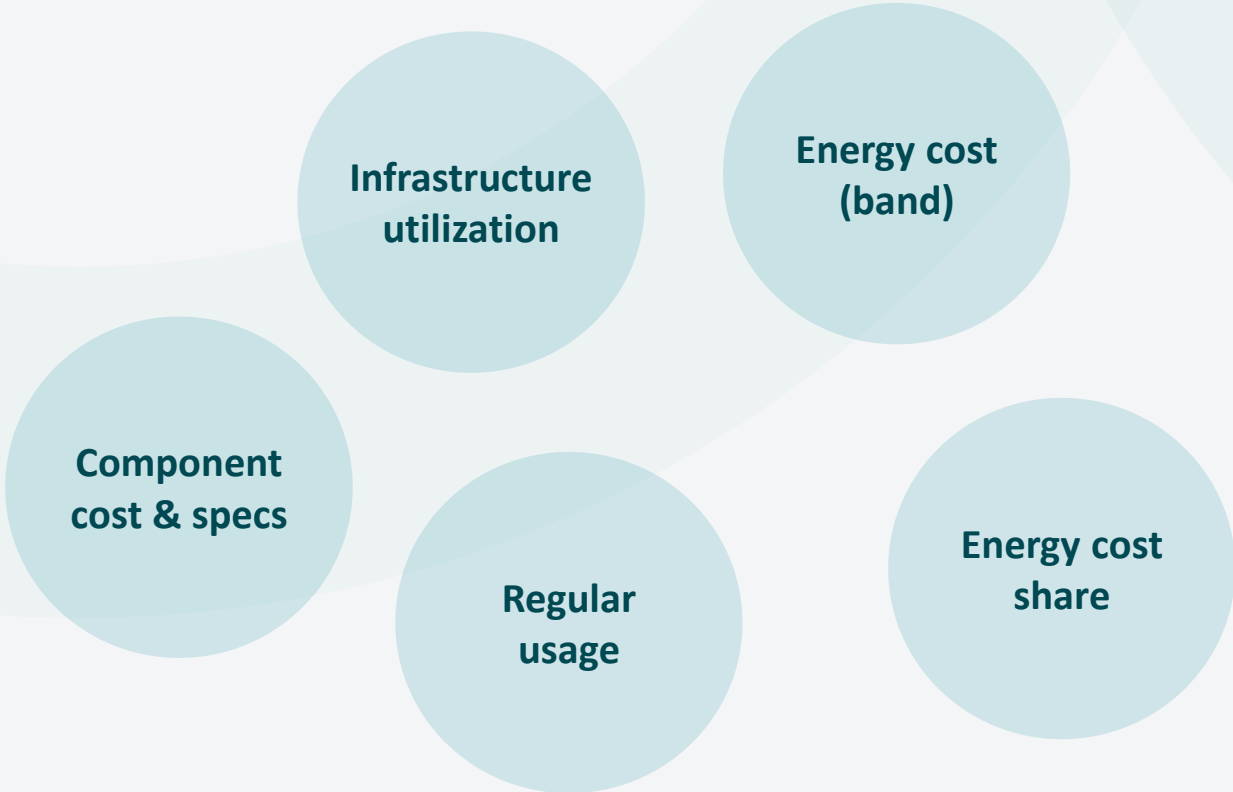
# AN ASSESSMENT OF ZERO EMISSION HEAVY DUTY VEHICLE STUDIES



<b>RECURRING POINTS</b>	<b>No megacharging</b> (very large battery / payload losses)	<b>100% of charging on megachargers</b> (if megacharging is included)	<b>Little infrastructure cost modeling</b> (esp. overestimated charging costs)
	<b>No inclusion of EU 2019/1242</b> (up to 2t additional allowance)	<b>No commercial electricity</b> (household rates)	<b>Battery specs kept constant</b> (esp. life cycles, DoD, cost)

# KEY FACTORS INFLUENCING RELATIVE VIABILITY OF DRIVETRAINS

## THE DIFFERENCE TO PASSENGER CARS



# WHAT DOES TRATON SEE AS FUTURE DRIVETRAIN OR FUEL IN LONG-HAUL?

**FCEV?**

**Diesel?**

**Gas?**

**E-FUELS?**

**BEV?**



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**Extreme example  
Fürholzen West  
(150 pass car - & 110  
truck-parking areas)**

Fürholzen West	2025	2030	100% BEV
Charging need pass car (@350 kW)	20 PKW	60 PKW	150 PKW
Charging need trucks(@700 kW)	<5 LKW	>>>10 LKW	110 LKW

## The classical use case of BEV Long-Haul HDT

**Driving time** 4.5h, twice a day, at ~70 km/h and ~1.2 kWh/km  
→ ~400 kWh usable battery + buffer (~600kWh installed) per 4.5h



**Rest period** ~45min, thereof 40min for charging  
→ ~750 kW charging power (~900 kW peaks)

**ARCHETYPE** Up to 700km per day, with one charging break  
→ requires ~600 kWh installed + MCS charging network

*+ HDT Use Cases with overnight charging or just CCS charging*

## Main Challenges

- **Communication** (esp. smaller fleets)
- Hen & eg: **initial build-out & responsibility**
- **Lead times**, esp. >5MW



Mainstream in different applications:

- City Buses
- Distribution
- Long Haulage
- Regional Haulage
- Coach

- Openness to all types of technology – not useful, rather dep. on segment / market
- Communication that BEV are a suitable solution for Long Haulage
- Joint forces for standardisation of new MCS necessary
- Need for build up of infrastructure!
- Aligned work between pass. cars & CVs needed to avoid infrastructure conflicts