



General Assembly Final Event

Brussels, September 2026

FORD OTOSAN

NextEtruck: Türkiye Pilot Use Case

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Co-funded by
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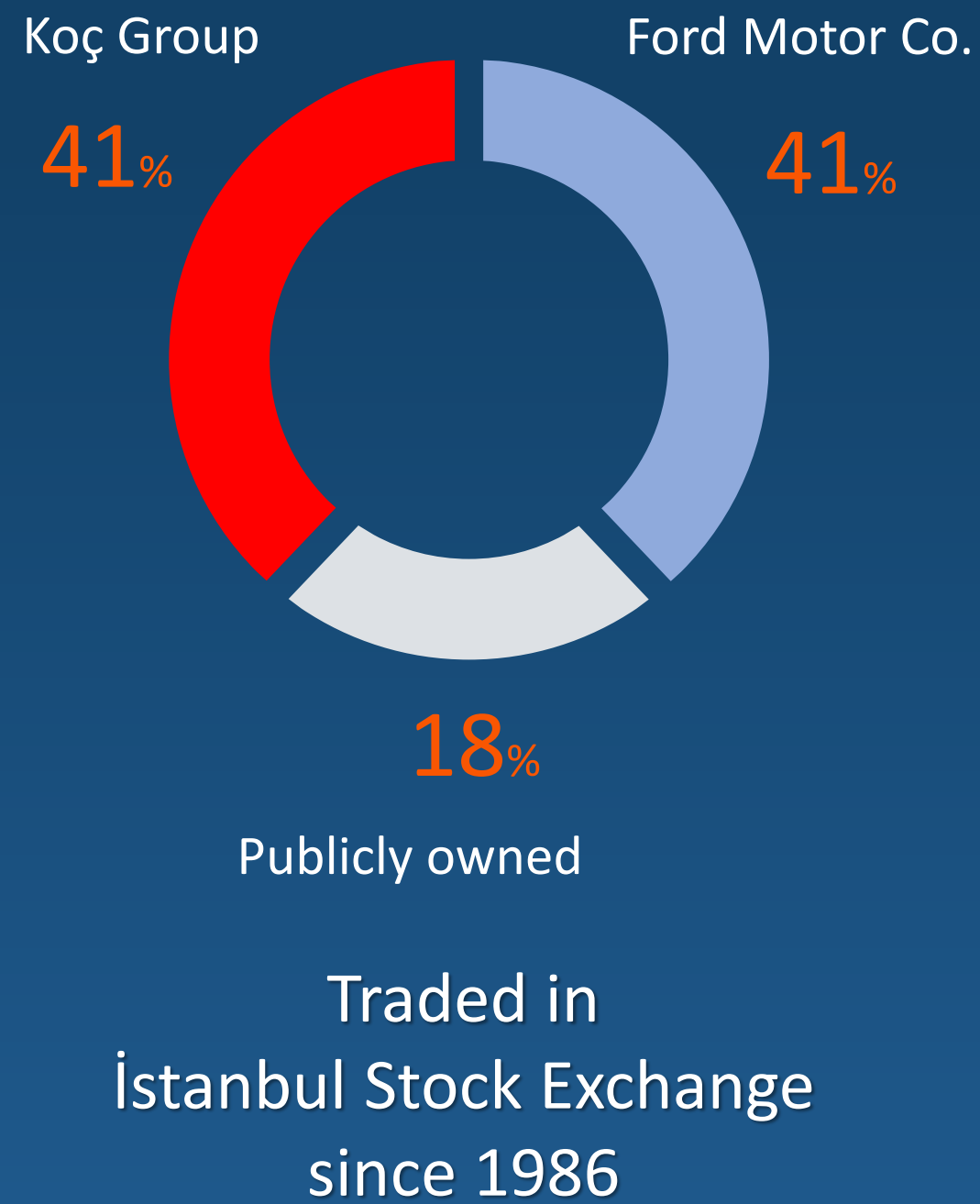
Next
ETRUCK



FORD OTOSAN

OVERVIEW

SHAREHOLDER STRUCTURE



PRODUCTION CAPACITY



FORD OTOSAN BY NUMBERS



PRODUCT LINE

CV



HCV



PV



PLANTS

Yeniköy

Home of 1 Tonne Transit



Ford Transit Custom
Will produce 1 tonne Transit and VW as
part of global Ford-VW alliance

 +6.900*
Employees

Gölcük

Home of 2 Tonne Transit



Medium Duty Commercial Vehicle PVT;
Powertrain and Vehicle Testing
Facilities, Aftertreatment Laboratory

 +6.300 *
Employees

Eskişehir

First and Only Automotive
Proving Ground in Turkey



Powertrain Testing Facility, Prototype
Workshop, Ford Truck Special Vehicle
Engineering, PVT, Heavy Commercial Test
Track

 +3.000*
Employees

Craiova

2nd Largest Exporter of Romania



Puma, Courier production as well as
powertrain operations

 +6.500*
Employees

R&D CENTERS

İstanbul

Largest R&D Center
at single location in Turkey



Powertrain and Vehicle Teams,
Design Studio, CAVE and HIL Labs



1.850+
R&D Employees

Kocaeli

Engine Test Facility of the Year
Award

(Automotive Testing Technology International
Magazine, 2013)



Medium Duty Commercial Vehicle PVT;
Powertrain and Vehicle Testing
Facilities, Aftertreatment Laboratory



300+
R&D Employees

Eskişehir

Türkiye'nin İlk ve Tek Ağır Ticari
Test Sahası



Güç Aktarma Test Tesisi, Prototip Atölyesi,
Ford Trucks Özel Araç Mühendisliği,
Basıncılı Sistem Testi, Ağır Ticari Araç Test
Pisti



170+
Employees

Ankara

METU



New side is being developed as an R&D
Center



40+
Employees



Enabling Next-Gen Electric Truck Platforms



FORD OTOSAN

Next
EIRUCK



Shaping The Future of Electric Mobility

- 6.000 kg curb weight with 10.000 kg payload
- Aluminum & modular e-platform
- EPS for trucks as first demo in market

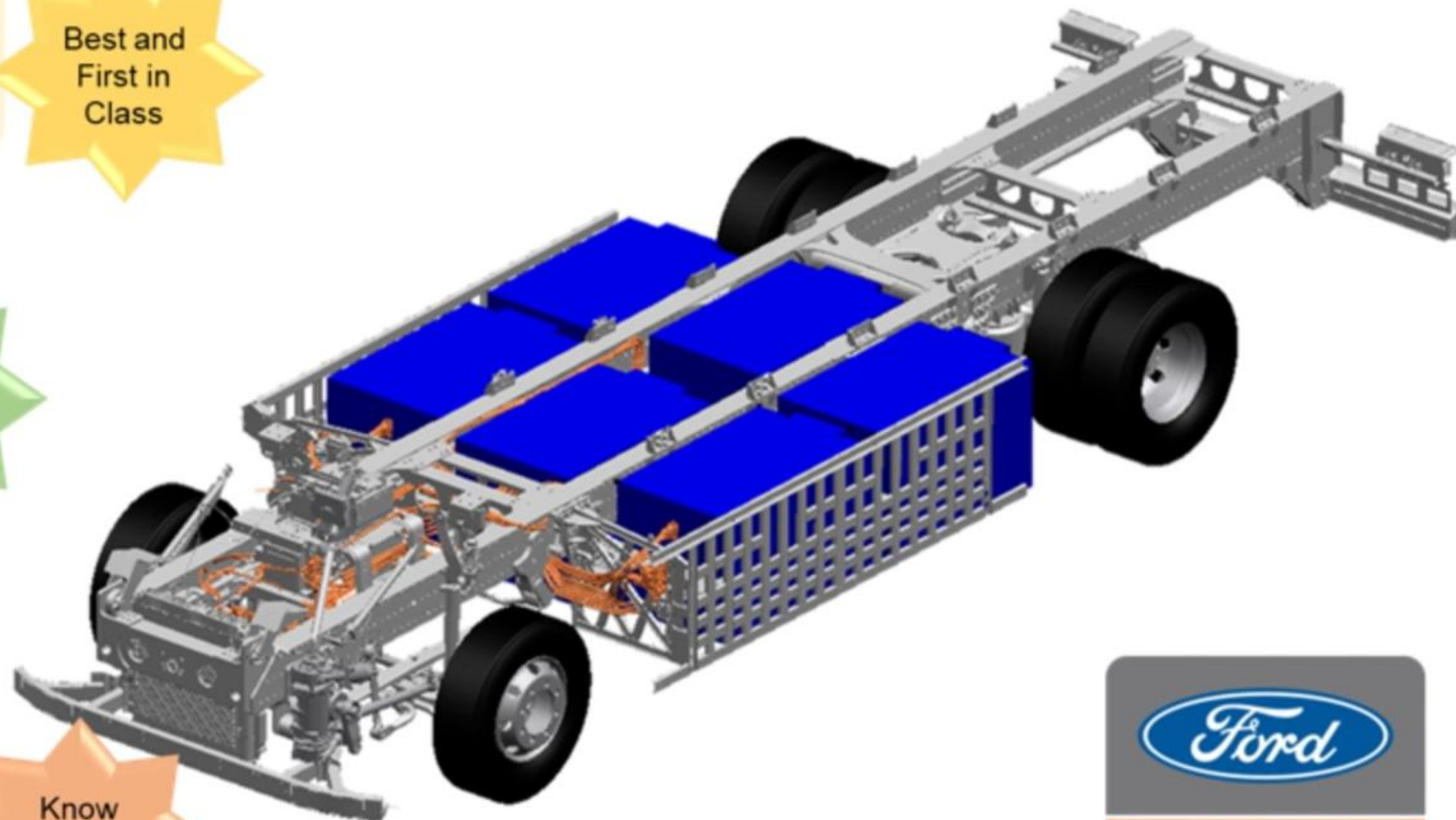
Best and
First in
Class

- AVAS development for BEV trucks
- New battery packaging strategy
- E-axle for rigid truck
- TMS development for IHB
- Lightweight battery protection
- Megacasting part for undercab
- No joggle for BEV platform

Applicable
for all
BEV

- Lower cab location
- Air Tube Cross
- Fully aluminum RUP
- Electromechanical brake (airless vehicle system)
- Opportunity for patents and papers

Know
How for
all Trucks



Development of **Expertise** and **Specifications** for a Dedicated Electric Platform



INNOVATIONS AND LEARNING AREAS

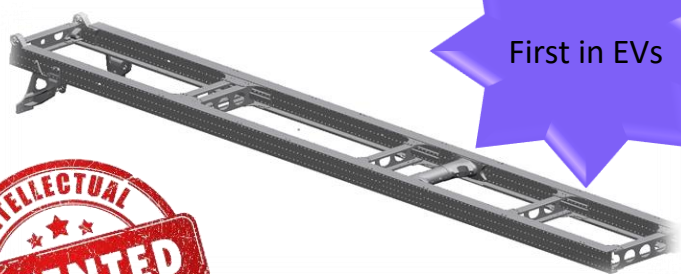


Best
Payload

10t payload

Increased payload

Same with Rigid

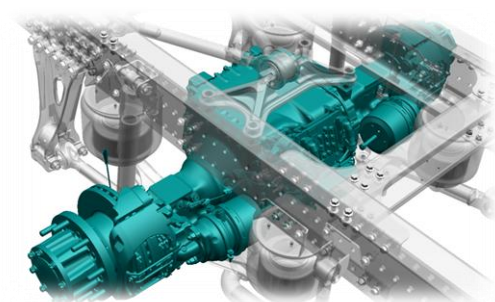


First in EVs

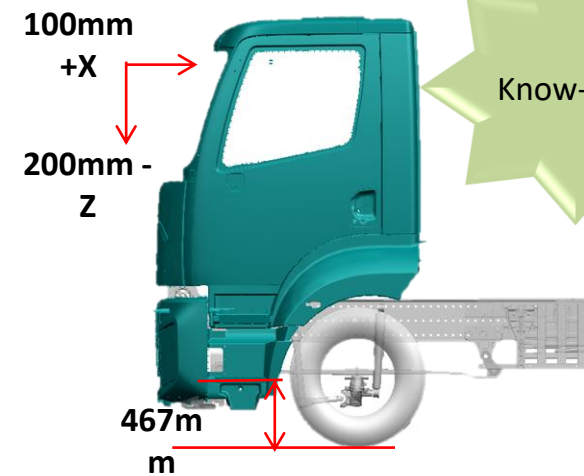


Aluminum Ladder Frame

- %46 weight reduction



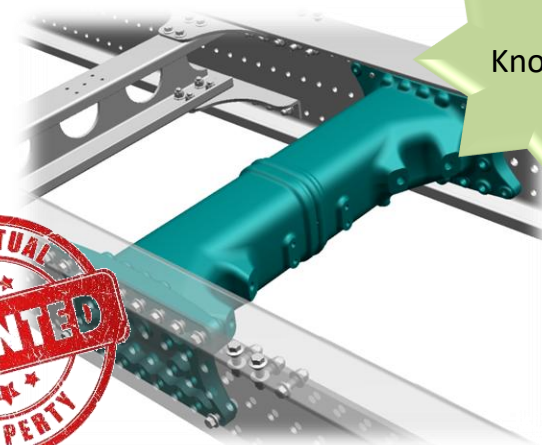
E-Axle



Know-How

Lower Cabin Location: 467mm

first step height

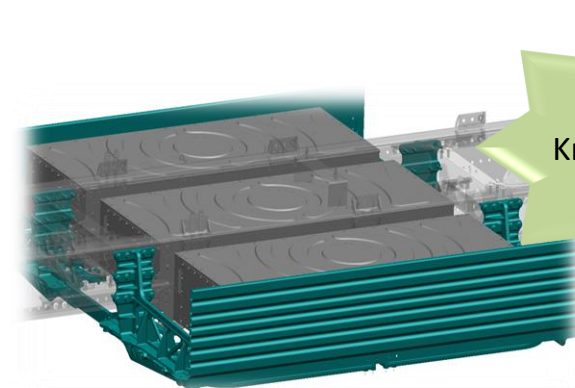


Know-How



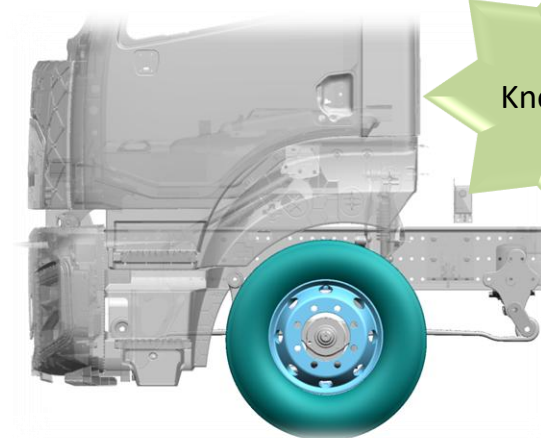
Air Tube Cross Member (20L)

19 parts to 1 part (30kg weight reduction)



Know-How

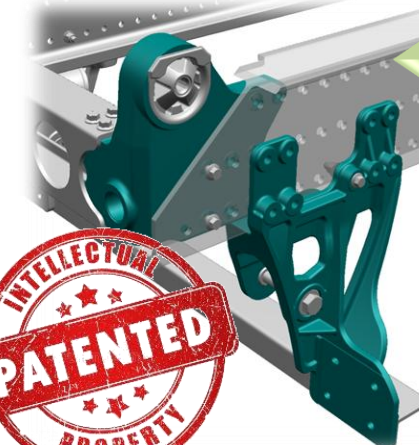
Lateral Protection



Know-How

Smaller wheels and tyre

From 22,5 to 19,5 inch

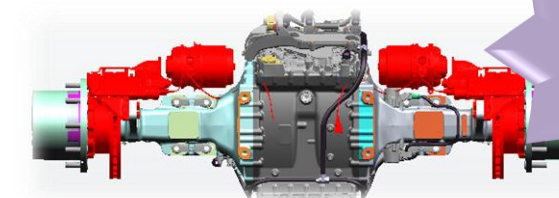


Know-How

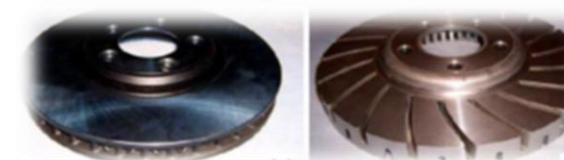


Rapid Prototyping Molds for

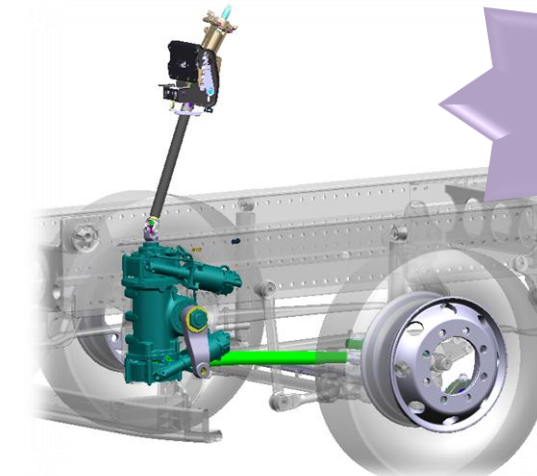
Aluminum Casting



First in
truck



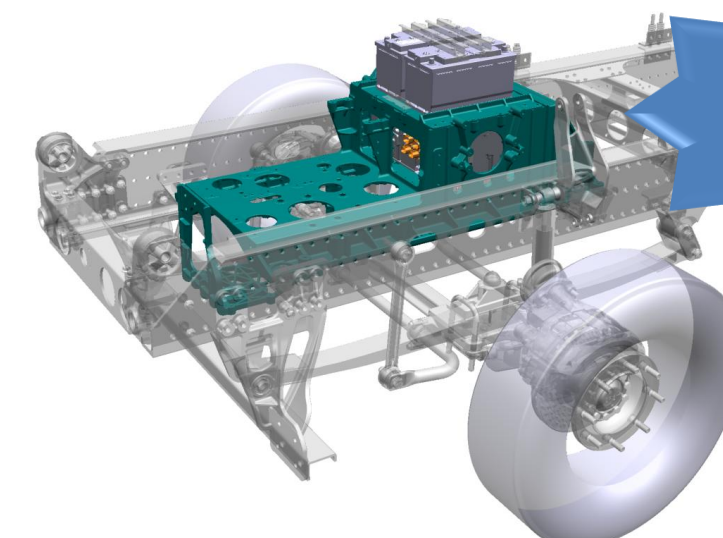
Brake Studies



First in
truck

EPS

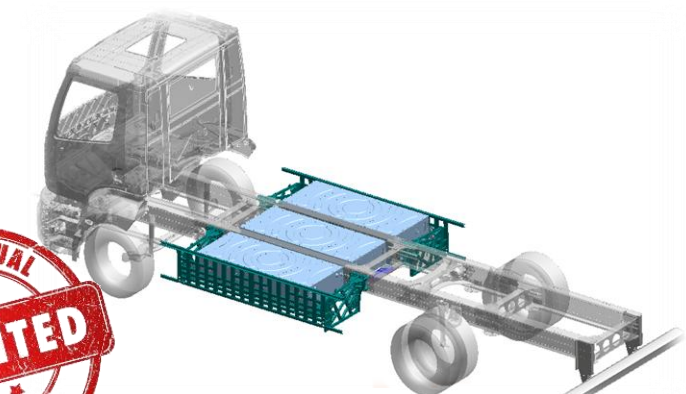
No hydraulic support needed



First in
Ford
Otosan

Under Cabin Mega Casting

%60 weight reduction (33-part to 3-part)



New Battery Location

3rd battery between the side members



LADDER FRAME

All frame components are changed

- Lightweight, and modular ladder frame
- Ordered hole pattern on side members



986 mm

Rigid E-Truck
1062 kg

866 mm

46%
weight
reduction

NextETRUCK
574 kg

926 mm



Air Tube Cross Member

- 20 litre air volume
- Package gain + Torsional stiffness increase



LADDER FRAME - TESTING

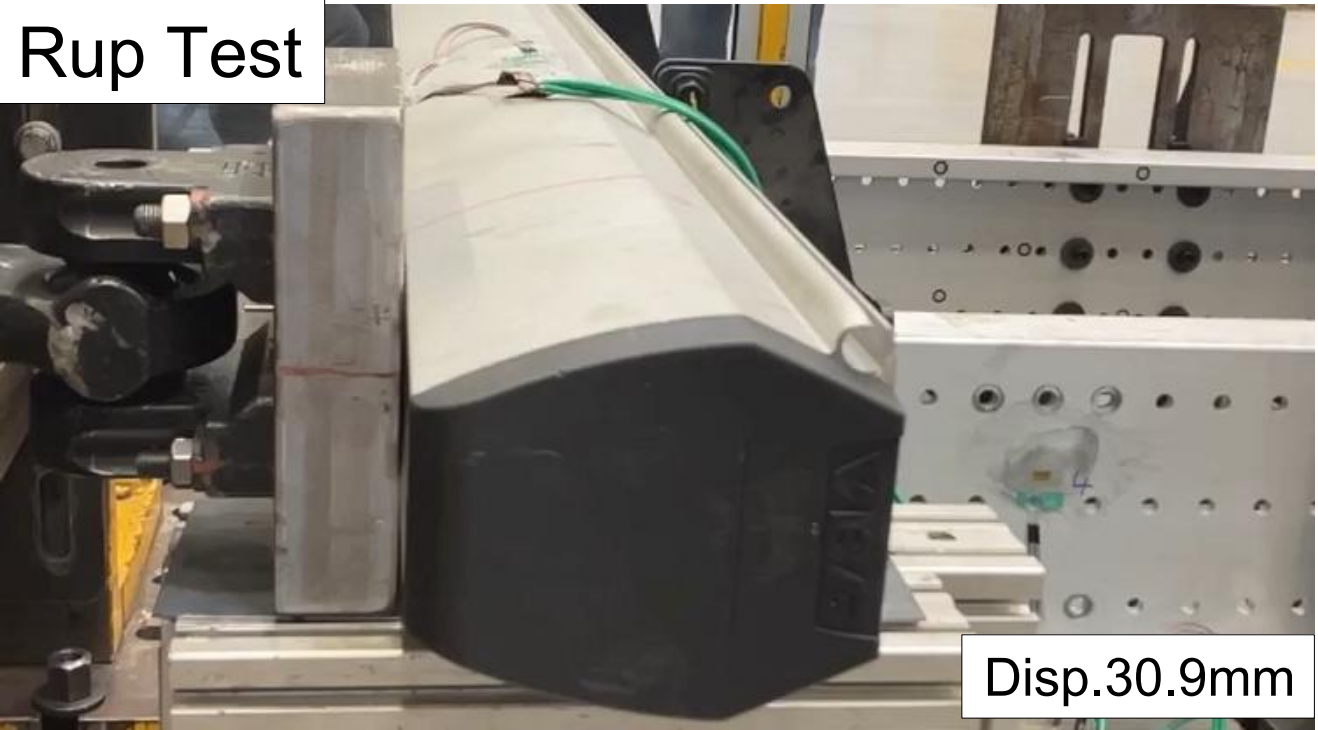
Torsional&Bending Stiffness Test



	Test	CAE
Torsional Stiffness	80.84 kNm/rad	79.20 kNm/rad
Bending Stiffness	4.14 kN/mm	4.15 kN/mm

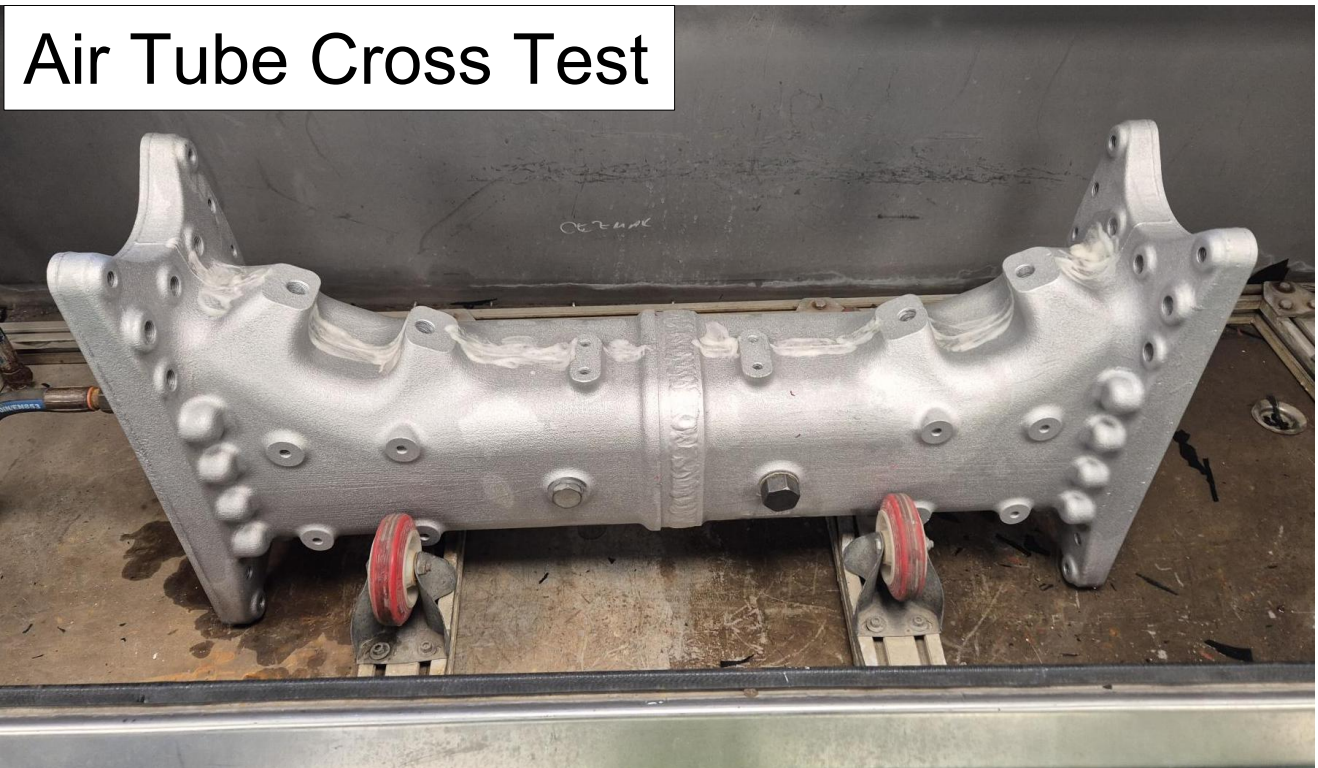


Rup Test



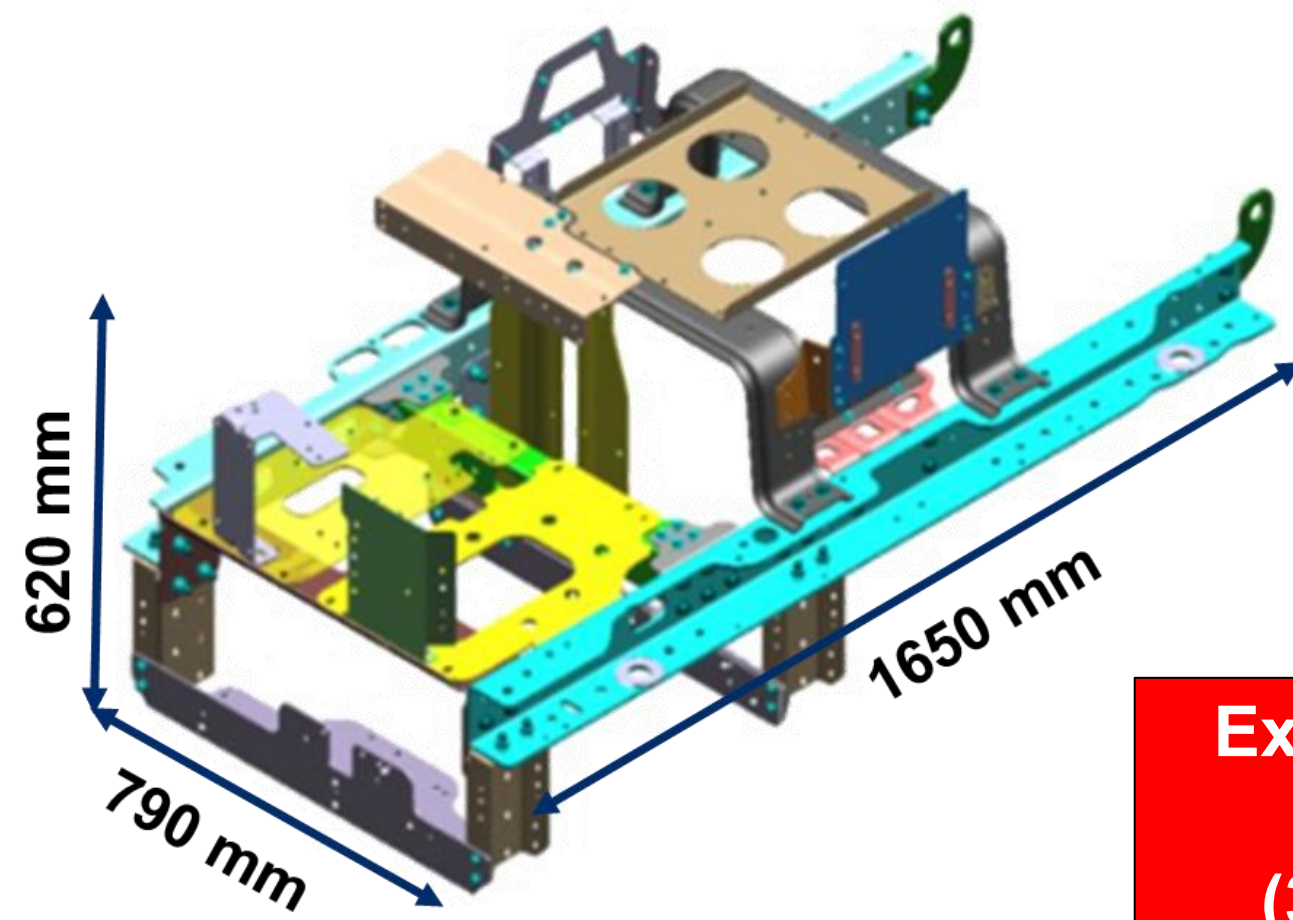
Disp.30.9mm

Air Tube Cross Test





Mega-Cast Undercab Carrier:

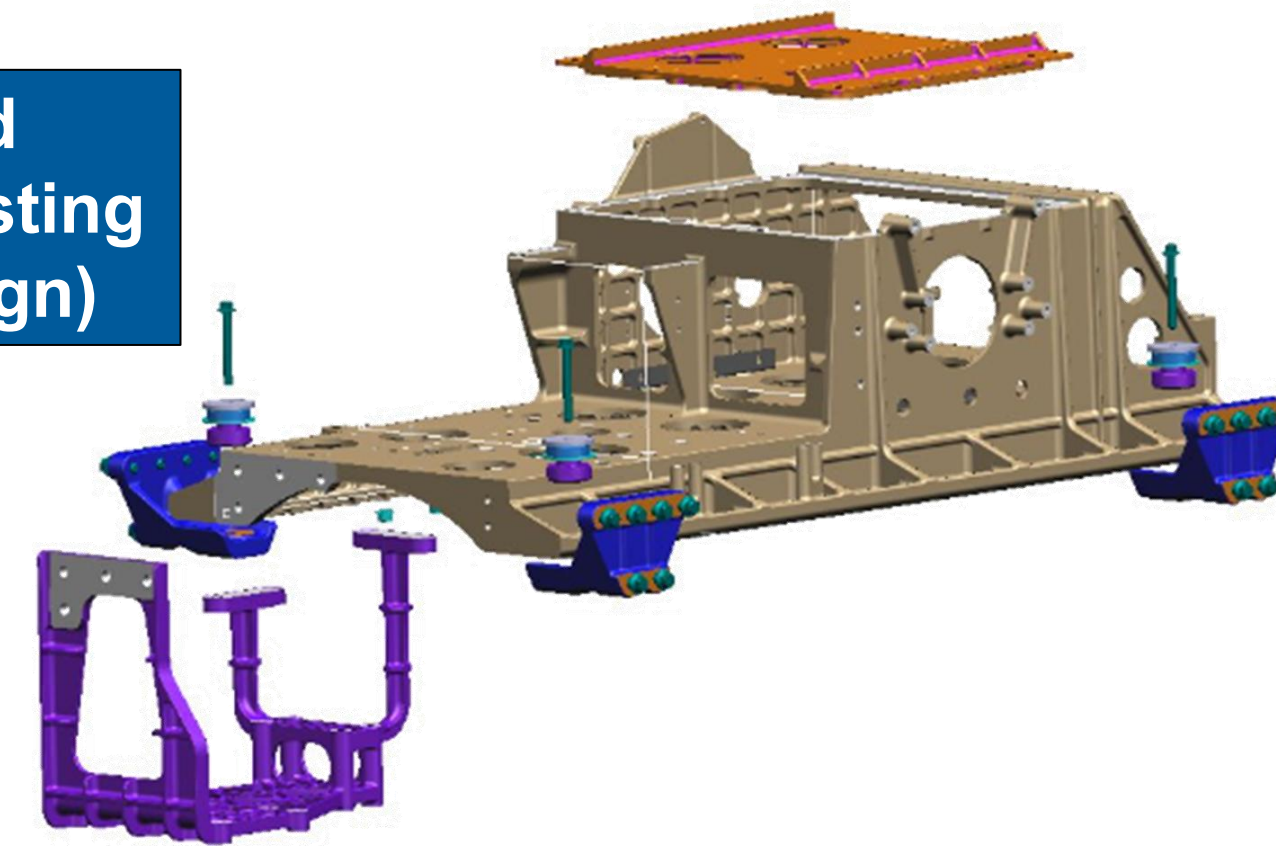
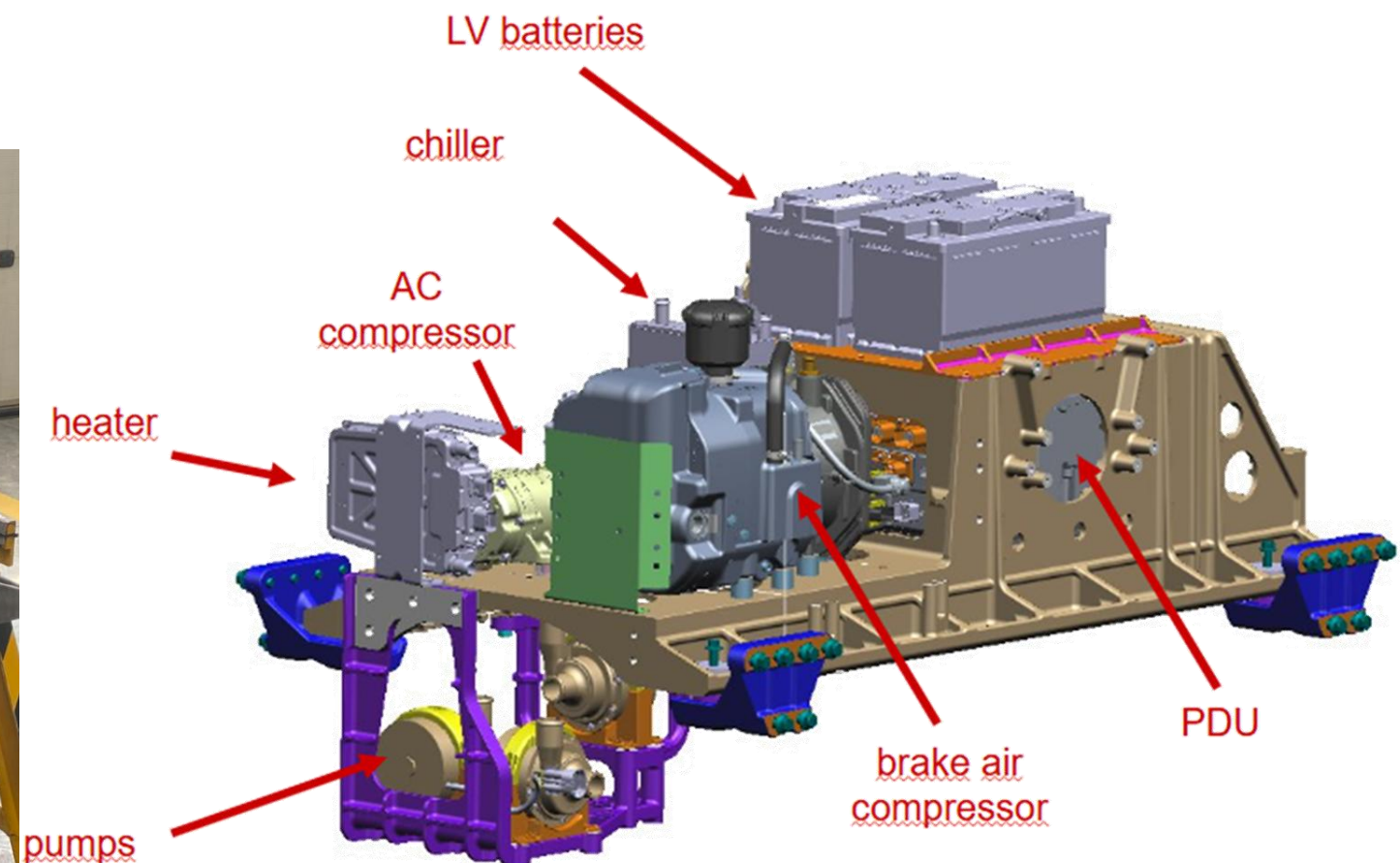


Existing Steel Design
161 kg
(33-part assembly)

**3D Sand-Printed
Aluminum Giga-Casting**
66 kg (3-part design)

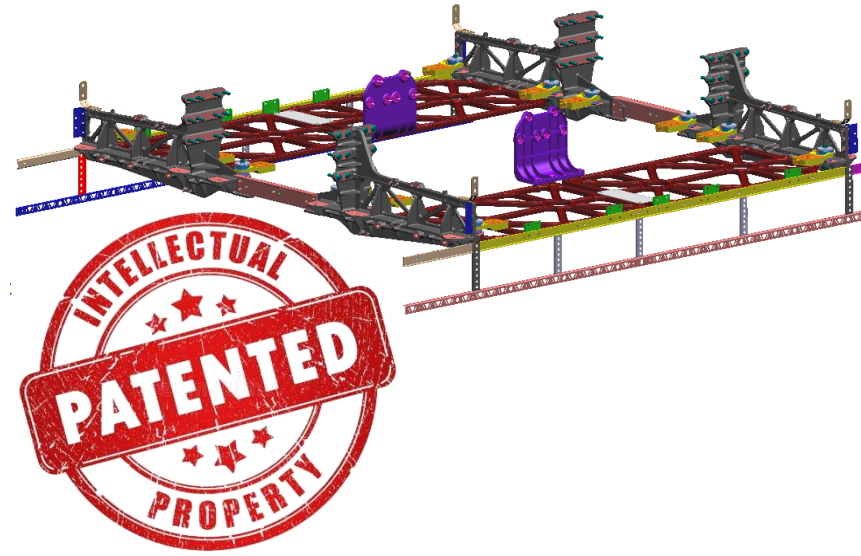
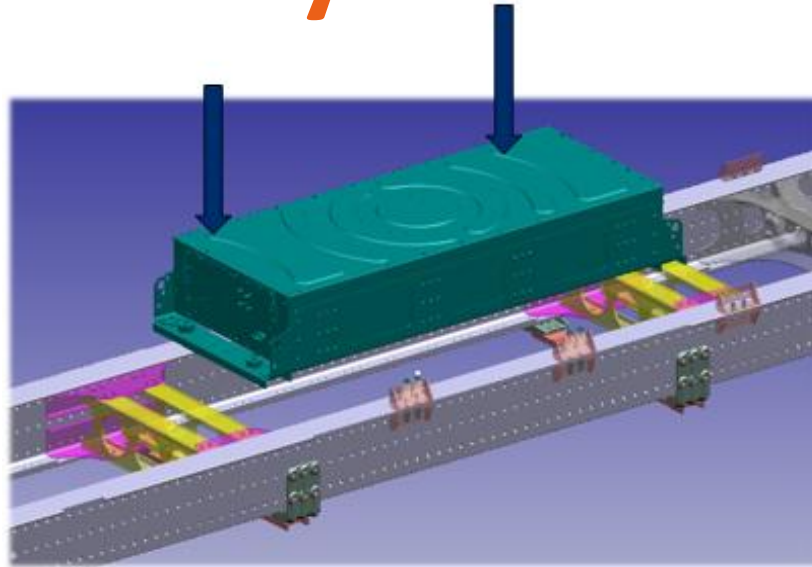
The under-cab carrier system is designed to carry electric vehicle systems with a total weight of approximately 150 kg.

**60 % Weight
Reduction (95 kg)**

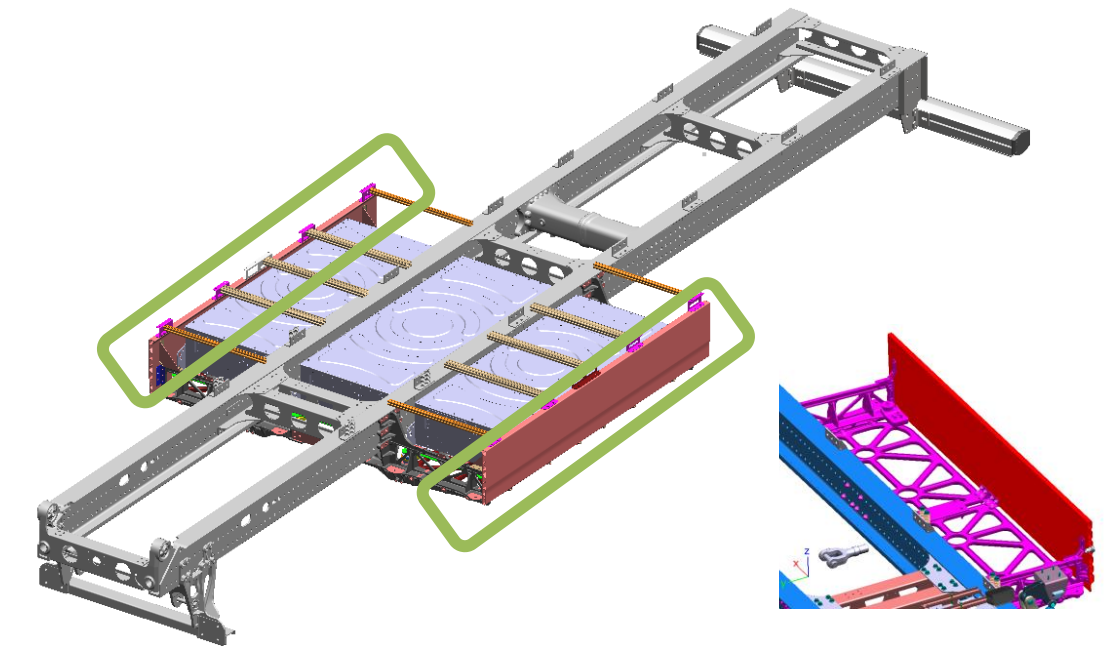
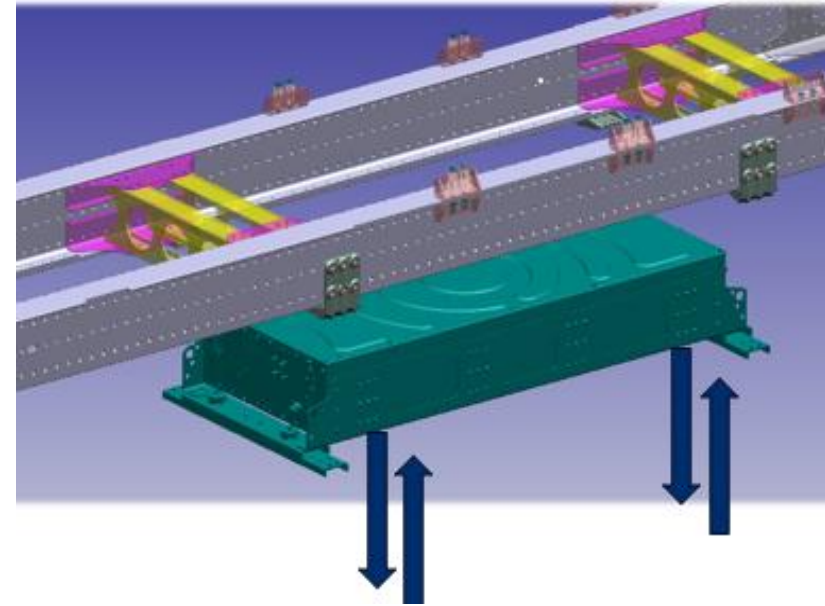




Battery Location & Lateral Protection

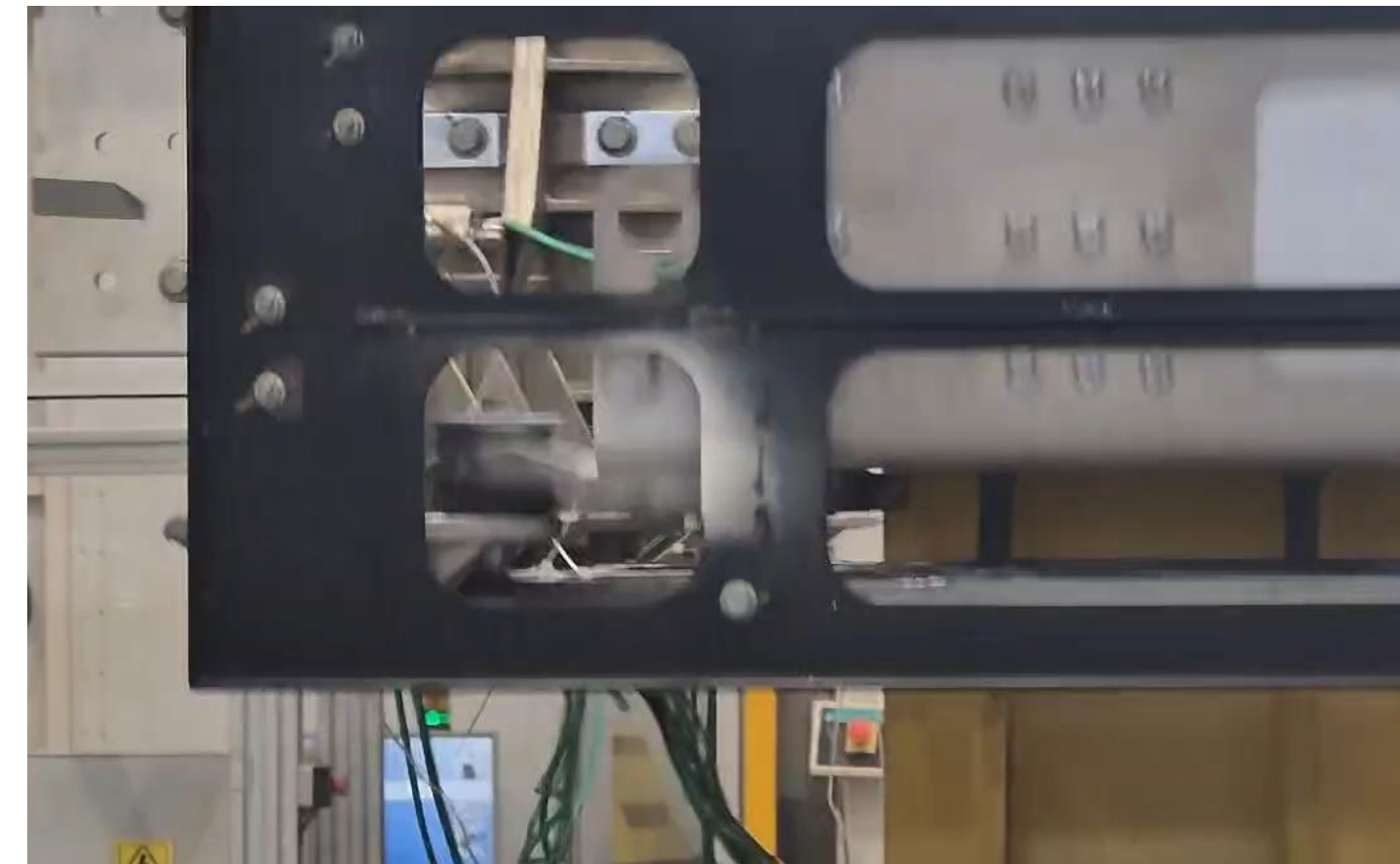
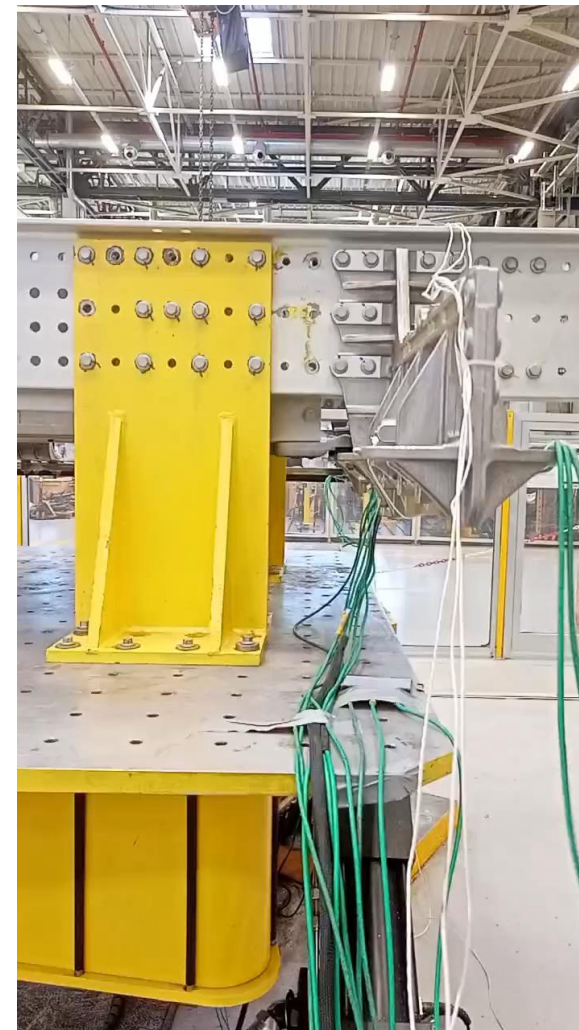


Aluminum Battery Carrier System



Extruded Aluminum Lateral Protection Design

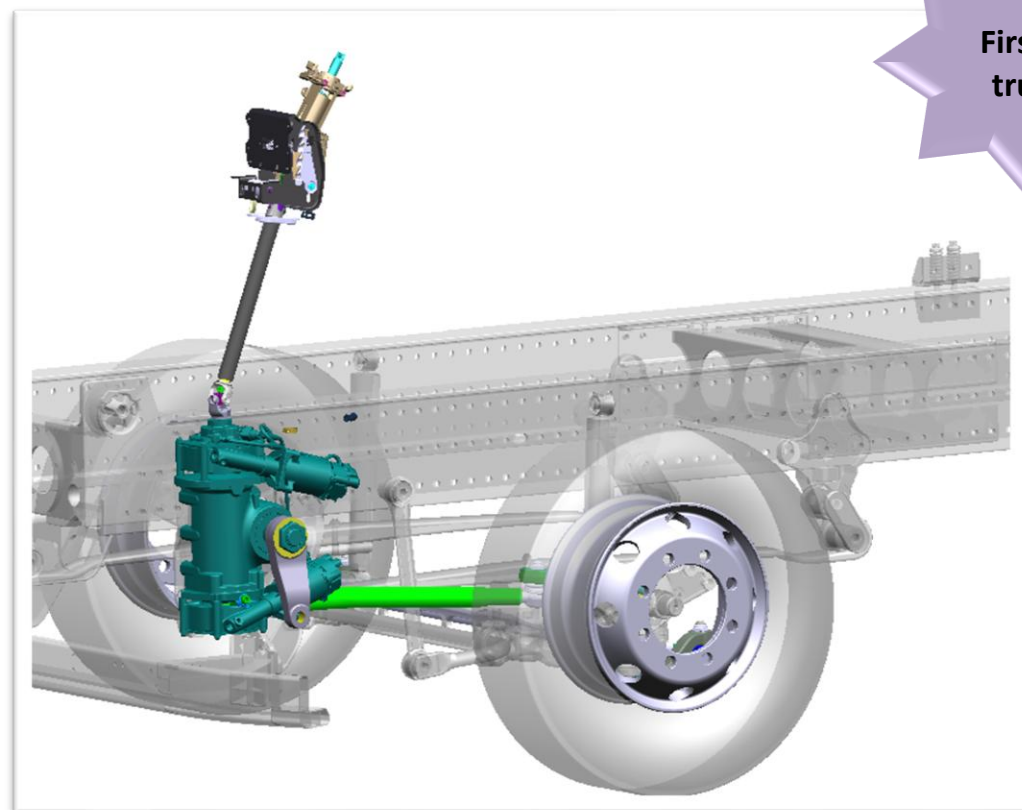
Test & Validation



Tests are conducted for CAE correlation.



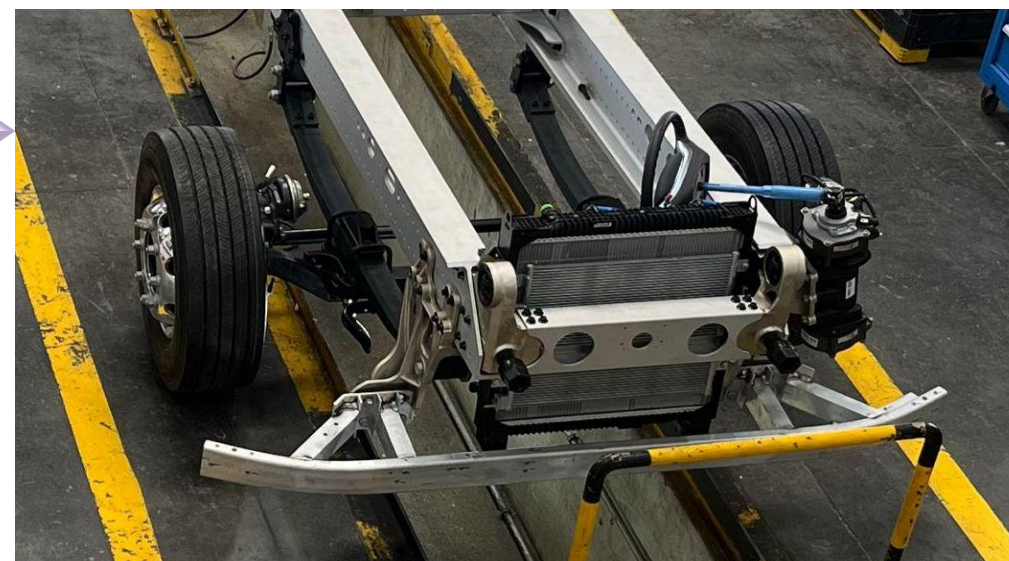
Steering & WTJ



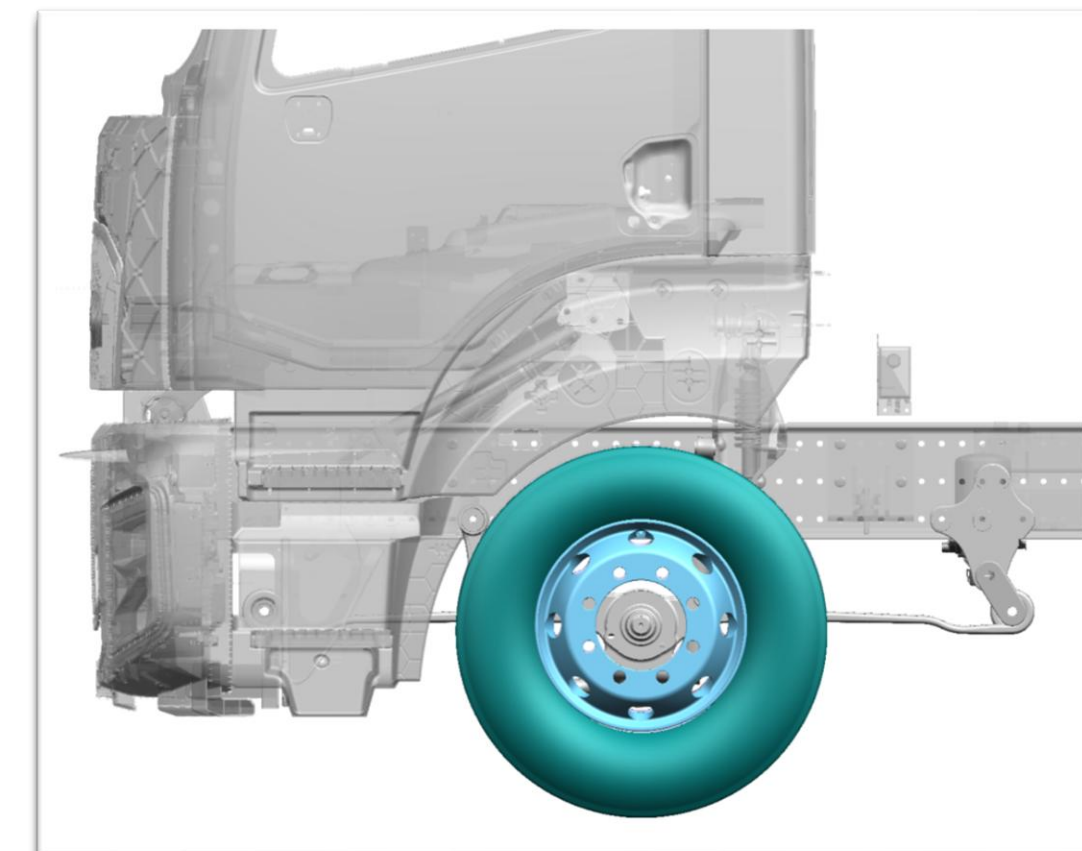
First in truck

EPS

- No hydraulic support needed.
- Supports fully autonomous drive (L4).
- High efficiency >%82 savings vs. EHPAS.



- Plug & Play component
- No oil in assembly line
- No additional e-pump required in BEV/FCEV
- Power on Demand component
- Better overall efficiency
- Emergency Steering Support
- Steer-by-wire applicable
- Level 4 Automation ready
- Extremely low free play and excellent steering feel



19,5 inch wheels and tyre

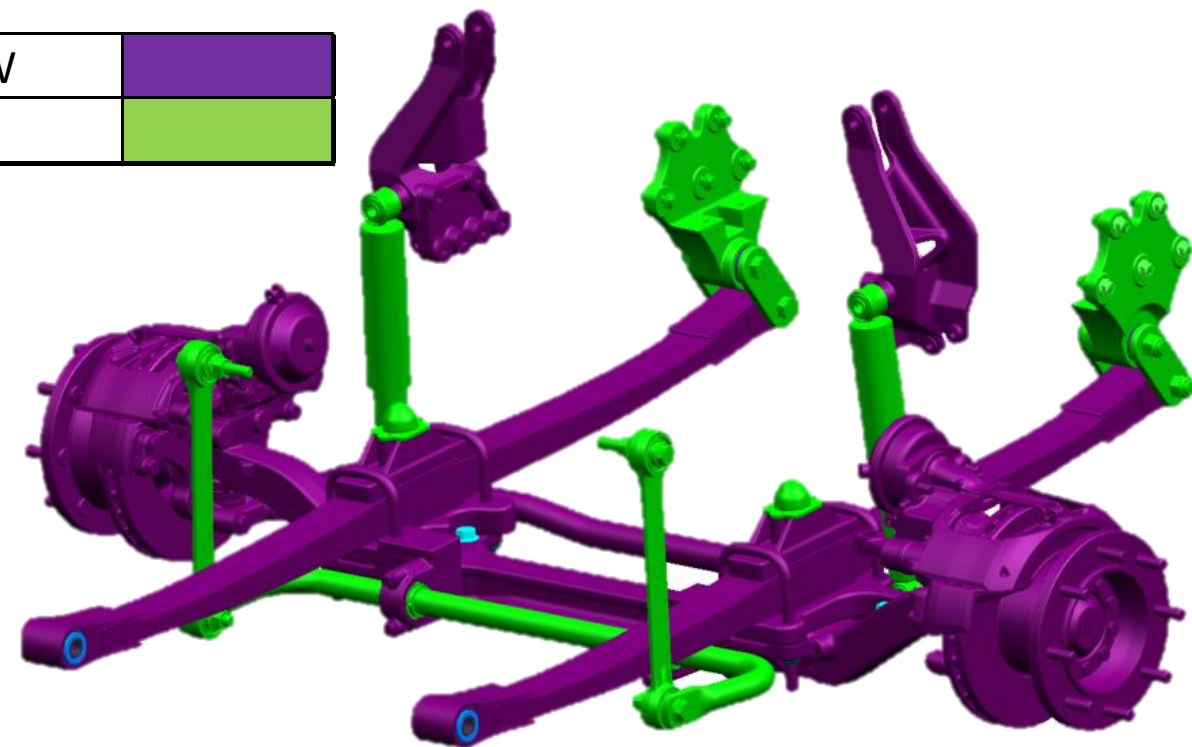
- Aluminum rim
- Lighter system
- Lower SLR

↓ **171 kg Weight Reduction**
↓ **90mm Lower SLR**



Front Suspension system

NEW	
C/O	



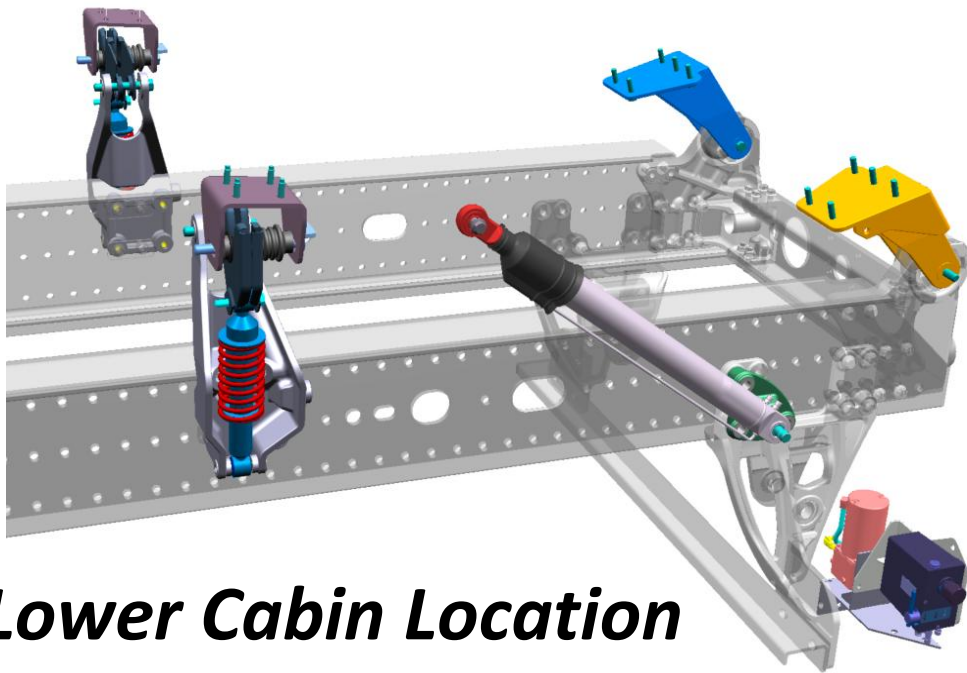
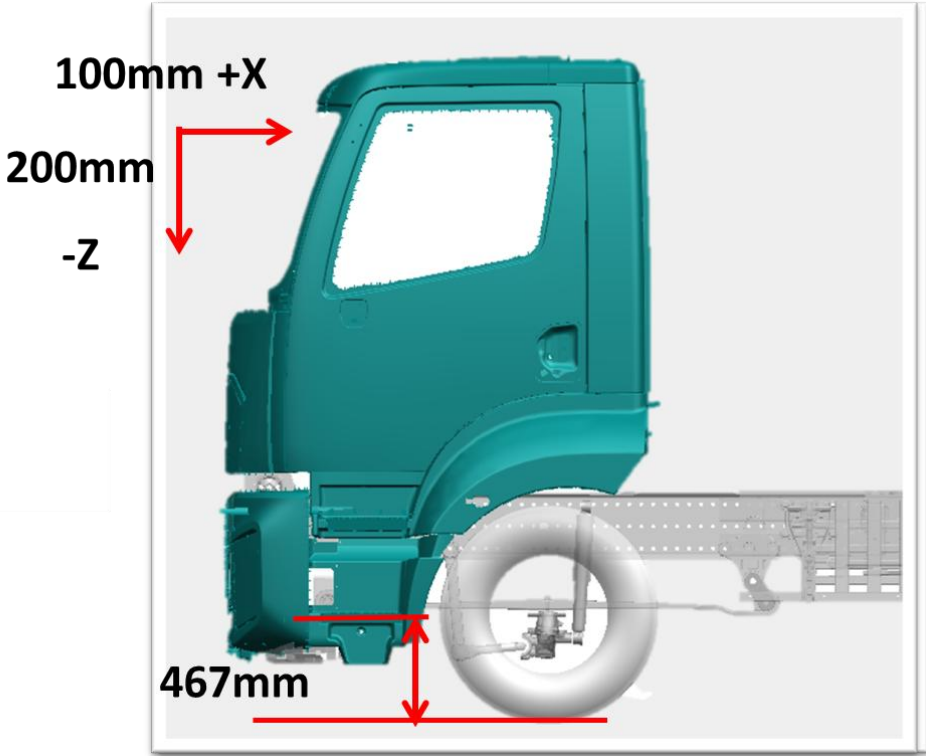
- Significantly lighter **composite monoleaf springs**
- 19" rim-compatible off-the-shelf axle subsystem (incl. braking & steering)
- Significantly **lighter aluminum hub** — among the first in the European market



System	Weight
Current Frt Susp.	480 kg
Next e-Truck Frt Susp.	370.2 kg

Total: 109,8 kg WR

CAB Suspension System

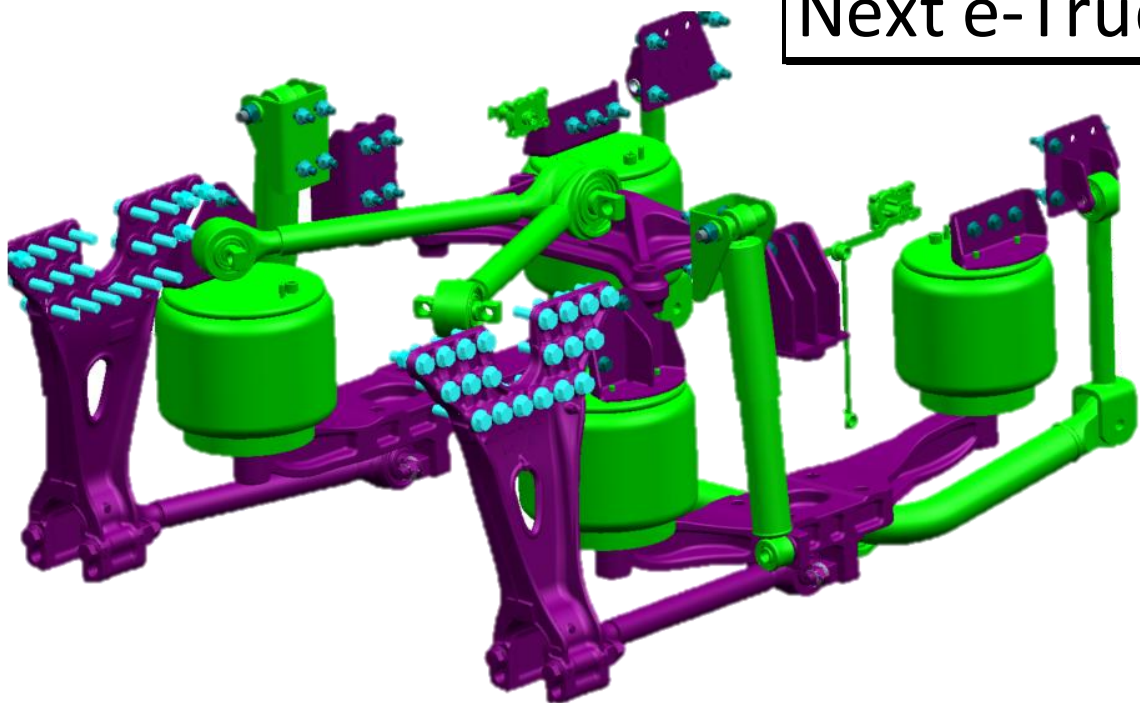


Lower Cabin Location

- Better driver vision
- Easier to get on the truck
- 467mm first step height

Rear Suspension System

NEW	
C/O	



System	Weight
Current C4AS	322,7 kg
Next e-Truck C4AS	294,6 kg

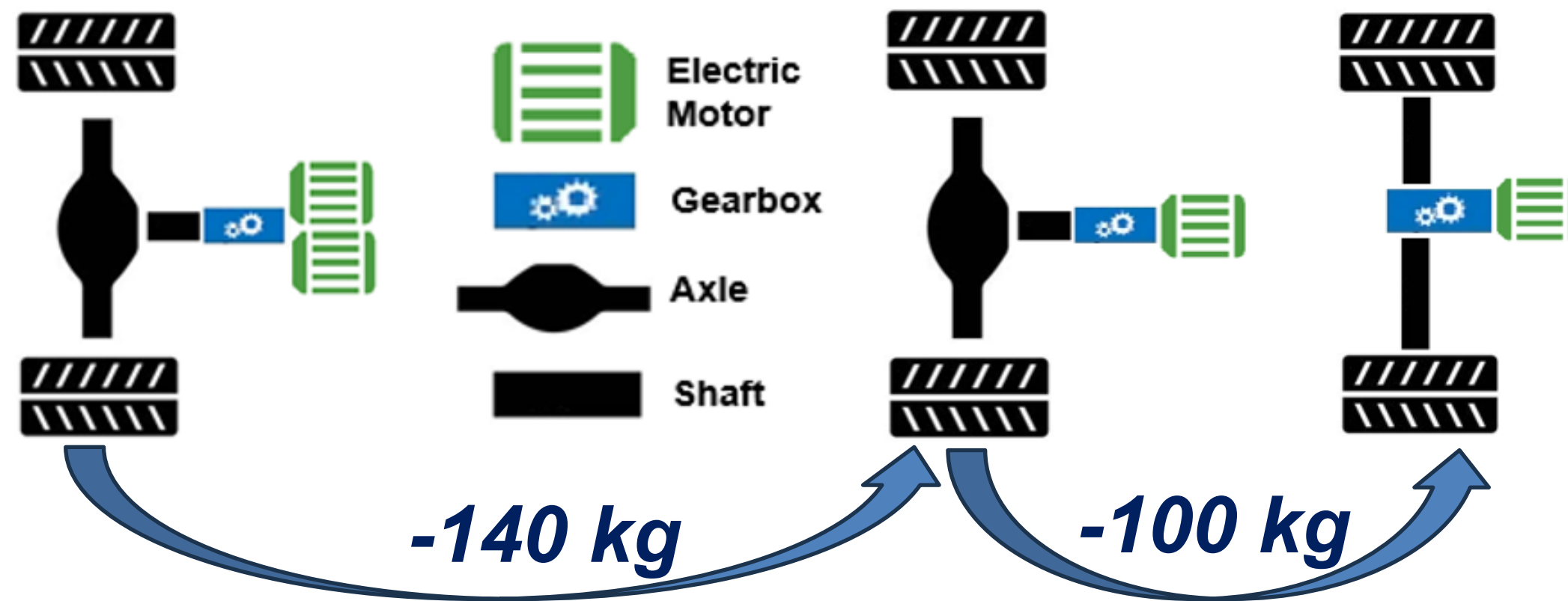
Total: 28,1 kg WR



POWERTRAIN STUDIES



19T Baseline Vehicle



16T NextETRUCK

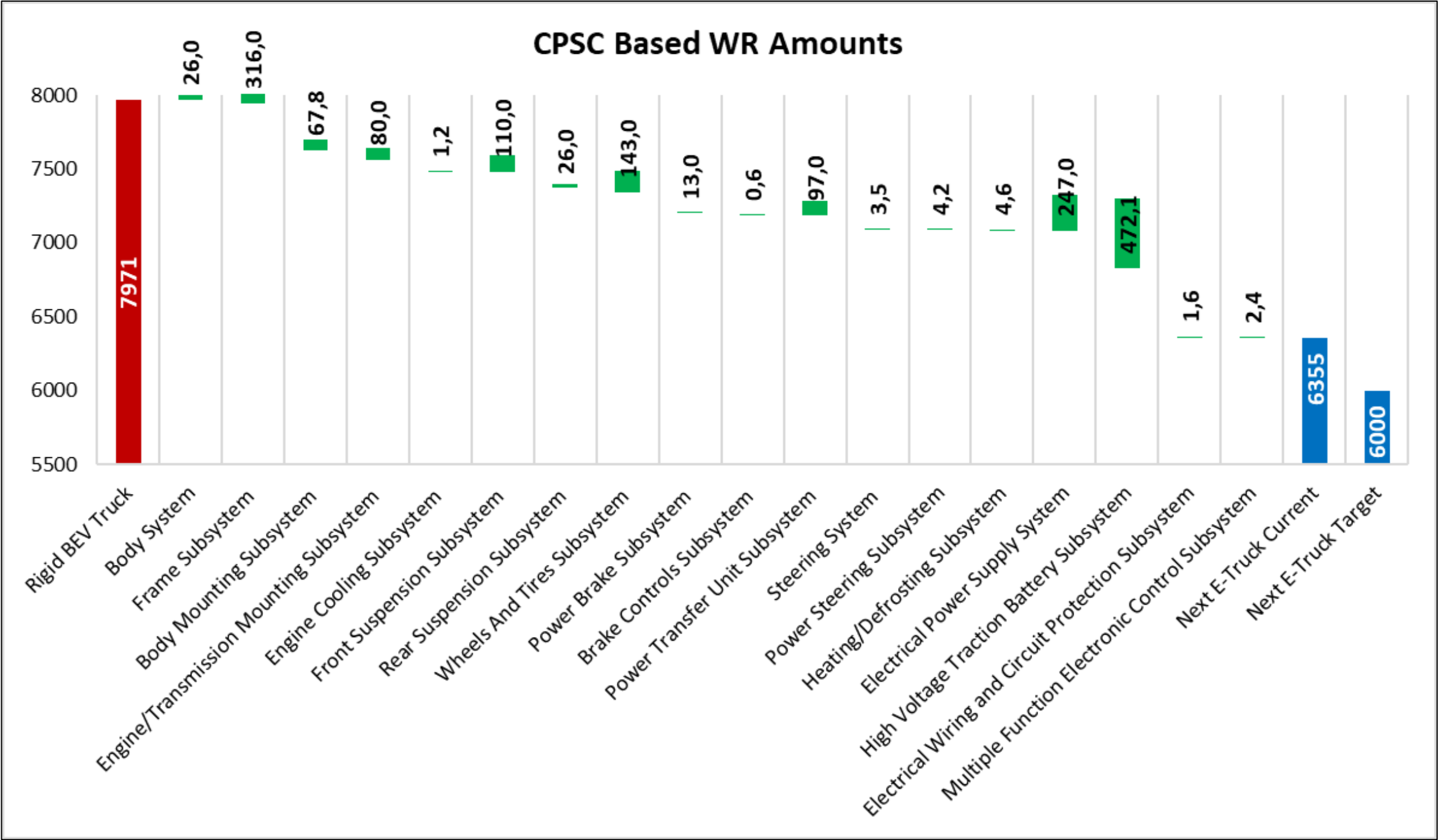
- Powertrain concept optimization (from dual- to single-motor) → 140 kg weight reduction
- Further eDrive system simplification with e-axle → additional 100 kg weight reduction
- 19.5" e-axle architecture (vs. 22.5"), among the first in the market → additional weight savings in brake and wheel-rim systems



WEIGHT STATUS



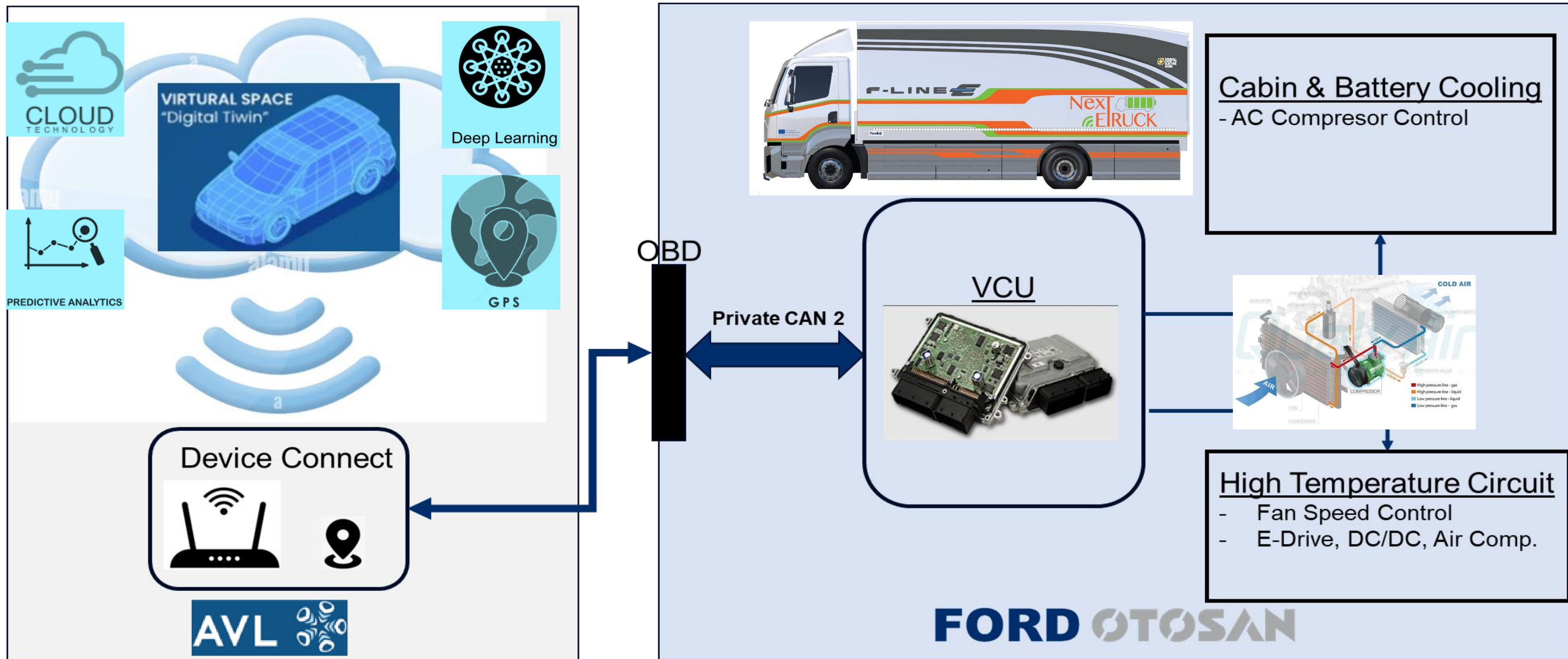
	BKW 1.Axle (kg)	BKW 2.Axle (kg)	BKW Total (kg)	GVM Total
Rigid BEV Truck	4790	3181	7971	19000
Next E-Truck	3360	2578	<u>5938</u>	16000



Achieved weight reduction is 2033 kg



Digital Twin: Vehicle Application Layout





NextETRUCK : Build of Vehicle





Demo Route Details – Internal Tests



Ford Otosan Test Track



Lateral Loading Track – LLT (Urban Delivery Representation)

This road represents **low-speed urban distribution driving**, characterized by continuous turning, lateral loading and steady low-power operation.

- **Lap length:** 1.15 km
- **Maximum speed:** 40 km/h
- **Operation mode:** Continuous laps at constant speed

Vehicle Dynamic Track – VDT (Regional Delivery Representation)

VDT is used to represent **regional delivery driving under VECTO Regional Delivery conditions**, combining moderate cruising speeds with continuous rolling turns and transient speed variations.

The track geometry consists of a **wide triangular loop** at the beginning of the main section, gradually narrowing into a **straight driving segment**, followed by a **small loop at the end** for rolling turnaround.

This layout enables realistic regional driving without full stop events.

- **One-way length:** 1 km
- **Cycle definition:** 1 km forward + 1 km return → **2 km per cycle**
- **Operation mode:** Continuous rolling cycles, **no full stop**

The 200 km daily driving cycle combines rolling VDT regional delivery operation with low-speed LLT urban driving, fully aligned with the VECTO Regional Delivery cycle and optimized for energy consumption and thermal stability assessment.



PUBLIC ROAD DEMONSTRATION



OBJECTIVE

Validate the NextETRUCK demonstrator under real-world operating conditions and benchmark its performance against the F-LINE BEV baseline vehicle.



PUBLIC ROAD ACTIVITIES

- ✓ Demonstrator operated on three representative logistics routes
- ✓ Continuous real-world data collection for Digital Twin correlation
- ✓ 410 km driven, 9% charge remaining; ~450 km estimated range.
- ✓ Approx. 12,000 km completed on public roads
- ✓ Diversity & Inclusion through women drivers



Diversity & Inclusion Through Women Drivers

FORD OTOSAN

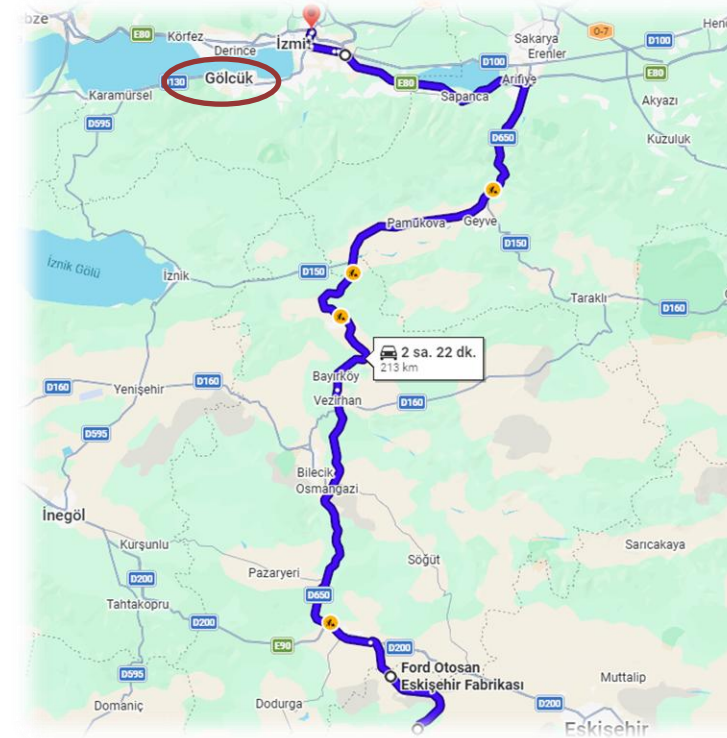


DEMONSTRATION ROUTES

Route 1

Eskişehir → Sakarya → Gölcük

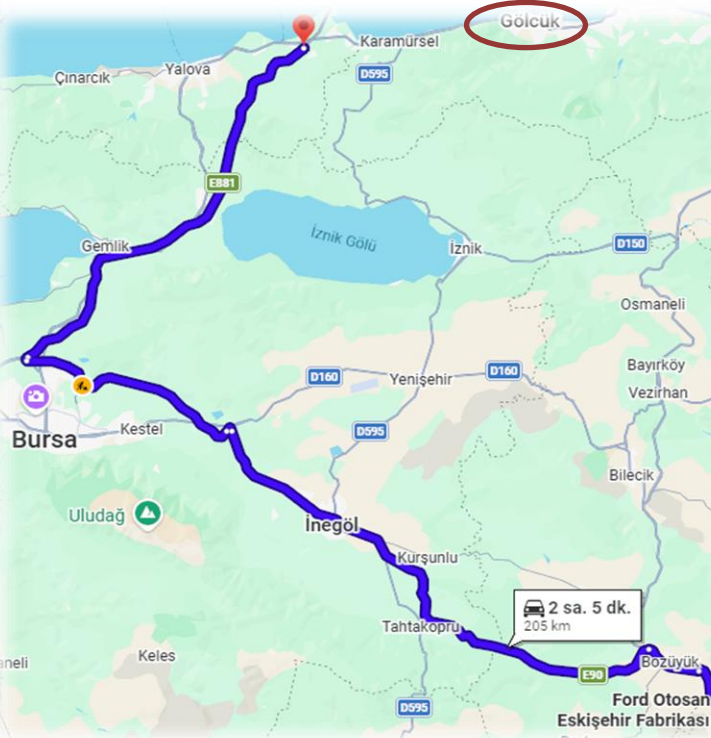
~420 km



Route 2

Eskişehir → Bursa → Gölcük

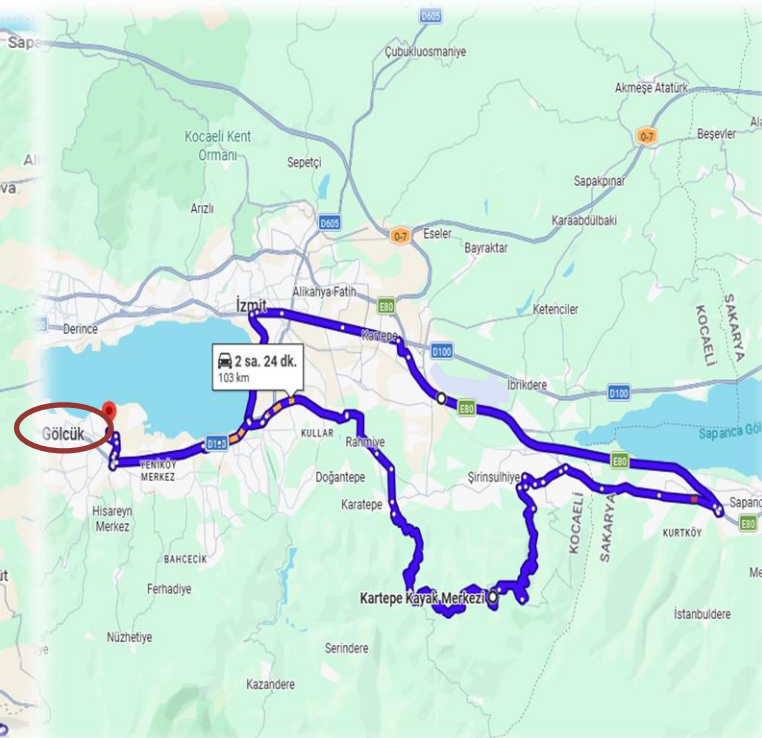
~400 km



Route 3

Gölcük → Kartepe

~250 km



TEST CAMPAIGN HIGHLIGHTS

- 5-day fully loaded benchmark campaign completed (19 t Baseline Vehicle vs. 16 t NextETRUCK Demonstrator)
- 2-day unloaded back-to-back comparison completed (Baseline vs. NextETRUCK with body structures only)
- Vehicle continued validation under fully loaded.
- Energy consumption, efficiency benchmarking performed



The NextETRUCK Ford Otosan demonstrator completed 12,000 km on public roads, generating real-world data to evaluate the project technologies.

NextETRUCK



KEY RESULTS & PROJECT ACHIEVEMENT

KEY ACHIEVEMENTS

90%

PAYLOAD RETENTION
vs. baseline vehicle

450 km+

DRIVING RANGE
with remaining battery

Up to 25%

LOWER TOTAL ENERGY CONSUMPTION
vs. baseline vehicle

Up to 20%

HIGHER THERMAL SYSTEM EFFICIENCY
vs. baseline vehicle

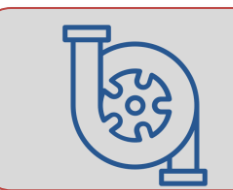
COMPONENT LEVEL IMPROVEMENTS



E-Motor Energy Consumption up to **30%** 



DC/DC Energy Consumption up to **35%** 



Water Pump Energy Consumption up to **40%** 



A/C Comp. Energy Consumption up to **10%** 

- ✓ Lightweight vehicle architecture successfully demonstrated
- ✓ Real-world validation of NextETRUCK technologies validated
- ✓ Significant efficiency gains achieved while maintaining payload capability
- ✓ Operational data collected for Digital Twin validation and final project evaluation





Project Targets → What We Delivered

A lightweight, born-electric 16 t platform designed to improve fleet economics without compromising mission capability.



ENERGY EFFICIENCY

+10%

PROJECT TARGET

25% lower energy use

VECTO Regional Delivery comparison vs. rigid e-truck; 10.1% powertrain-efficiency gain also reported.



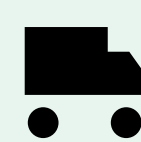
THERMAL EFFICIENCY

+15%

PROJECT TARGET

Up to +20%

Thanks to Degas concept; summer chiller study up is tested. Winter conditions expected better.



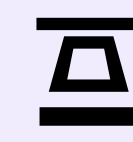
PAYLOAD CAPABILITY

≥90% of ICE

PROJECT TARGET

~10 t payload /

10 t payload is provided which is above the 9.5 t target defined as 90% of ICE benchmark.



MAXIMUM RANGE

300 km

PROJECT TARGET

Up to 450 km

Data collected under the reported road-test condition.



TOTAL COST OF OWNERSHIP

-20%

PROJECT TARGET

Up to 31.7 %* reduction

*Loading to the technical capacity 17.5 t provides **18.2%** TCO reduction (3 battery option)

*2 battery option, same range with baseline, provides **31.7%** TCO reduction



REAL-WORLD DEMONSTRATION

Target: 200 km/day × 6 months (24,000 km)

The vehicle is run with 12,000 km milage during tests and demo



WHAT CHANGED

- Born-electric e-axle architecture
- Lightweight BEV modular platform
- Integrated thermal concepts
- Connected data & Digital Twin



Thank you for your attention!



@nextetruck



NextETRUCK



nextetruck.eu



Co-funded by
the European Union



Co-funded by
UK Government

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