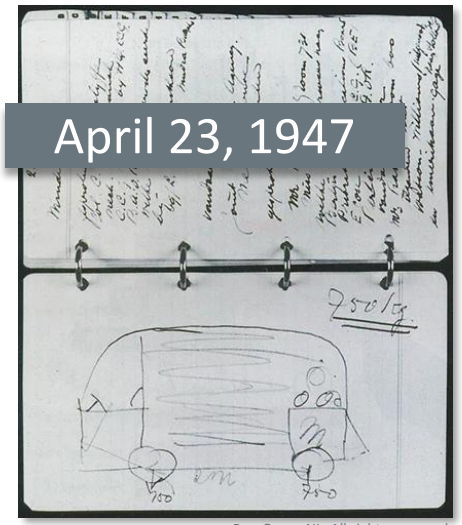
The ID. Buzz - body in white

B.A. Eng Eike Schuppert – Volkswagen body structure

Great Designs in Steel 2025

Content
The ID. Buzz – body in white

1.0 Heritage
How it all started



April 23, 1947

1950

1st T1 Bus sold in the US

1960‘S

Becoming the icon

1970‘S

1980‘S

New Era and time-out

1990‘s & 2000‘s

Now watercooled

1984 Volkswagen „VANAGON“ VWoA

ID. Buzz 1st Edition 4motion (2025)

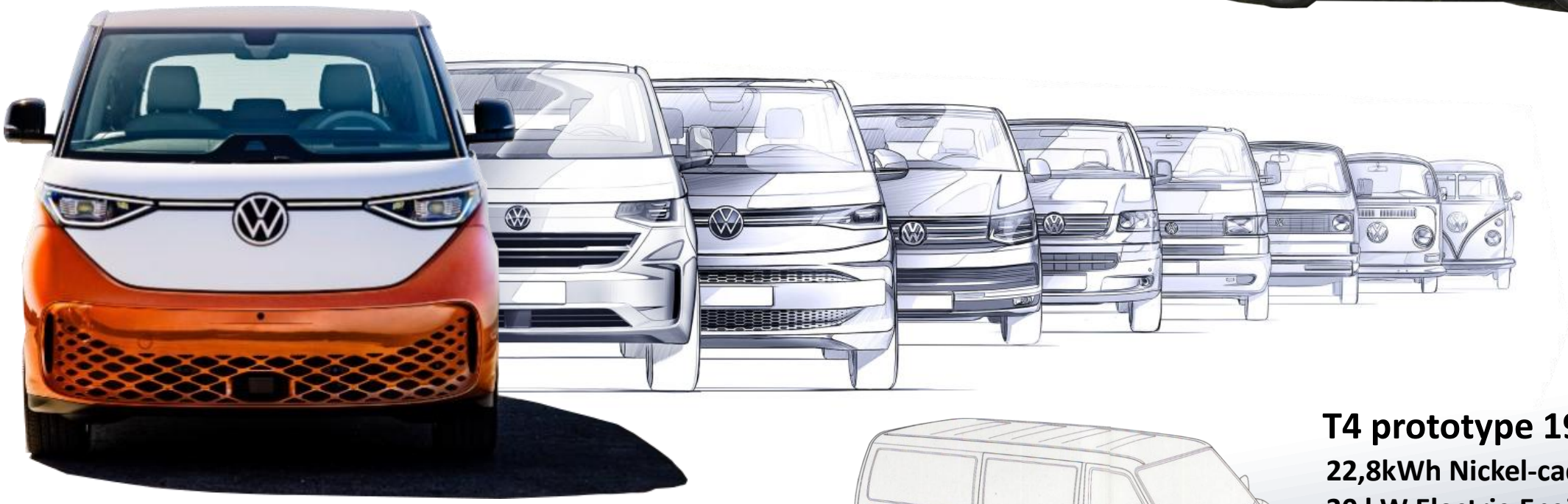
- Length 4962 mm
- Width 2211 mm
- Curb weight 2811 kg

T1 (1950-1967)

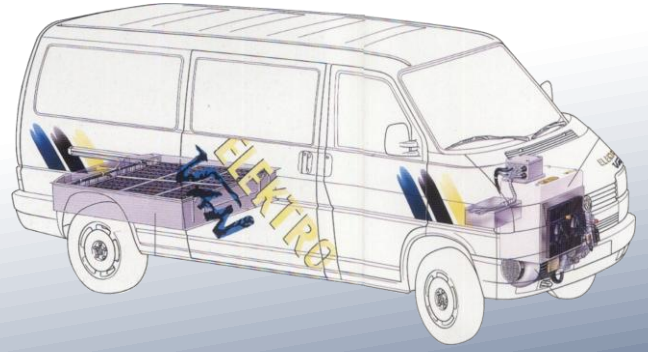
- Length 4150 mm
- Width 1660 mm
- Curb weight 975 kg

1.0 Heritage
From the T2-Electro to the ID. Buzz!

T2 prototype 1970‘S
21,6 kWh Lead-acid
32 kW Electric-Engine



T4 prototype 1990‘s
22,8kWh Nickel-cadmium
30 kW Electric-Engine



ID. BUZZ
86 kWh net Lithium-Ion
250 kW Electric-Engine

https://www.vw.com/en/models/id-buzz.html

1.0 Heritage
Overview of derivatives

United States 2025

ID. BUZZ **ID. BUZZ 4MOTION**

long wheelbase of 3.23 m

Europe 2025

long wheelbase

ID. BUZZ CARGO

ID. BUZZ

ID. BUZZ GTX

Normal wheelbase of 2.99 m

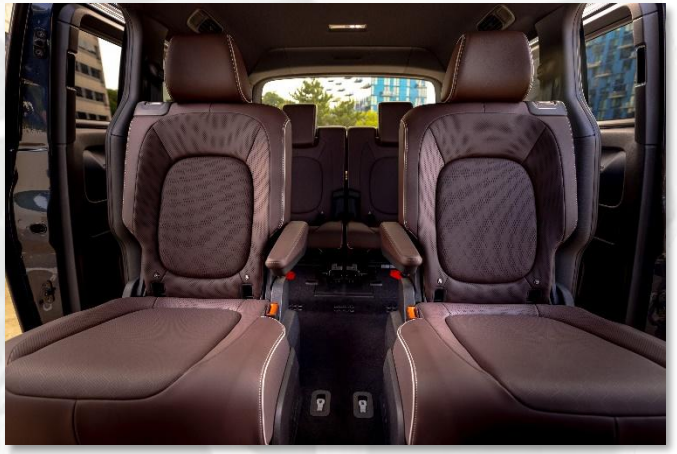
1.0 Heritage
The „Mission“

„Exterior length like a Tiguan interior like a Bus“

Maximizing usable space minimum traffic area

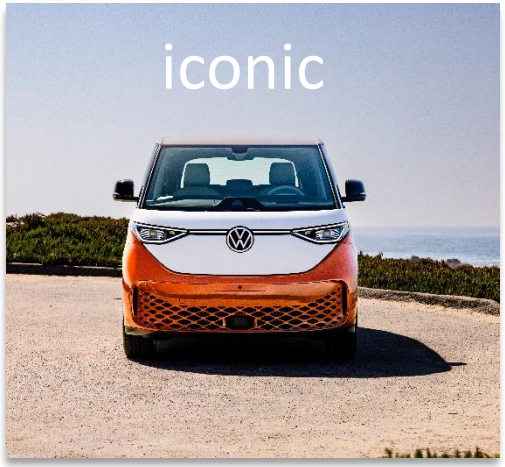
Ensuring maximum manoeuvrability

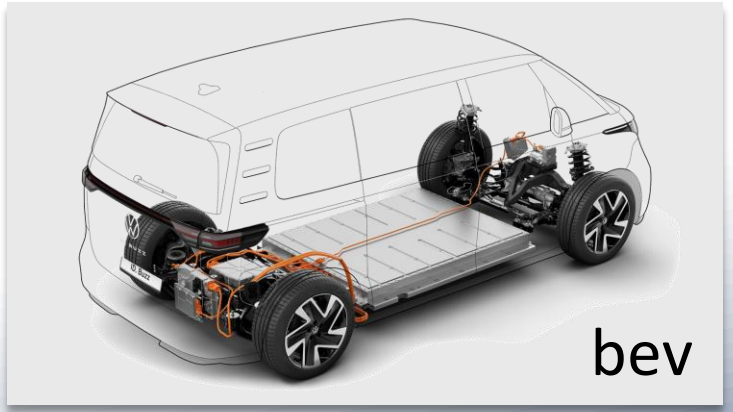
Continuing the iconic Bus design



2.0 Overall Vehicle Concept

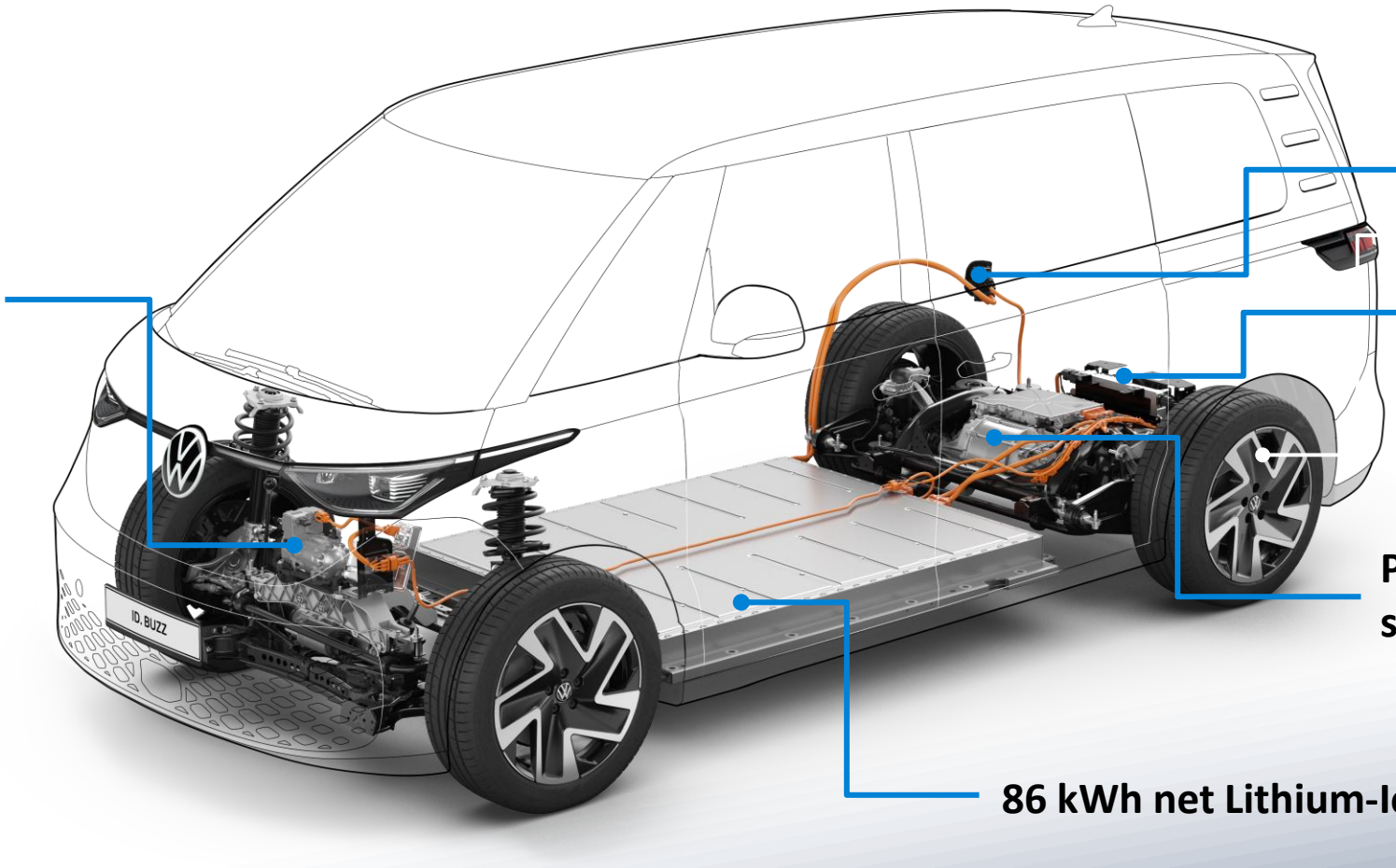
2.0 Overall Vehicle Concept Challenges





2.0 Overall Vehicle Concept
Electric drivetrain

210kW – 250kW
231 mls - 234 mls Range



Charging socket 11 kW AC onboard charger

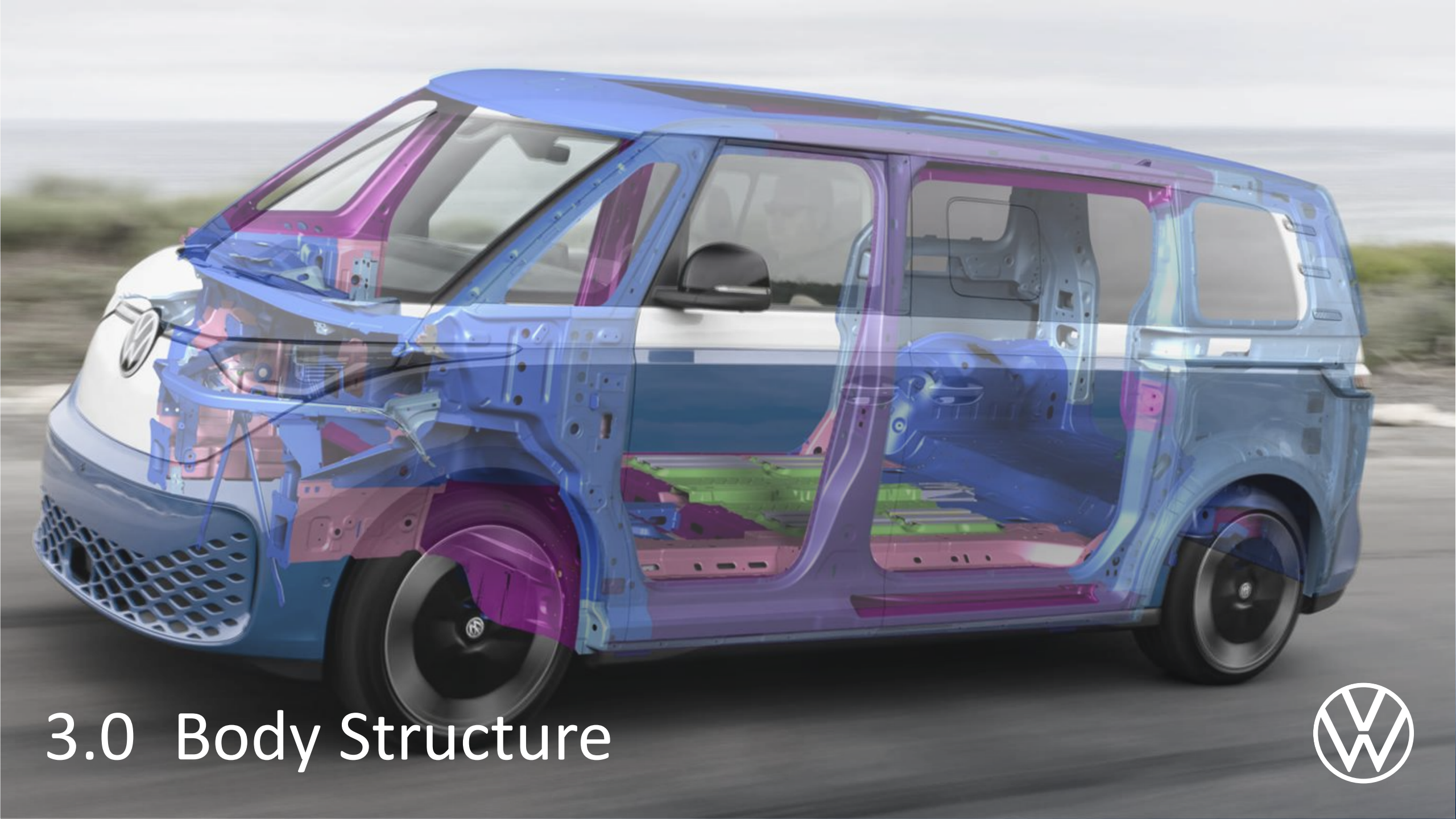
Electric HV-Air conditioning compressor

Charger 200 kW DC fast charging capability

Permanent magnet synchronous machine

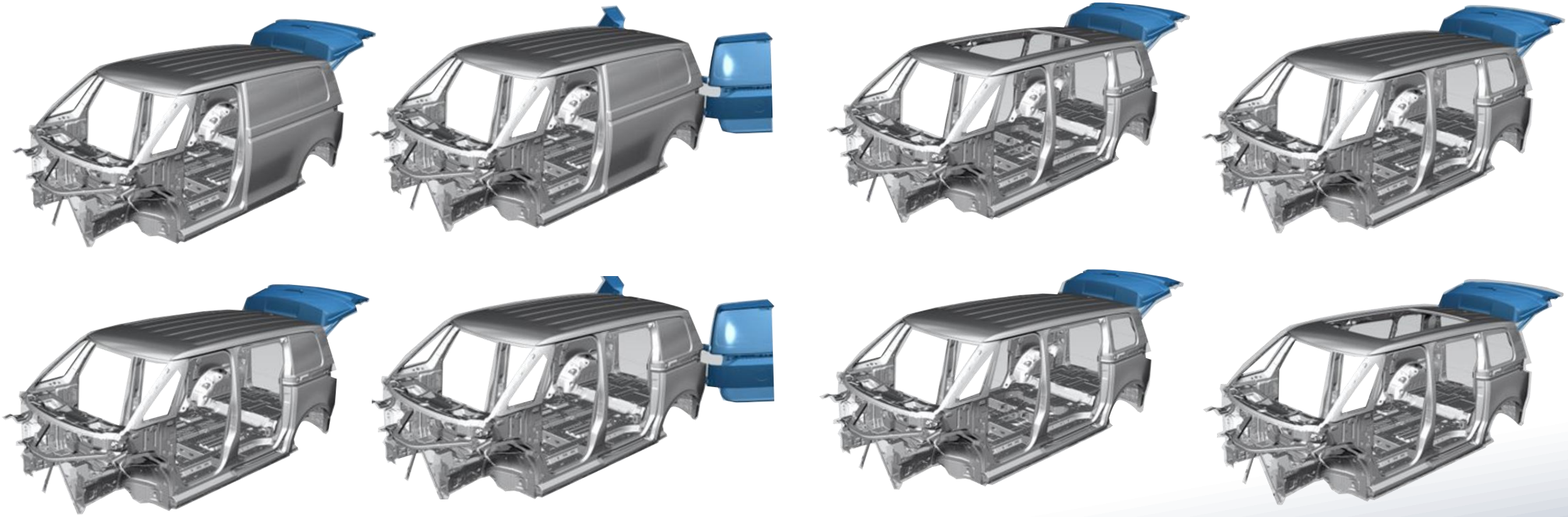
86 kWh net Lithium-Ion battery

https://www.vw.com/en/models/id-buzz.html



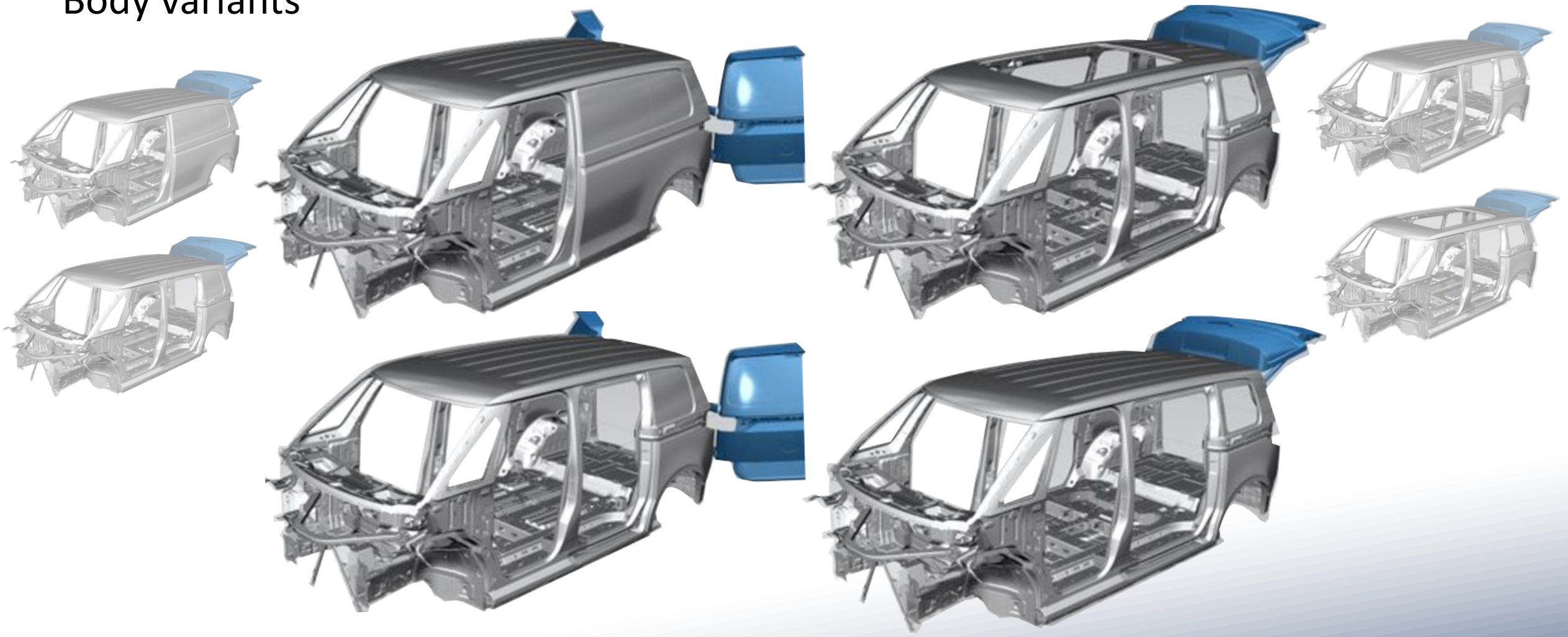
3.0 Body Structure

3.0 Body Structure
Body variants

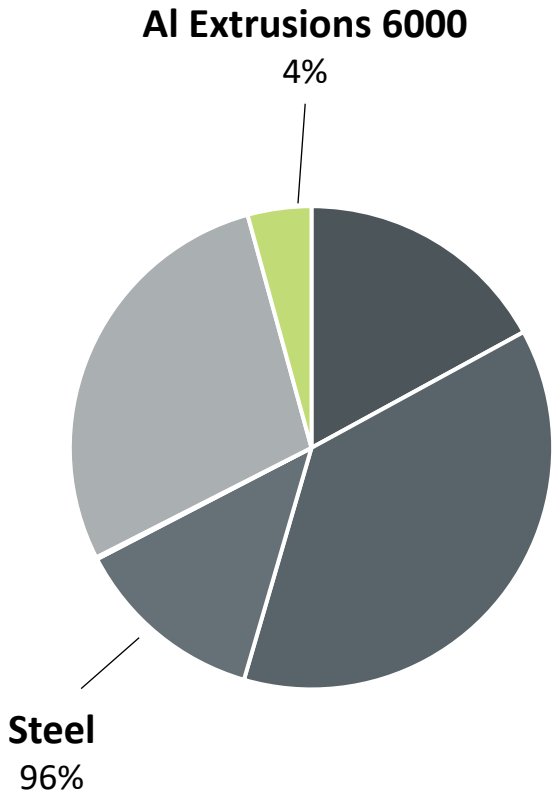


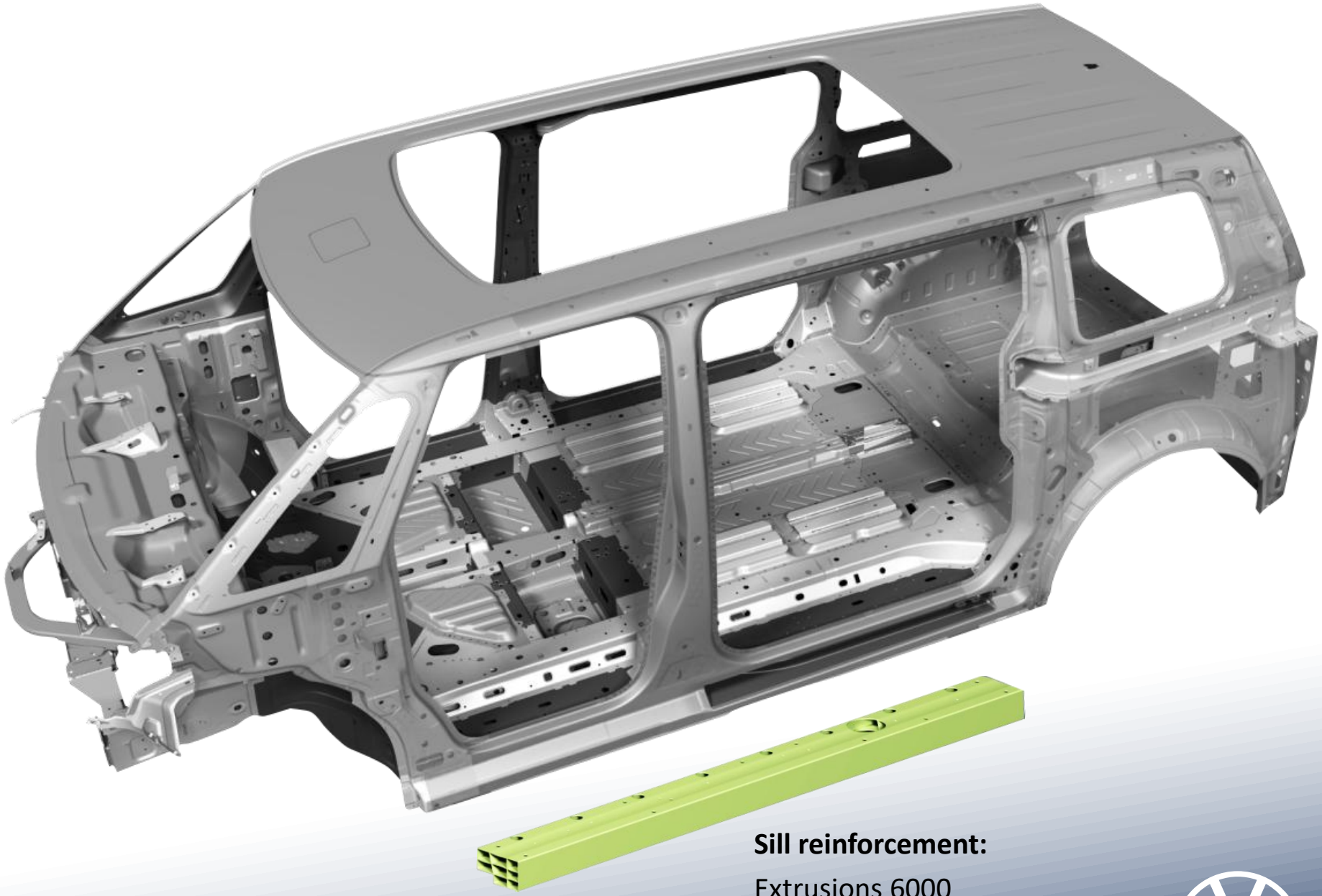
3.0 Body Structure

Body variants



3.0 Body Structure
Material distribution

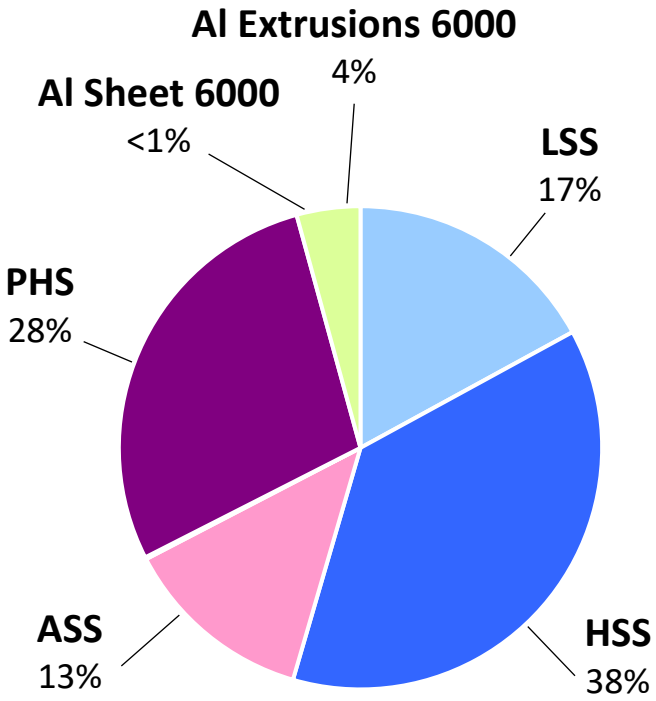


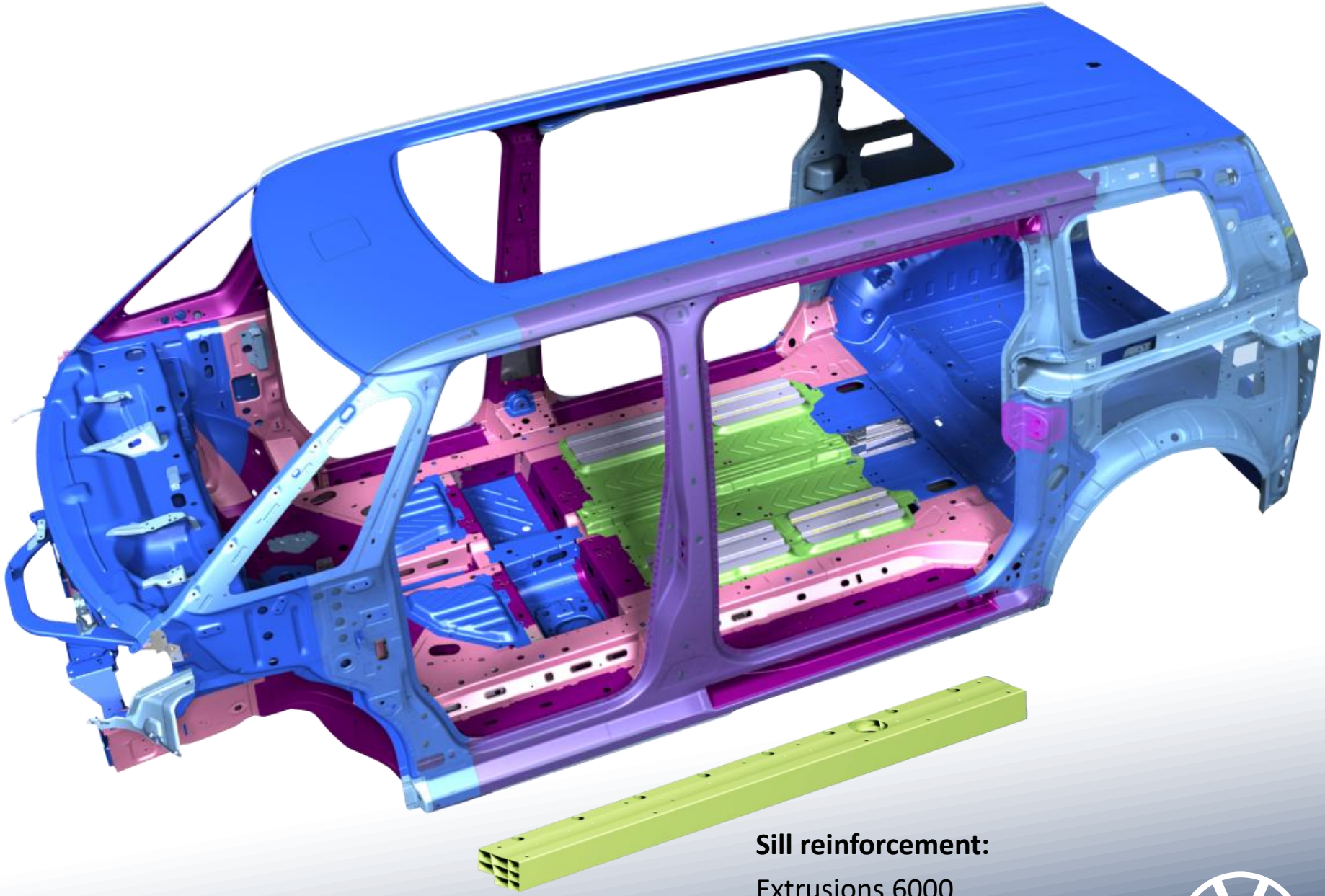


Sill reinforcement:

Extrusions 6000

3.0 Body Structure
Material distribution



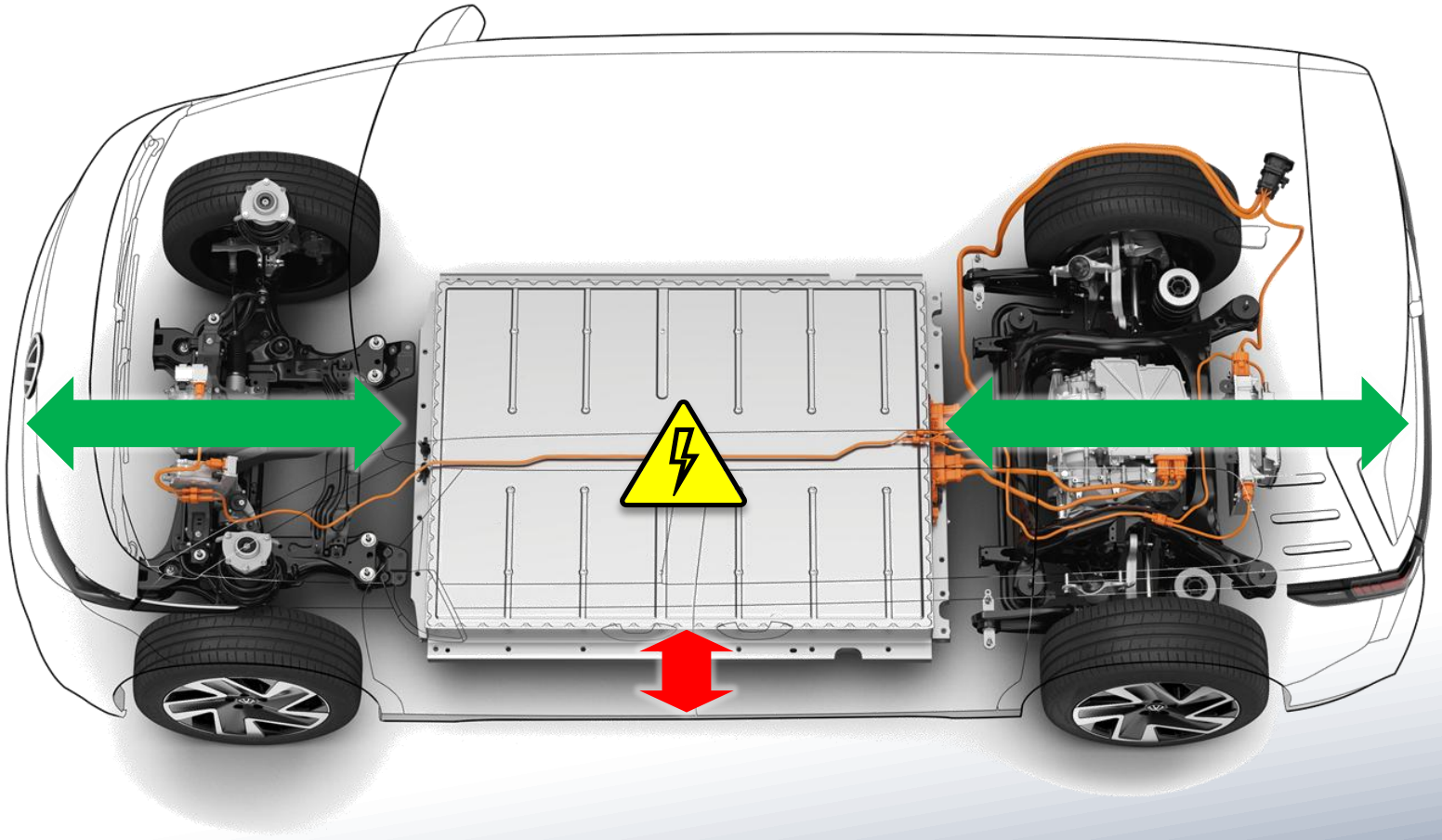


Sill reinforcement:

Extrusions 6000

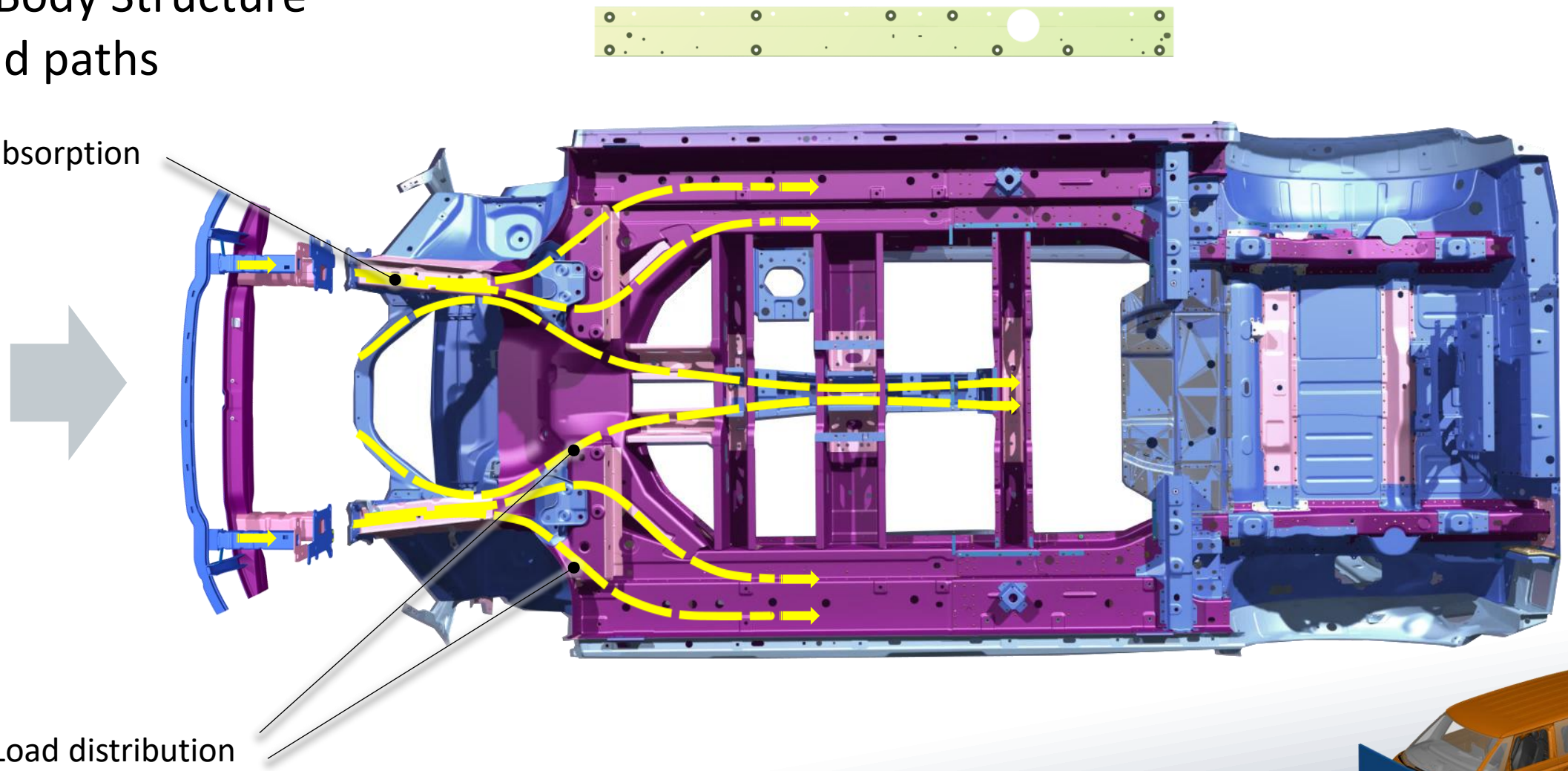
3.0 Body Structure

Challenge BEV – Protection of HV Battery



3.0 Body Structure
Load paths

Load absorption



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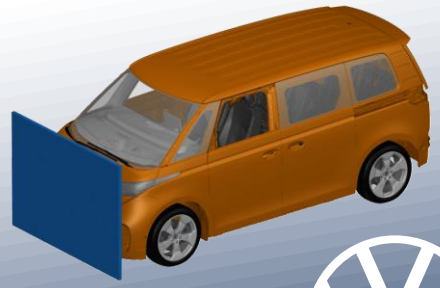

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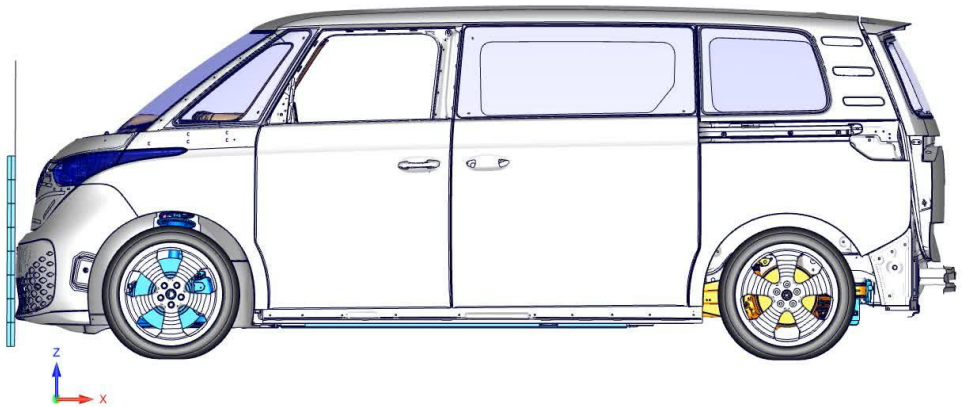
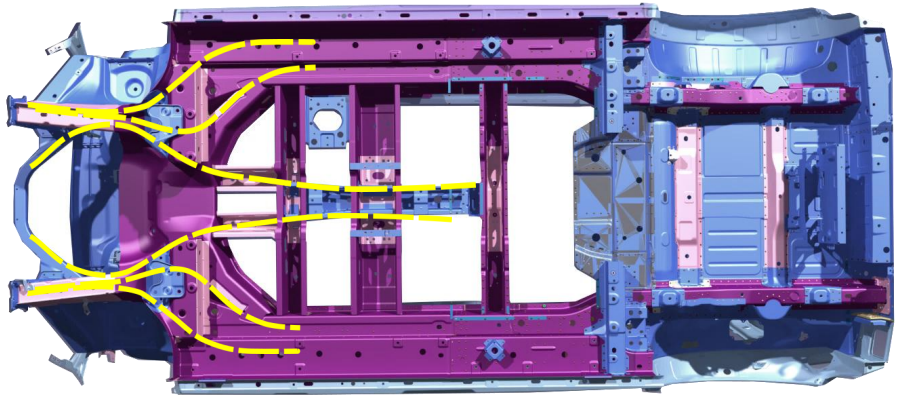
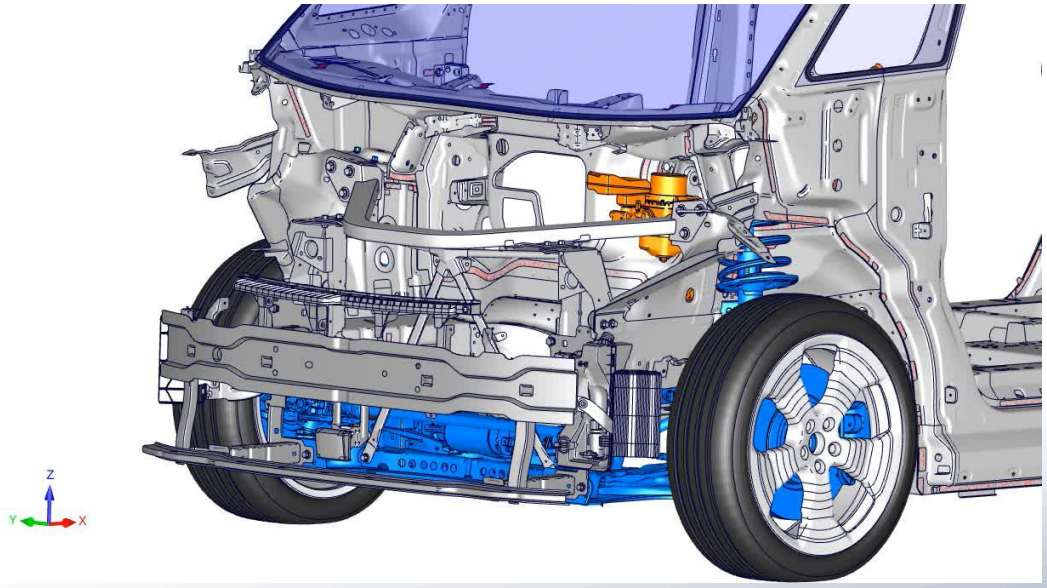
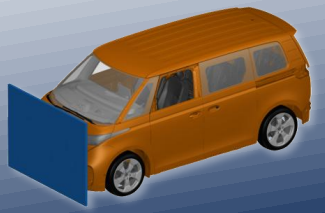
Load paths



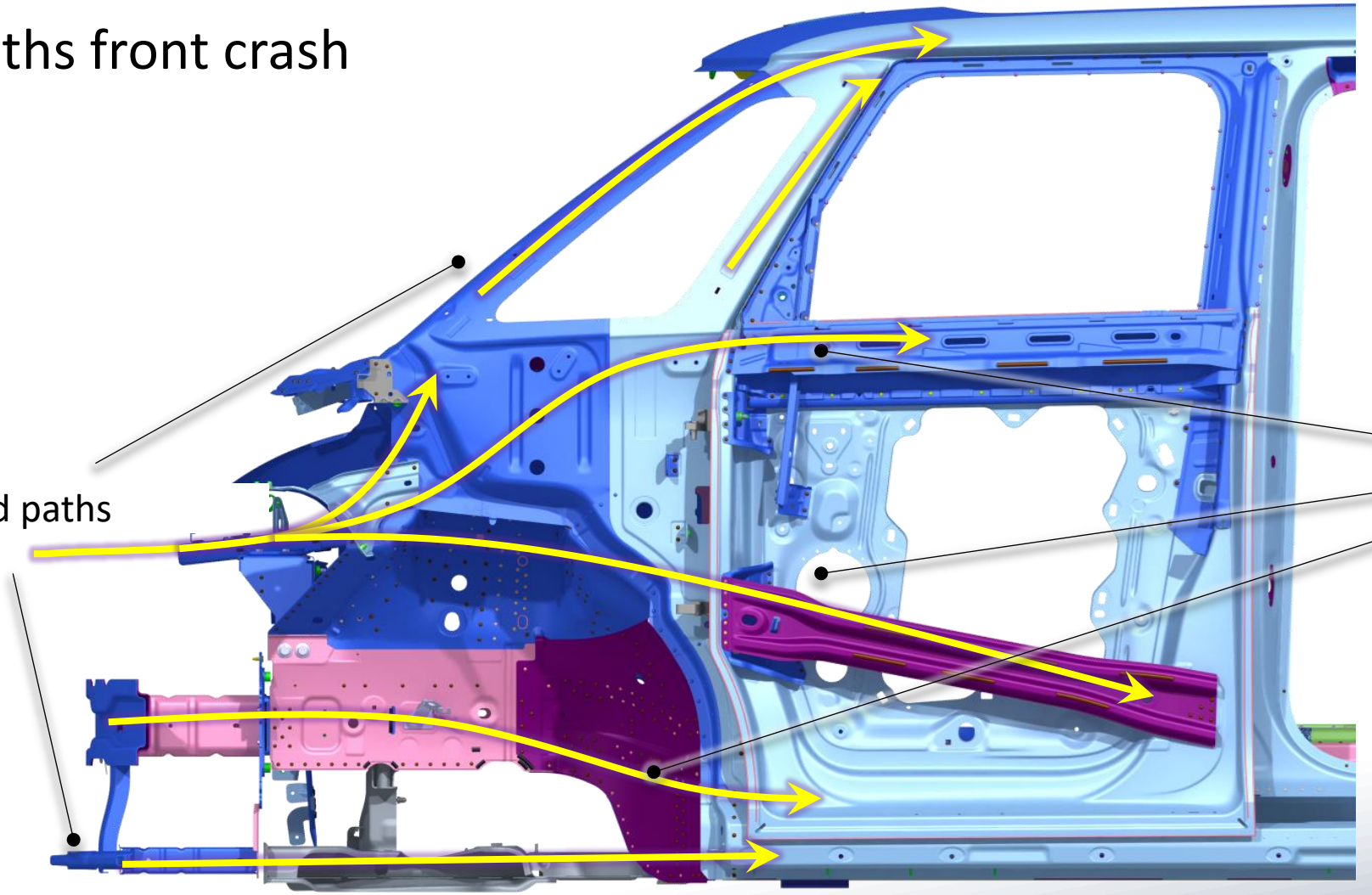






3.0 Body Structure

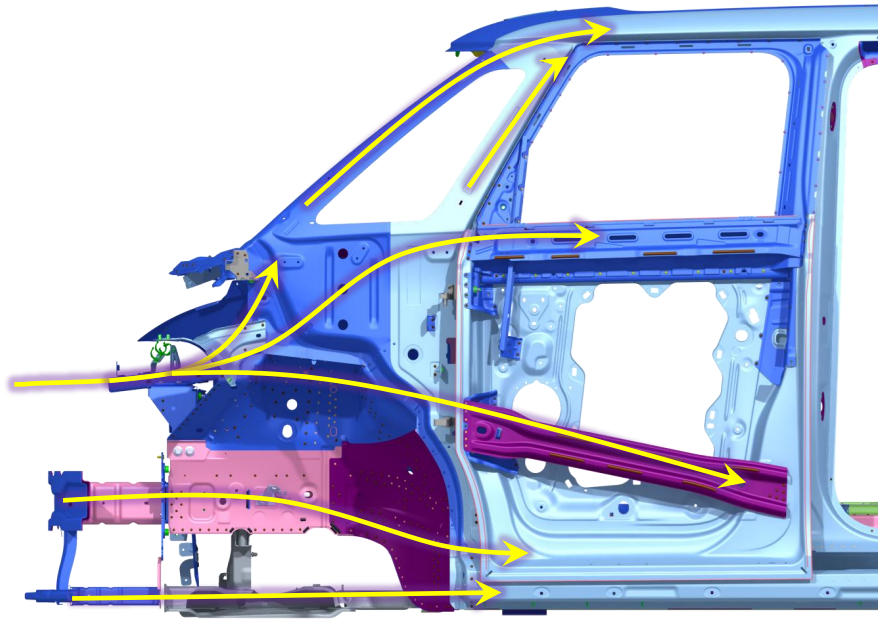
Load paths front crash

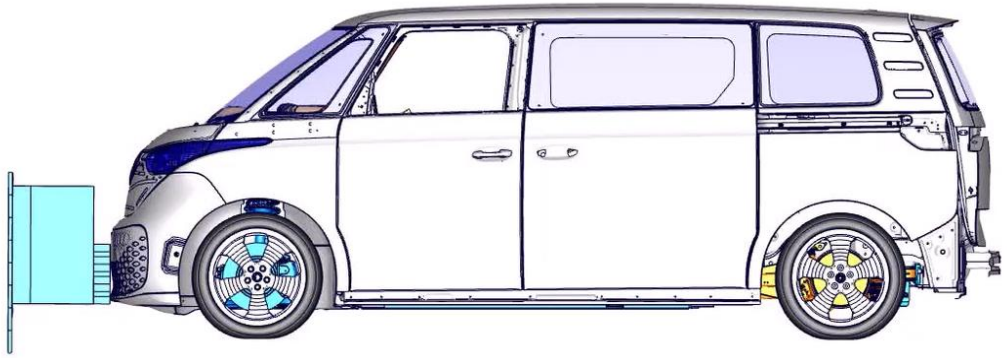


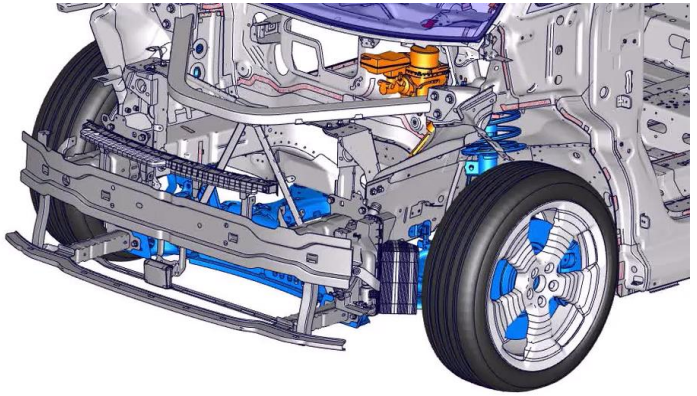
Secondary load paths

Main load paths

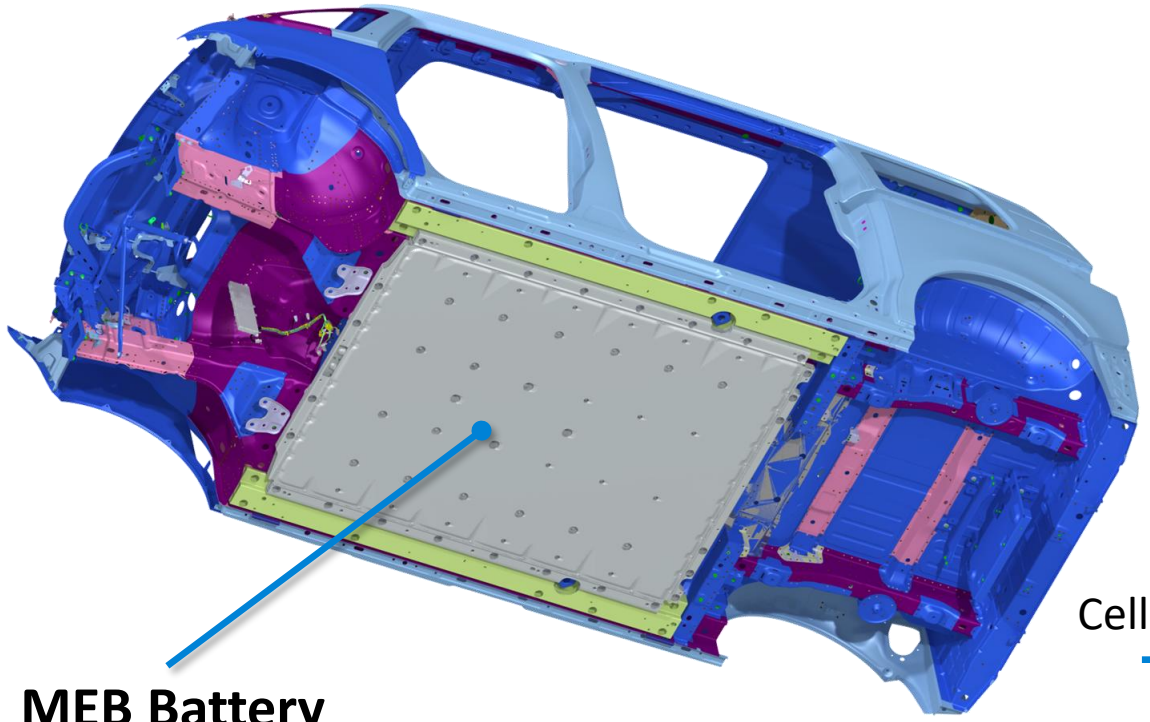
3.0 Body Structure
Load paths front crash



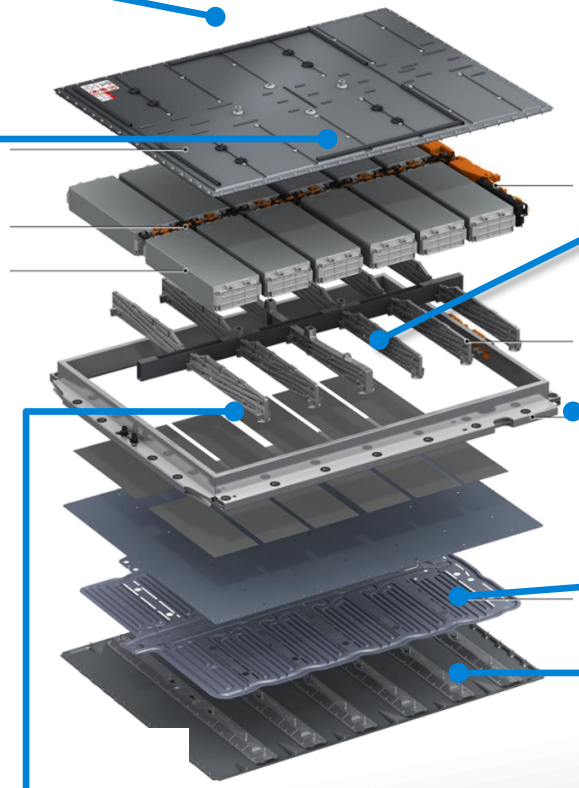




3.0 Body Structure
Battery integration



MEB Battery



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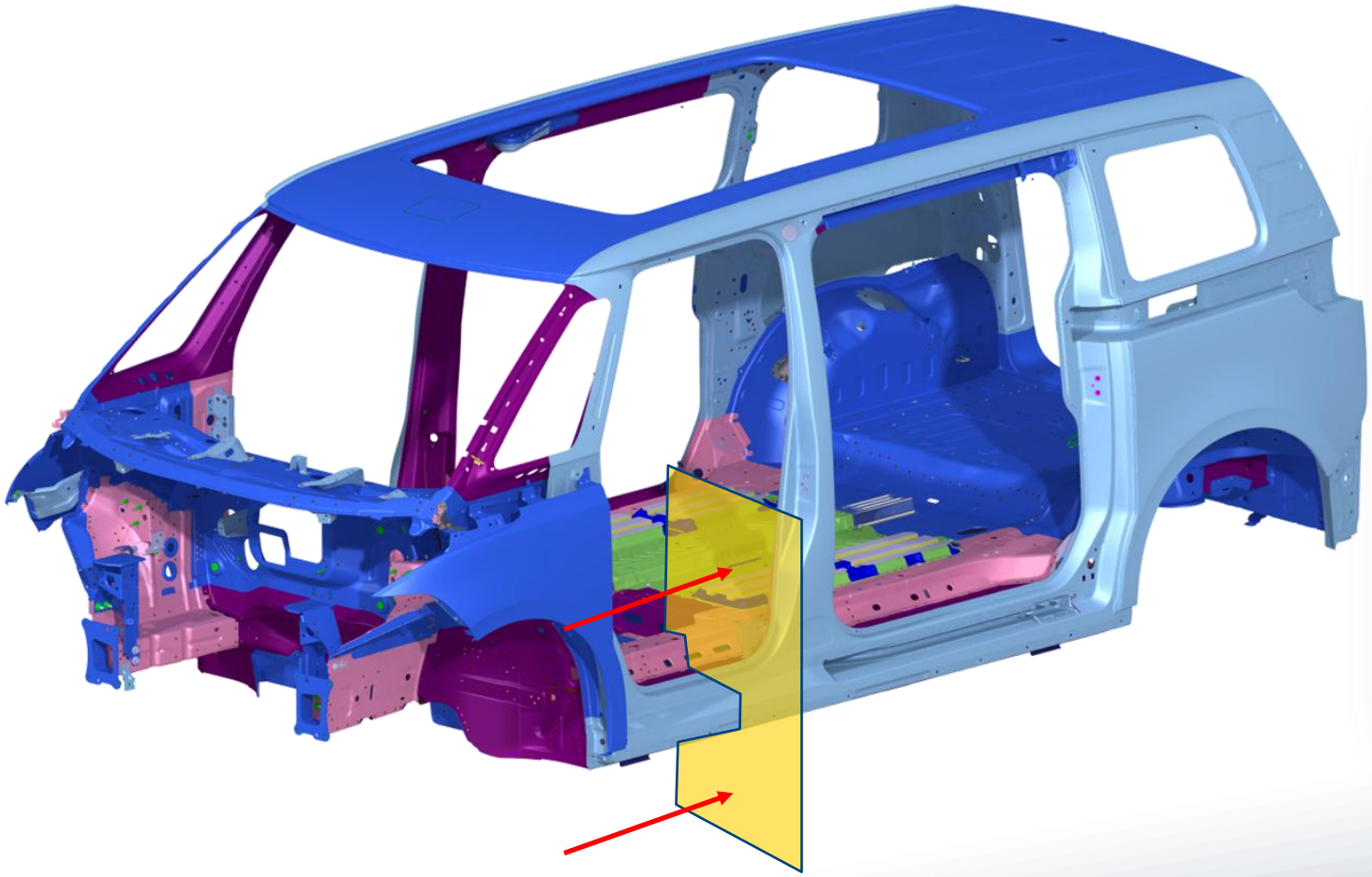
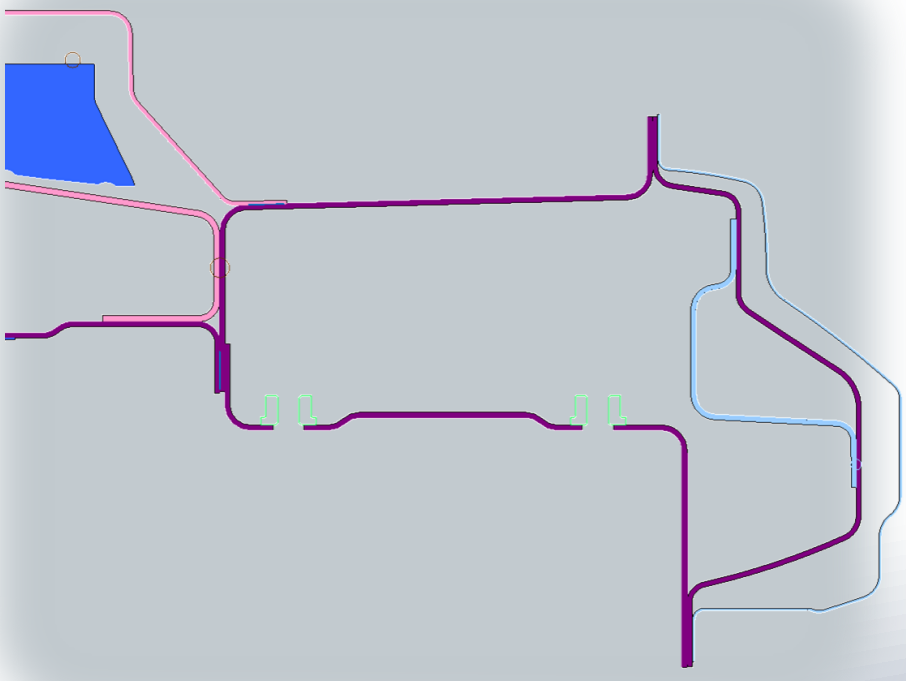
Battery integration





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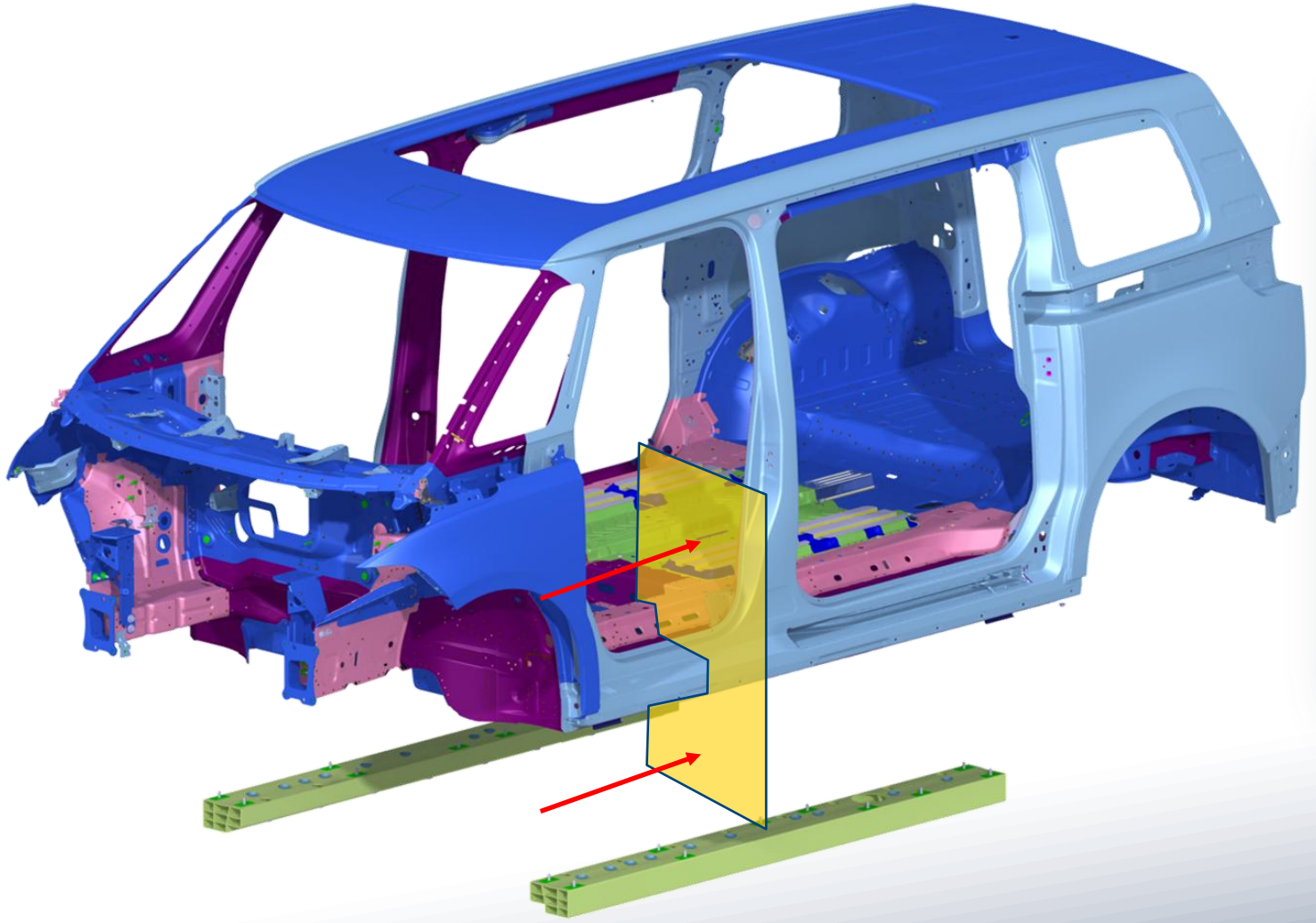

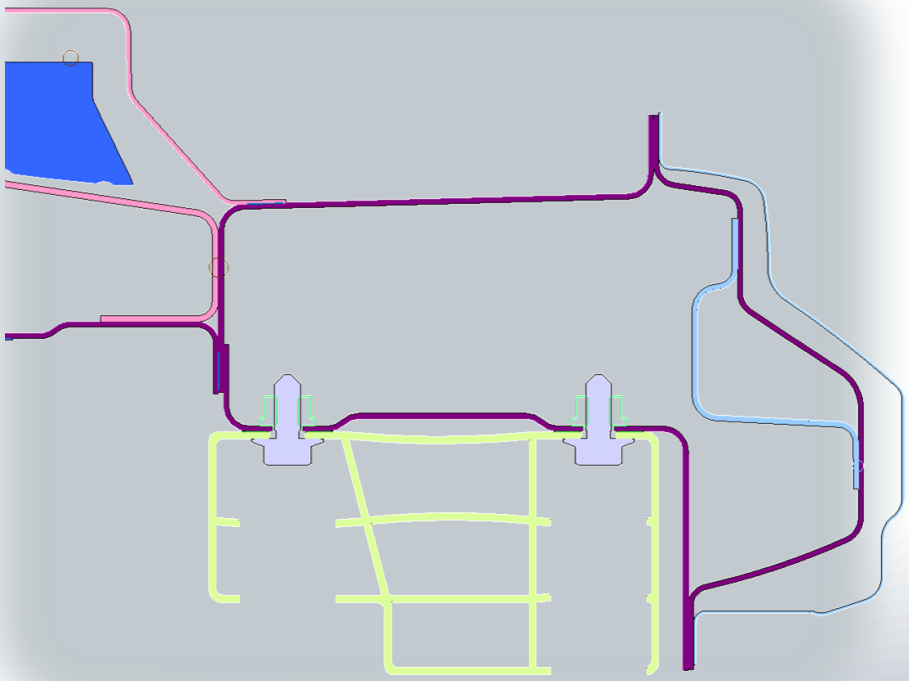

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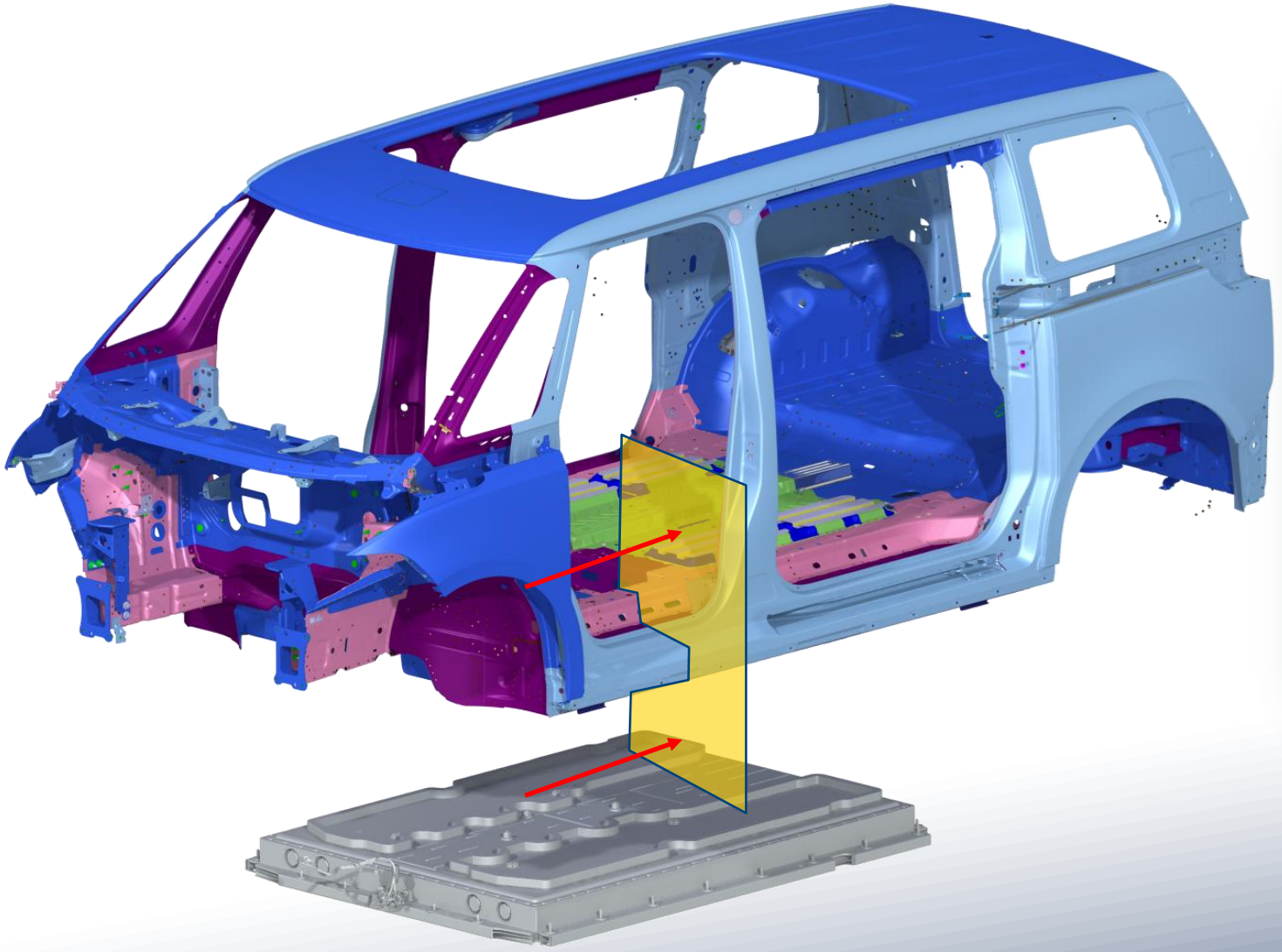
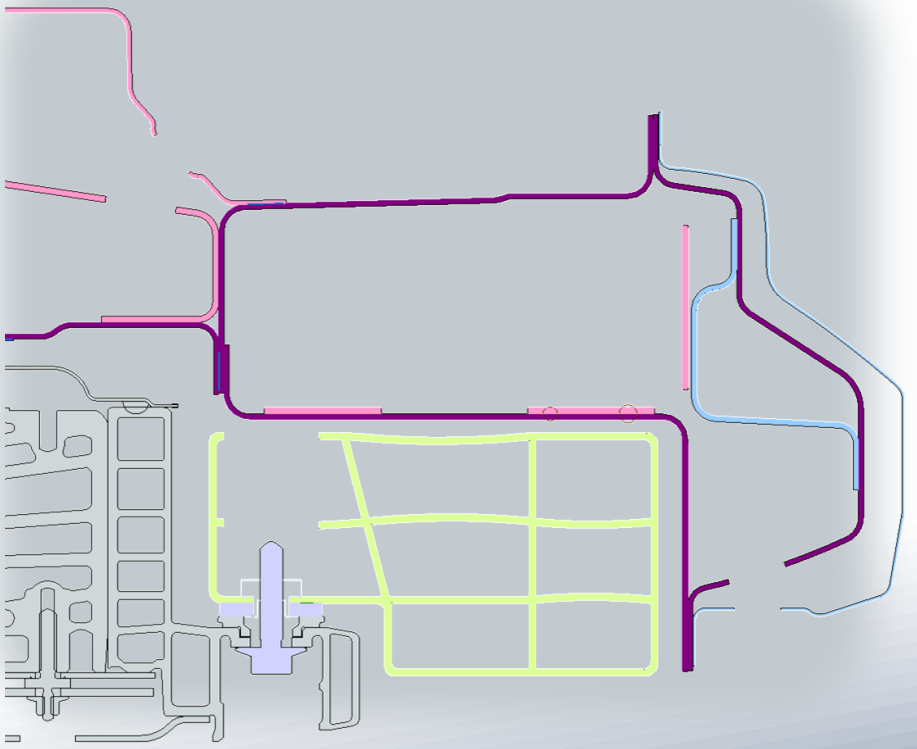
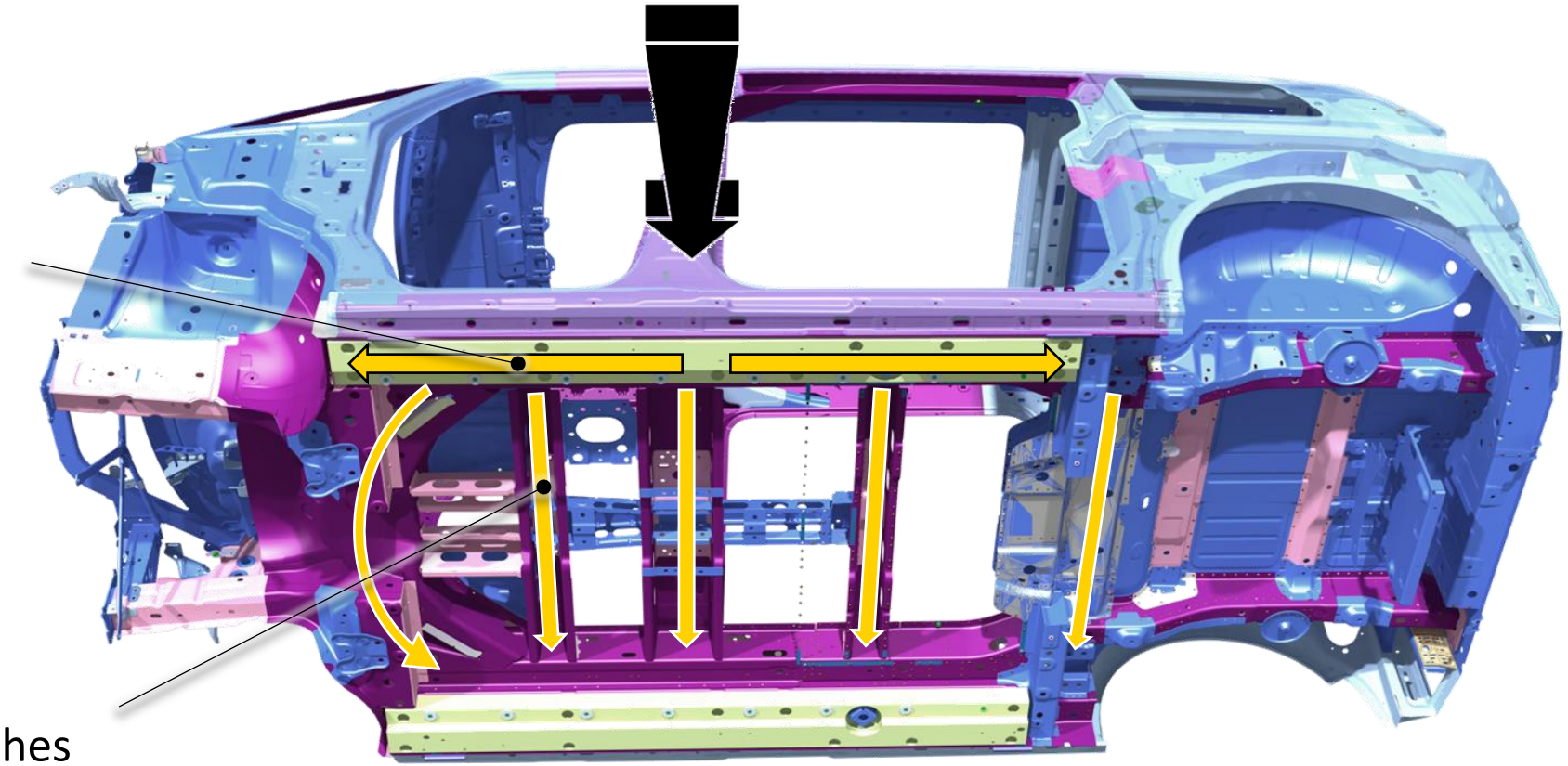


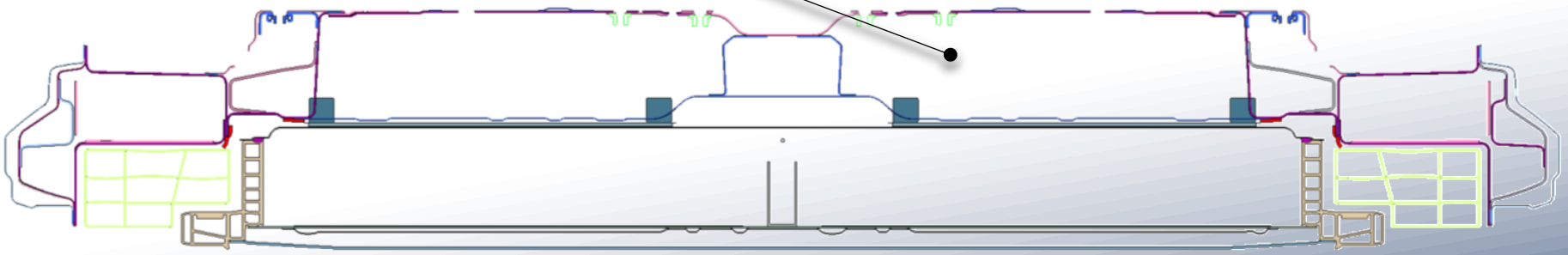


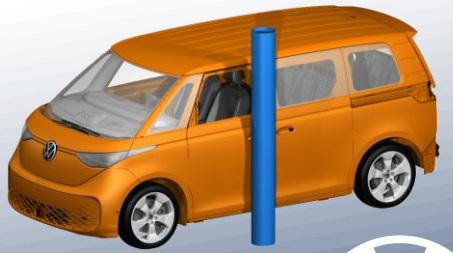
3.0 Body Structure
Load paths

Load absorption/distribution



Transversal load pathes





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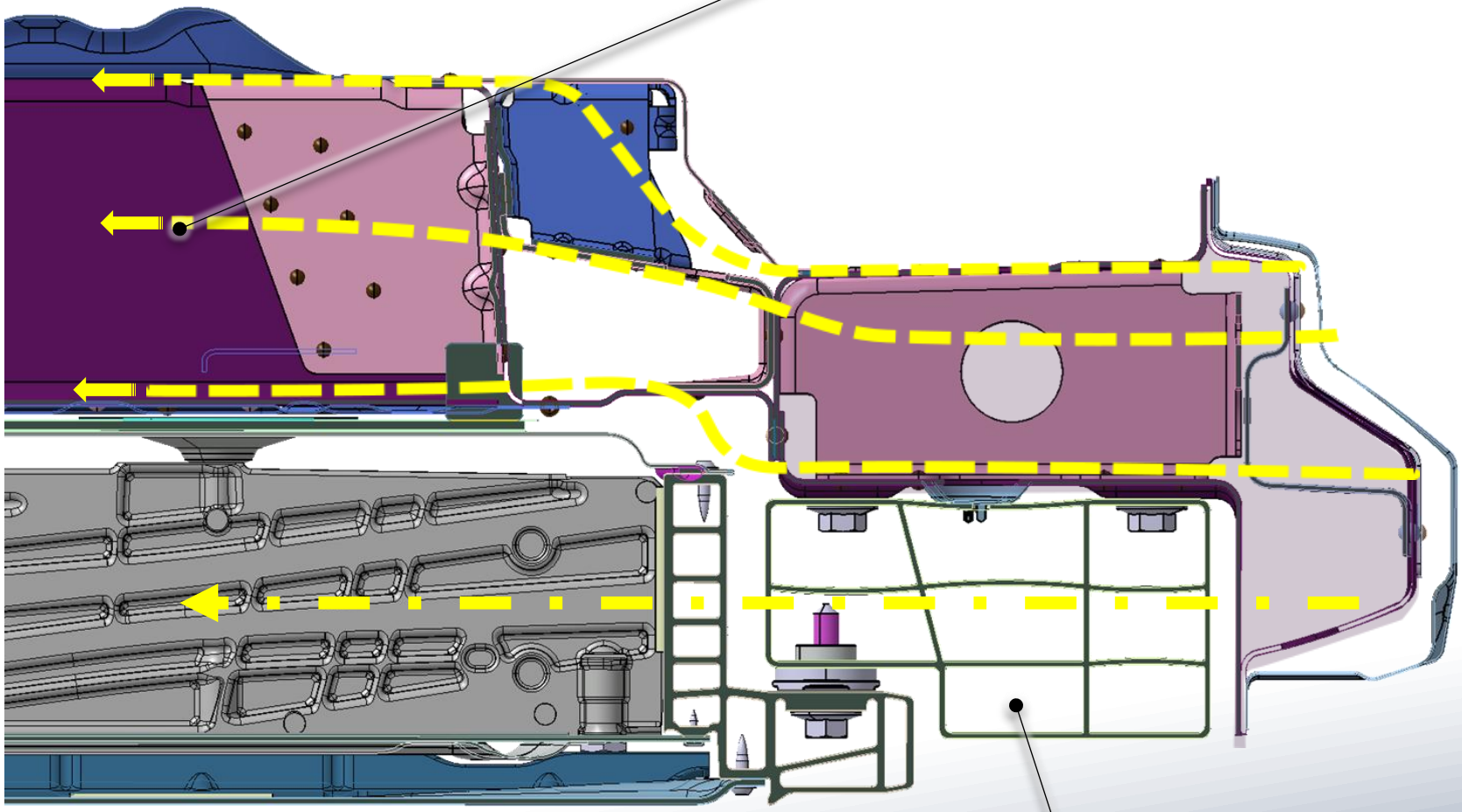
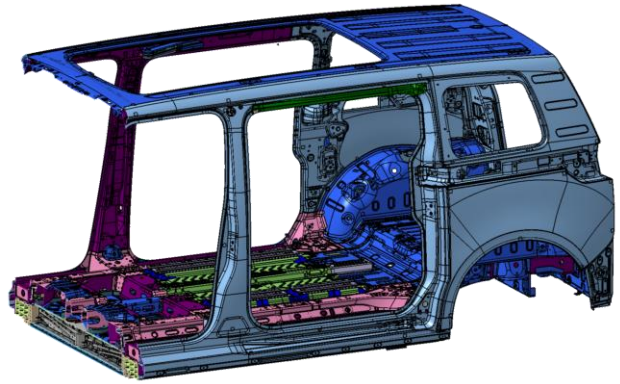
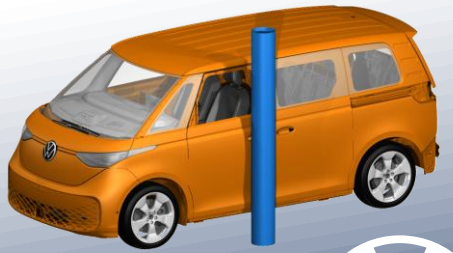
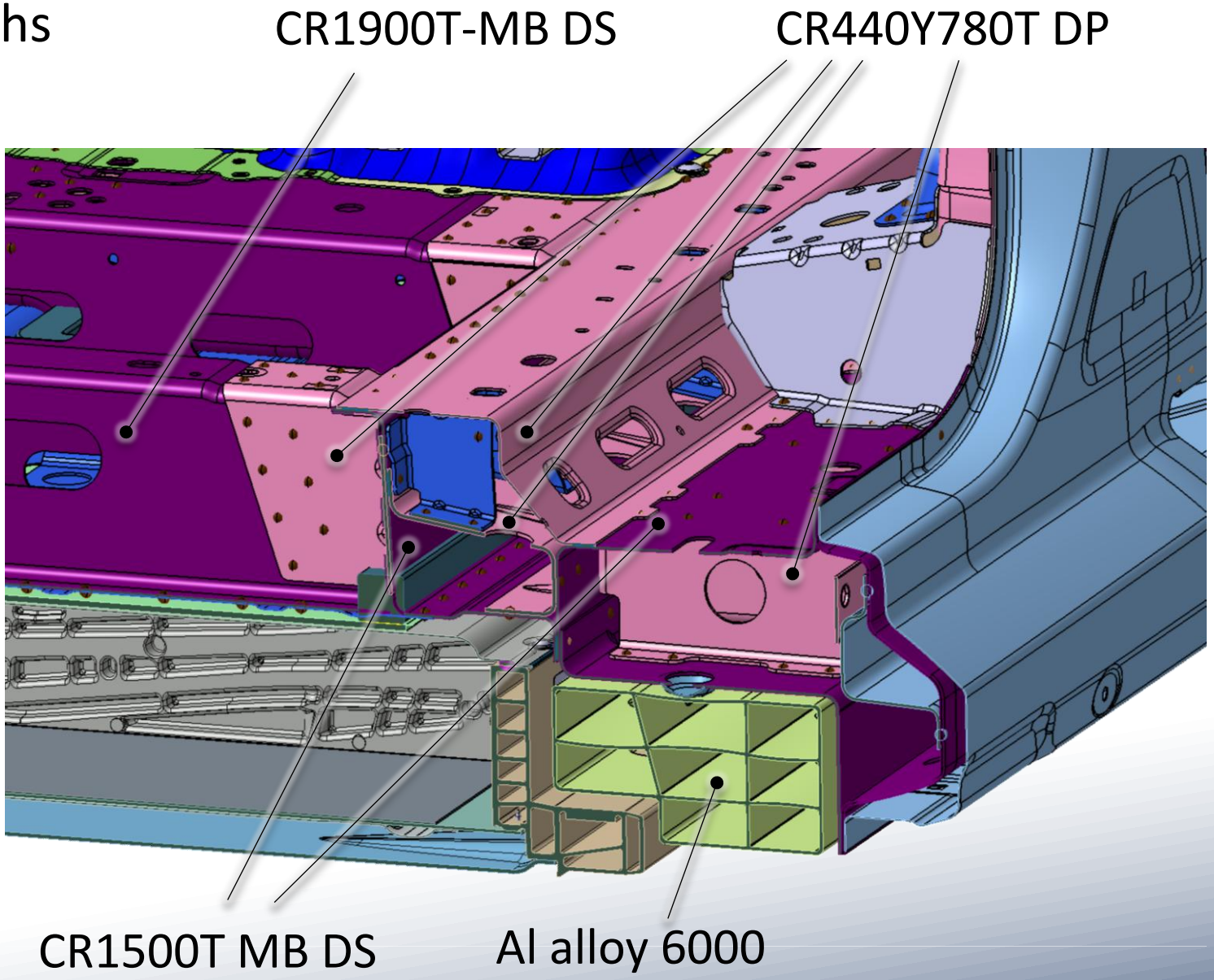


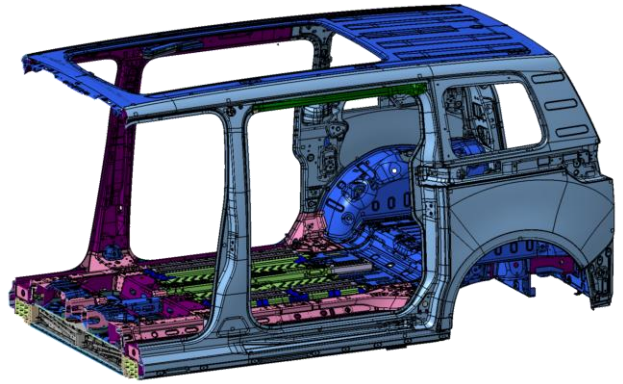


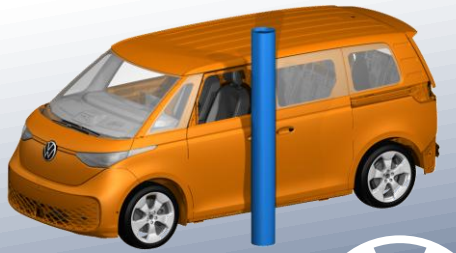


3.0 Body Structure

Load paths







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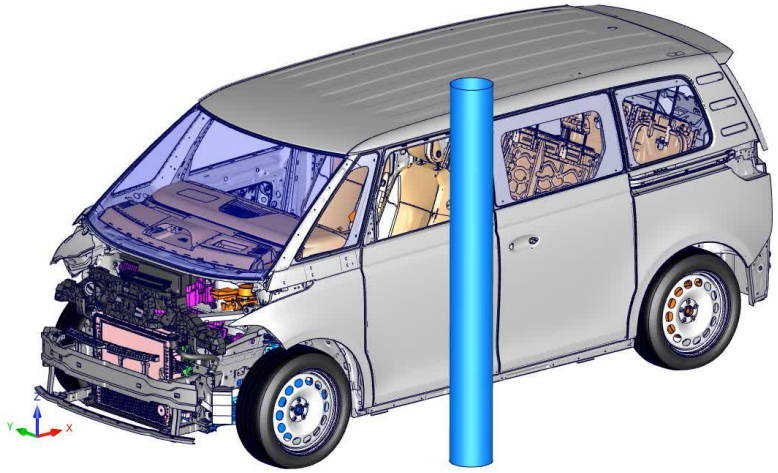
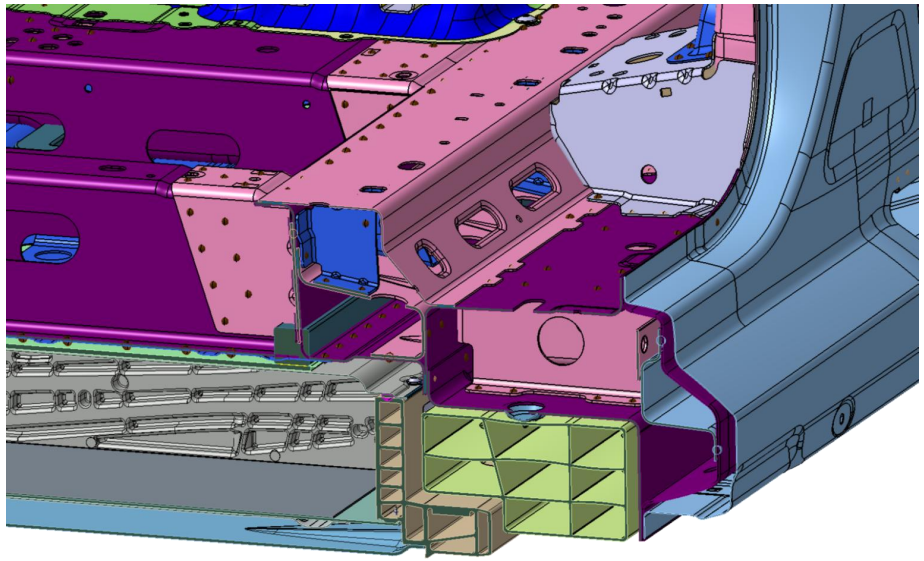
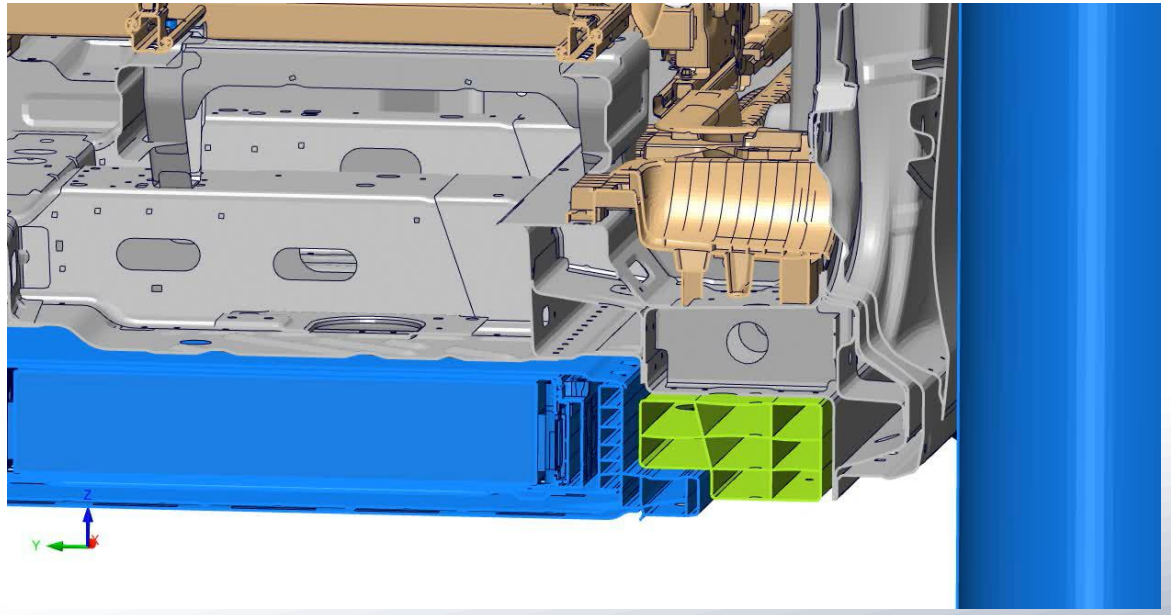
Load paths



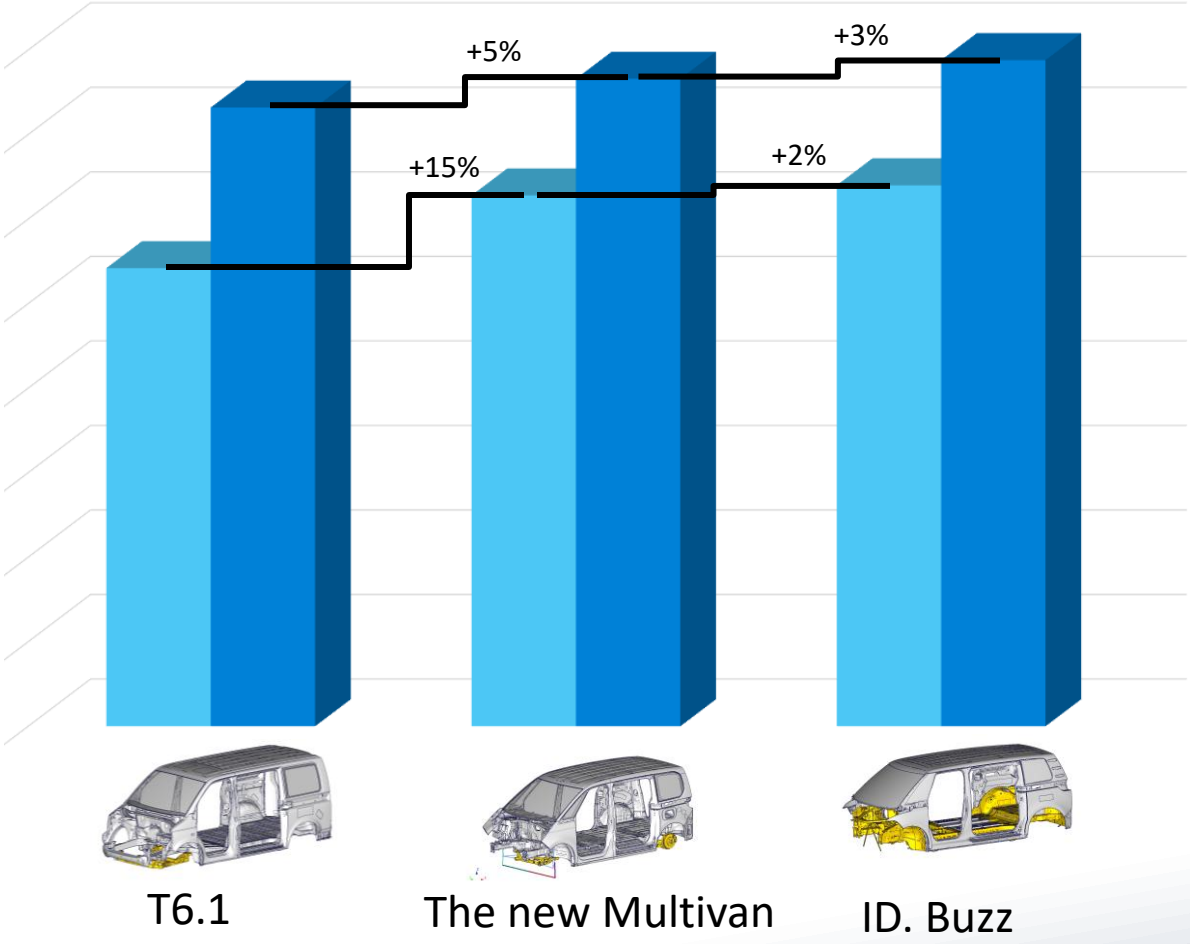


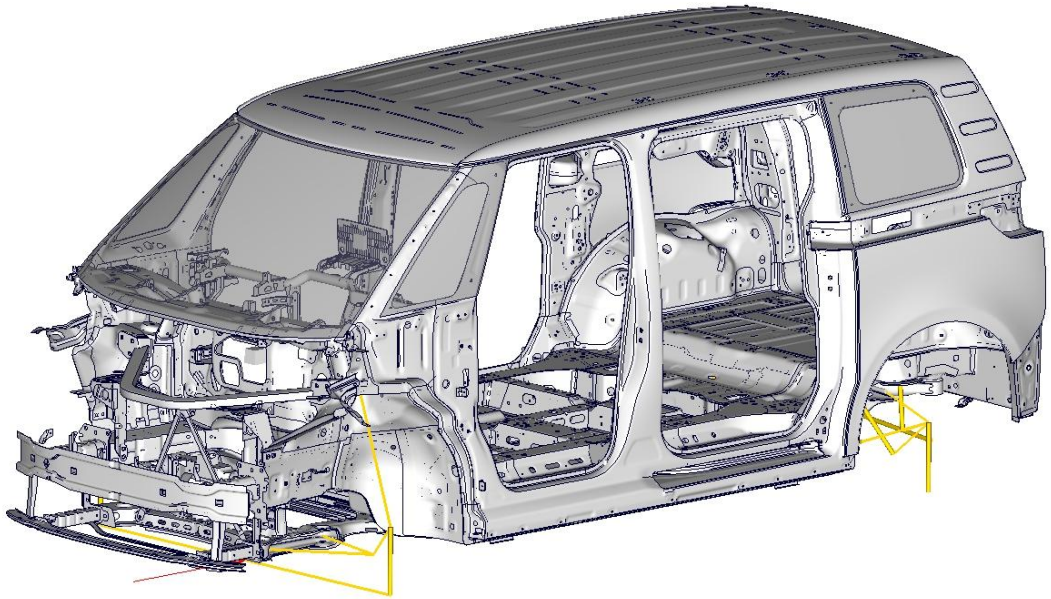


4.0 BIW Stiffness

4.0 BIW Stiffness

Evolution of body stiffness

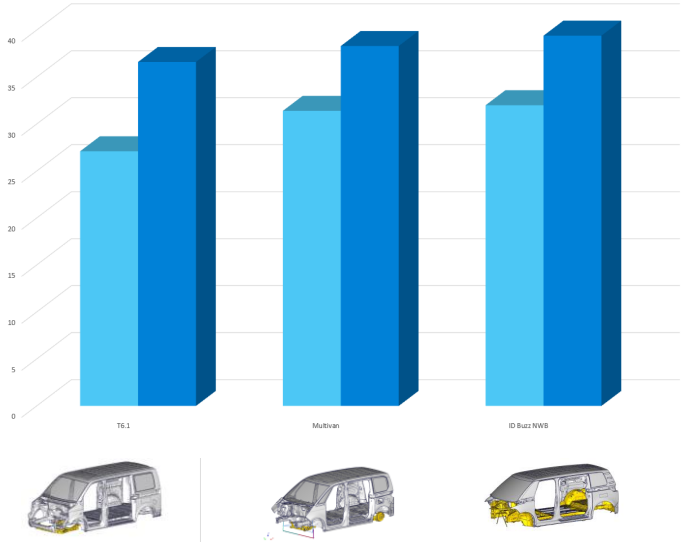


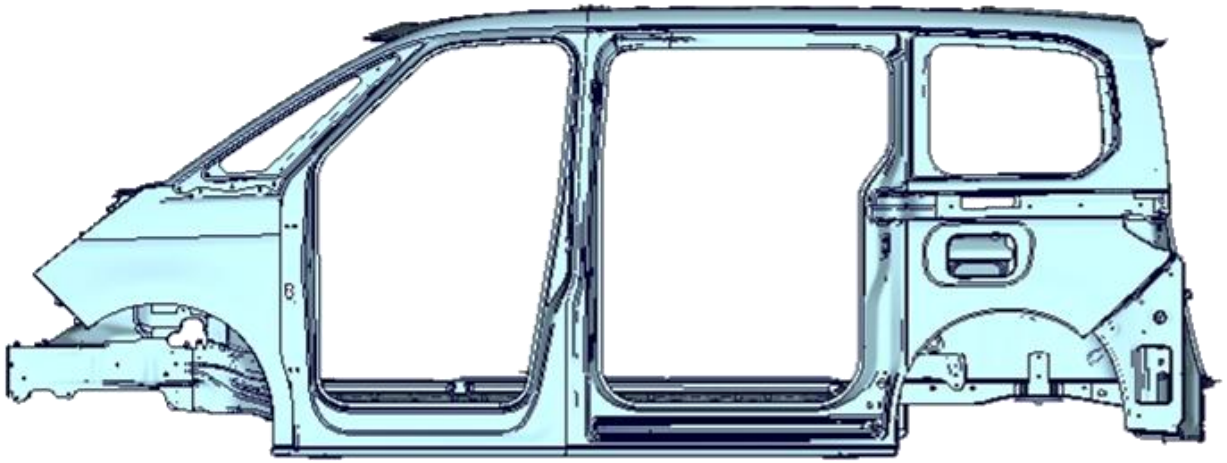


1. Torsion mode
1. Bending mode

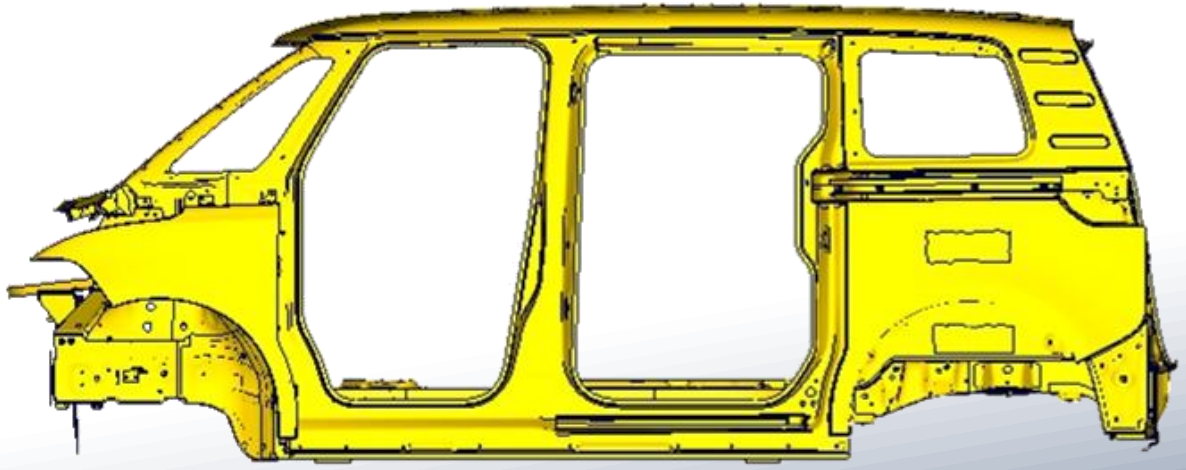
4.0 BIW Stiffness

Evolution of body stiffness



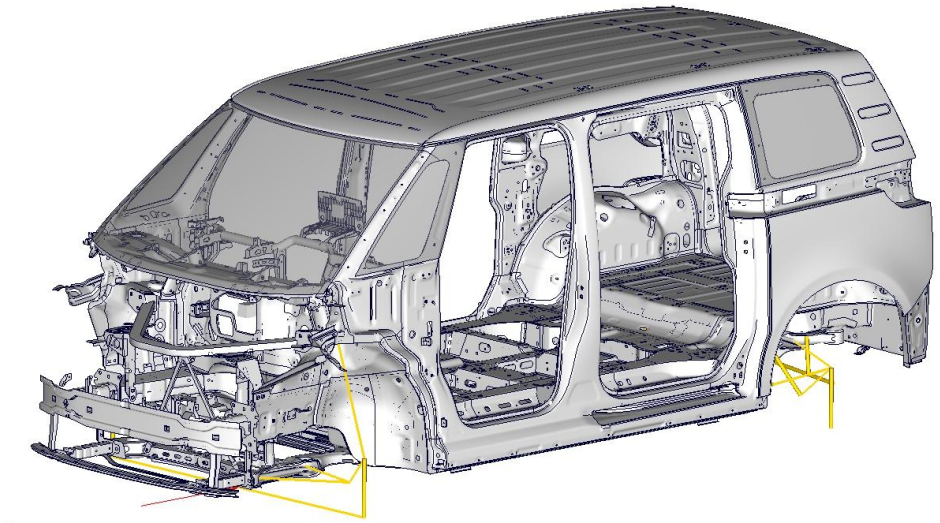


The new Multivan

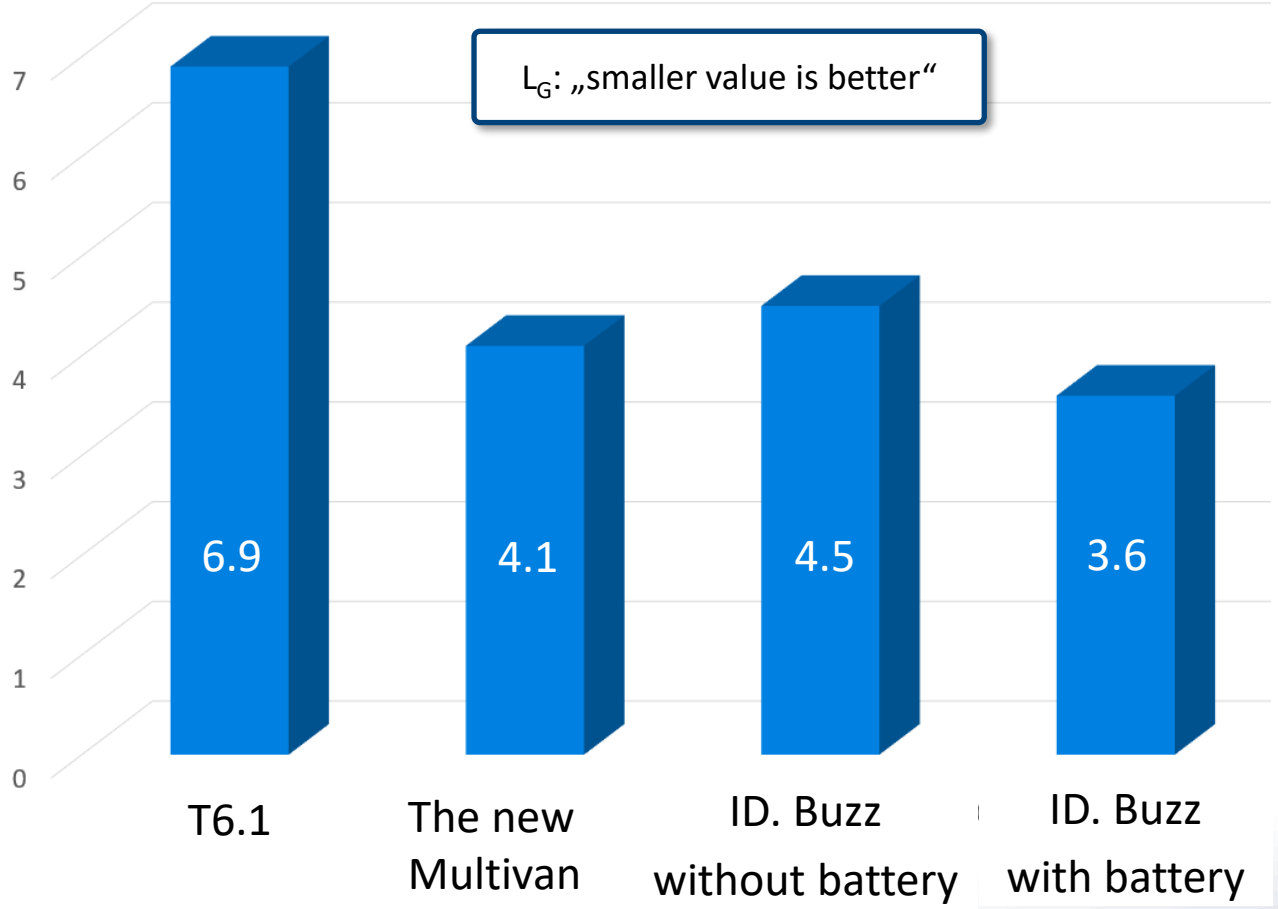


ID. Buzz

4.0 BIW Stiffness
Lightweight index



$$L_G = \frac{m_{RK}\,[kg]}{A[m^2] * CT[\frac{Nm}{°}]} * 1000$$



- m_{RK} - Mass body in white [kg]
- A - Footprint [m²]
- C_T - Static torsional stiffness [Nm/°]

5.0 Aerodynamics

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Intransient aerodynamic-simulation

5.0 Aerodynamics

Overview and body highlights

Sloped Roof

Large roof spoiler

Optimized exterior mirror

D-pillar flaps

Aircurtain

Sharp-edged rear

Rear diffuser

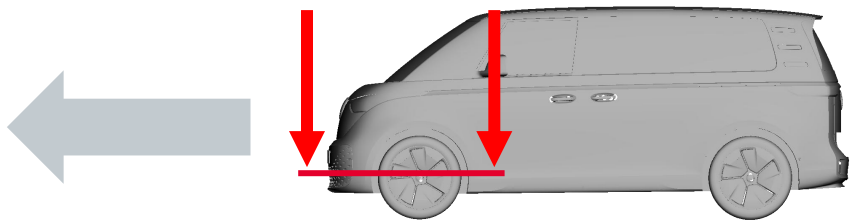
Aerodynamically optimized wheels

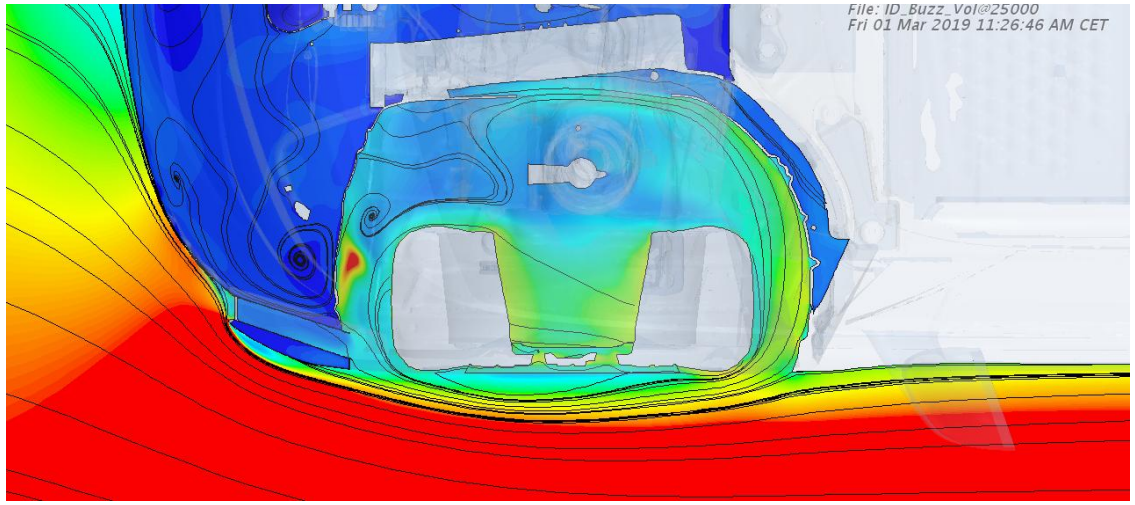
Closable cooling intake

E-vehicle advantage:
Smooth underbody

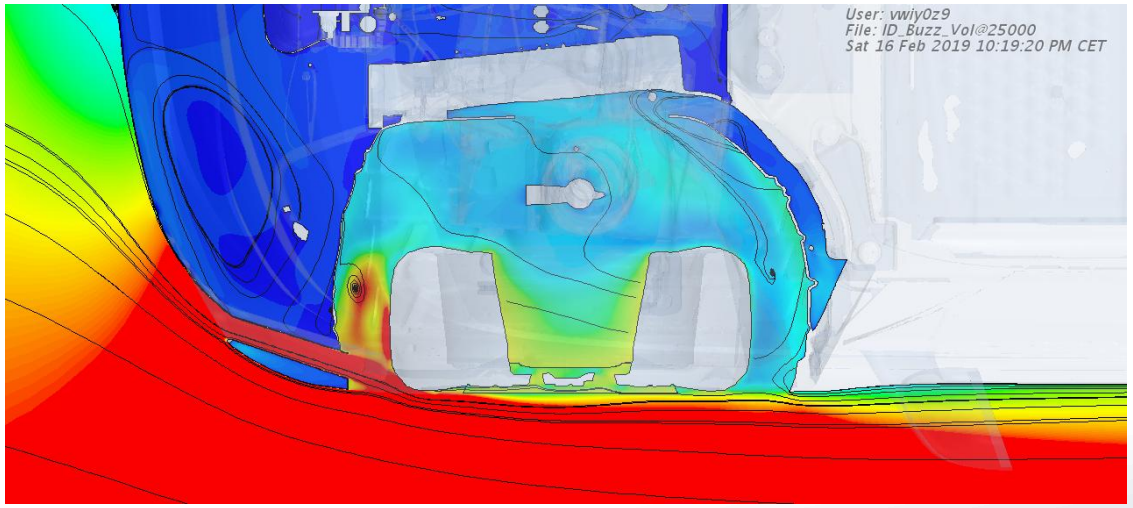
5.0 Aerodynamics

Air curtain



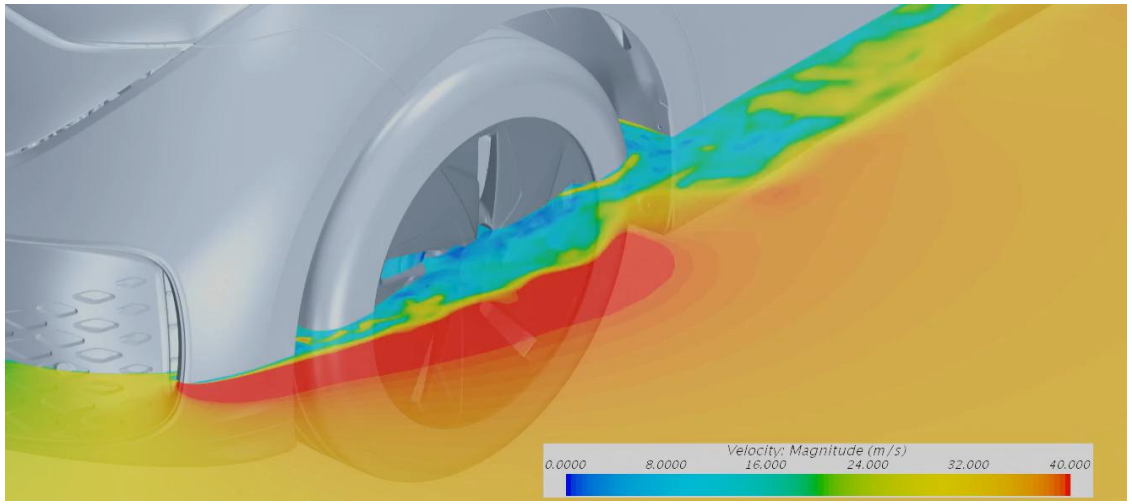


Air curtain closed

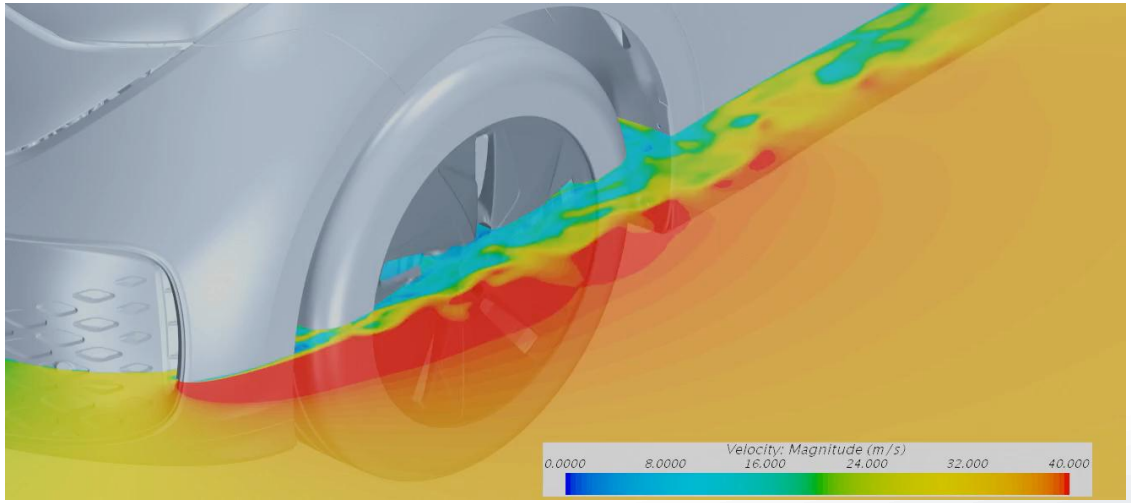


Air curtain open

5.0 Aerodynamics
Air curtain



Air curtain closed



Air curtain open


Vagatio


Commercial
Vehicles
MOIA
SELF - DRIVING - VEHICLE
Autonomous vehicle displayed is a prototype.


Thank you!

8.0 Production
Droneflight