

Alternative Fuels for Councils Manchester, 2020-01-23 **BLUEPOWER**



KIRCHHOFF
ECOTEC

FAUN
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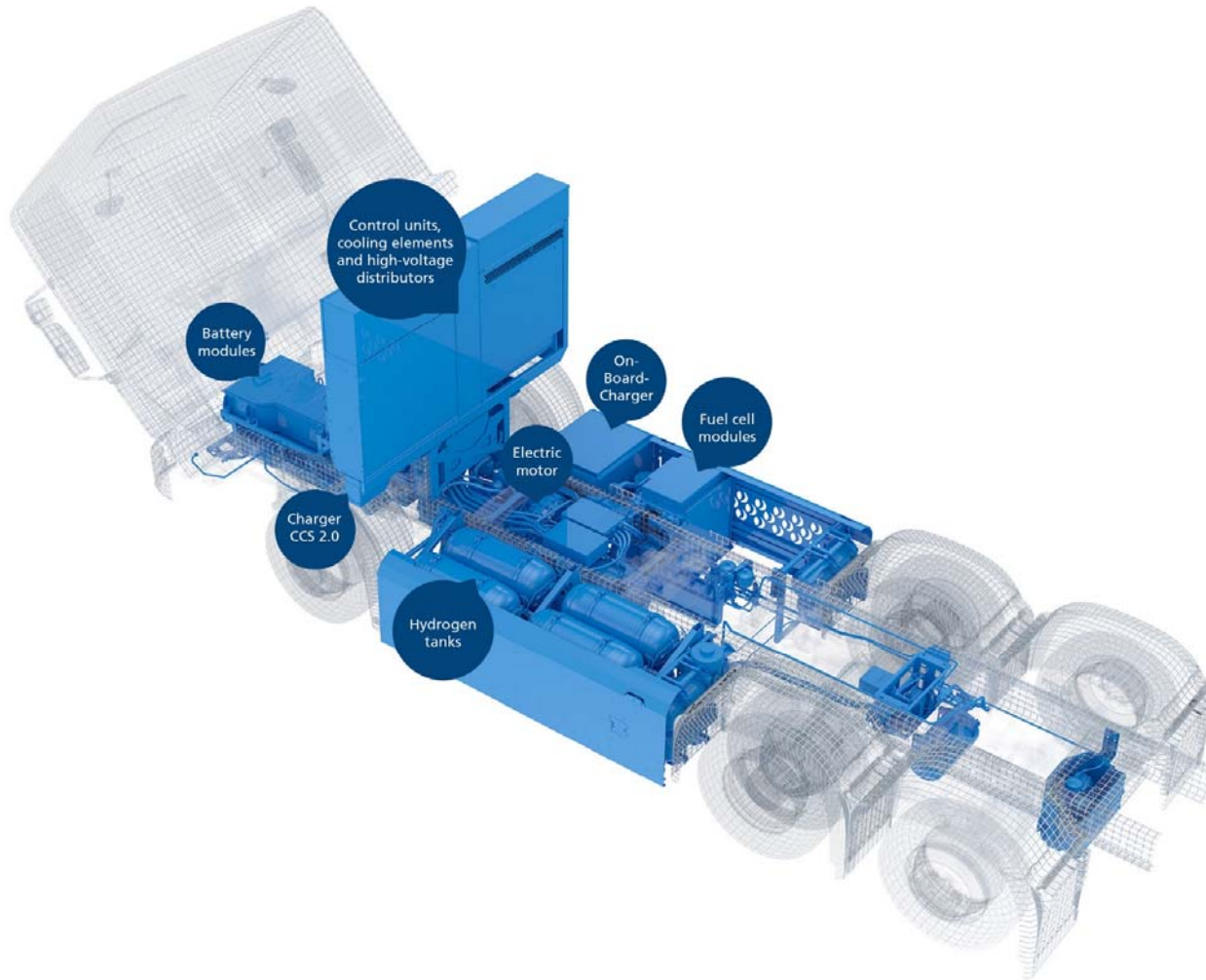
HYDRO-MAK
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BLUEPOWER



28.01.2020

G. Sandkühler

Base package: Electric chassis with battery

For more range: Hydrogen fuel cell as range extender

Battery capacity: 85 kWh (EoL)

Weight: approx. 1,000 kg

Collection capacity: 2 x 10 t waste

Range: ~20 km of transport distance

Charging: 40 min fast charge

Chemistry: Lithium-Iron-Phosphate (LiFePo) or Lithium-Nickel-Manganese (NMC)

R: range | C: collection capacity | S: speed profile

	Base package	One fuel cell	Two fuel cells	Three fuel cells
Battery 85 kWh, intermediate charging	R: 10 km C: 2 x 11,5 to S: City			
Battery + 1 tank		R: 100 km C: 2 x 10,9 to S: City	R: 100 km C: 2 x 10,8 to S: Rural	
Battery + 2 tank		R: 200 km C: 2 x 10,8 to S: City	R: 200 km C: 2 x 10,7 to S: Rural	R: 200 km C: 2 x 10,6 to S: Highway
Battery + 3 tank		R: 300 km C: 2 x 10,7 to S: City	R: 300 km C: 2 x 10,6 to S: Rural	R: 300 km C: 2 x 10,5 to S: Highway
Battery + 4 tank		R: 400 km C: 2 x 10,6 to S: City	R: 400 km C: 2 x 10,5 to S: Rural	R: 400 km C: 2 x 10,4 to S: Highway



R: range | C: collection capacity | S: speed profile

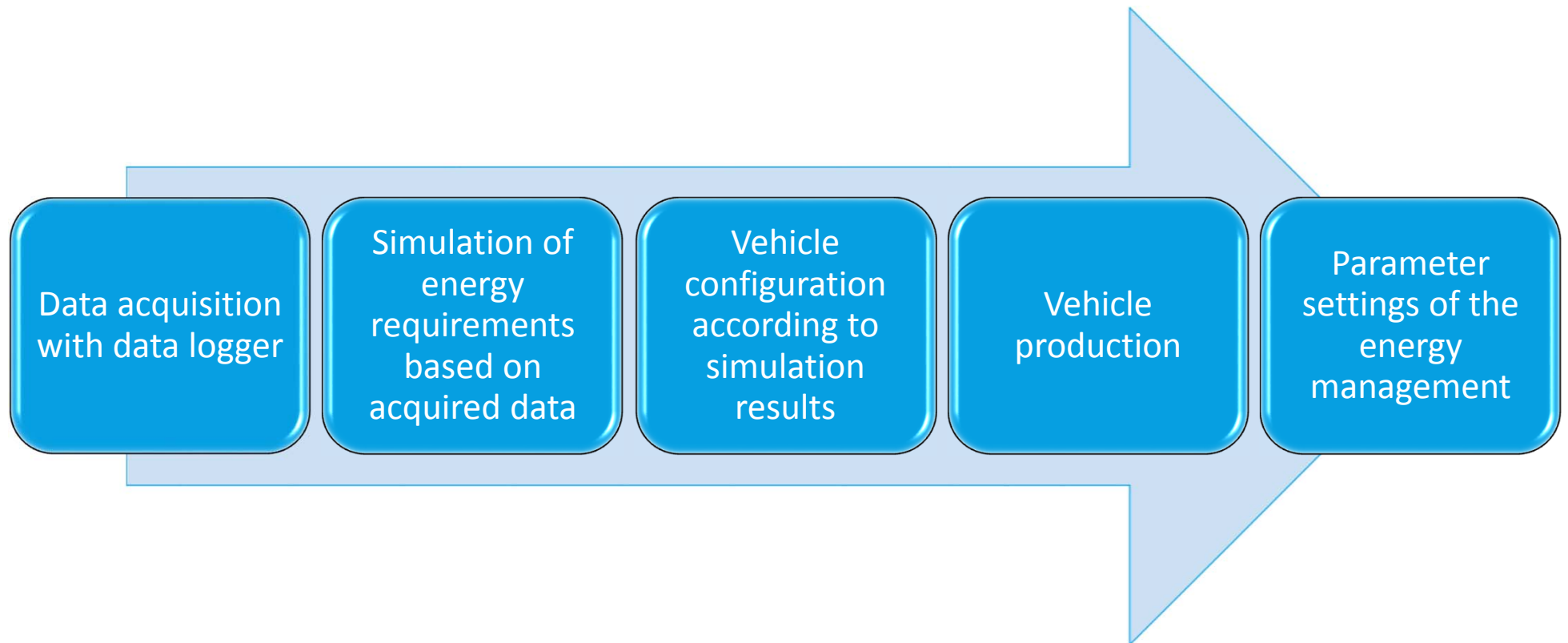
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Battery + 4 tank		R: 400 km C: 2 x 10,6 to S: City	R: 400 km C: 2 x 10,5 to S: Rural	R: 400 km C: 2 x 10,4 to S: Highway
Pure battery (400 kWh)	R: 400 km C: 2 x 6,0 to S: Highway			



R: range | C: collection capacity | S: speed profile

	Base package	One fuel cell	Two fuel cells	Three fuel cells
Battery 85 kWh, intermediate charging	R: 10 km C: 2 x 11,5 to S: City			
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Other Features of BLUEPOWER.

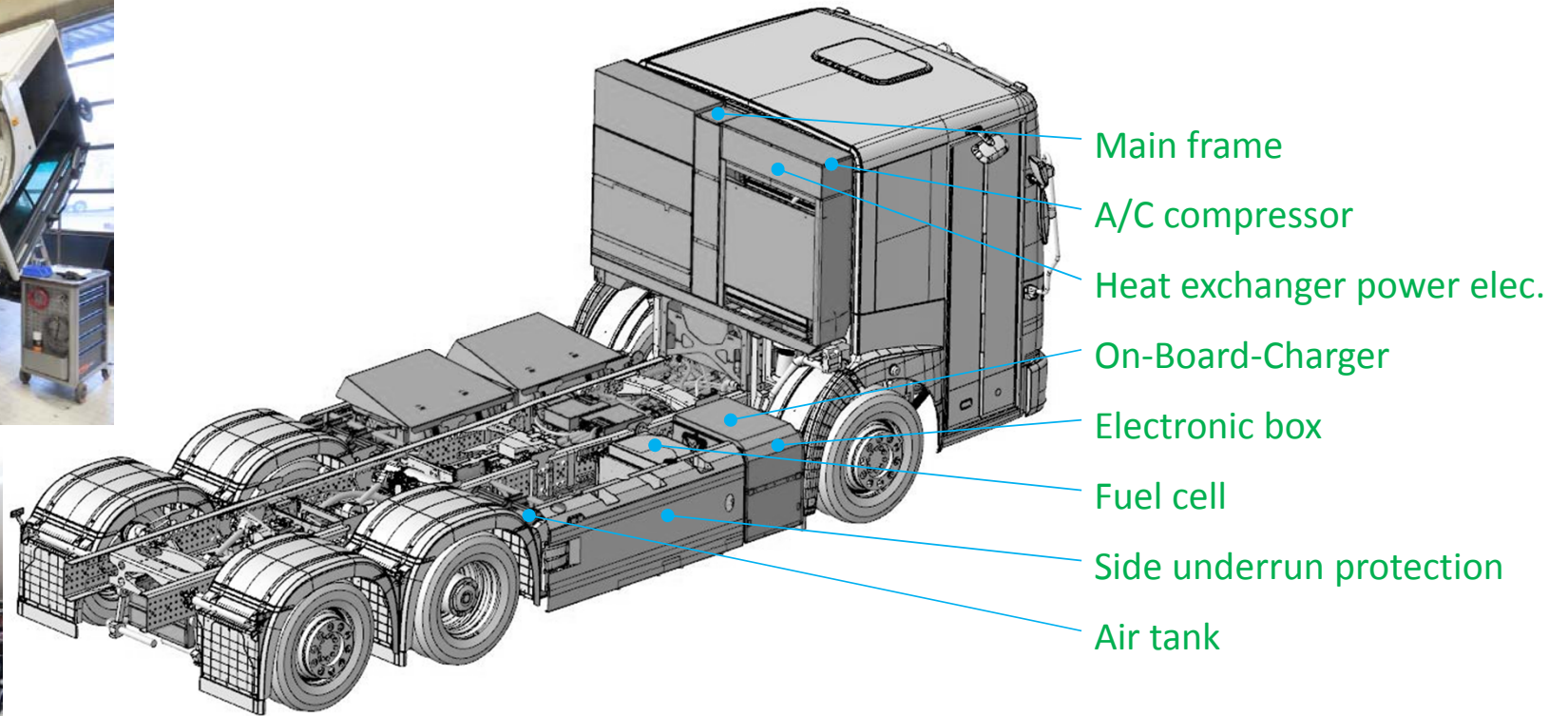


- Low entry chassis
- Exhaust free
- No impairment of the body volume
- RCV:
 - minimum payload 10 to @ 27 to GWV
 - Short range local waste collection in pure battery mode (~10 km transport)
- Sweeper:
 - Constant power for fan, brushes and drive train 60 kW
 - Minimum 10 working hours without refilling
- Range extender thanks to modular retrofittable fuel cells and hydrogen tanks
- AC onboard charger as an option
- Best practice: Vehicles to be connected to a DC or AC charging station for preconditioning before start

BLUEPOWER RCV 3-axle chassis 5277777



Work Progress



assembled

parts available, assembly in progress

design work in progress or parts not available

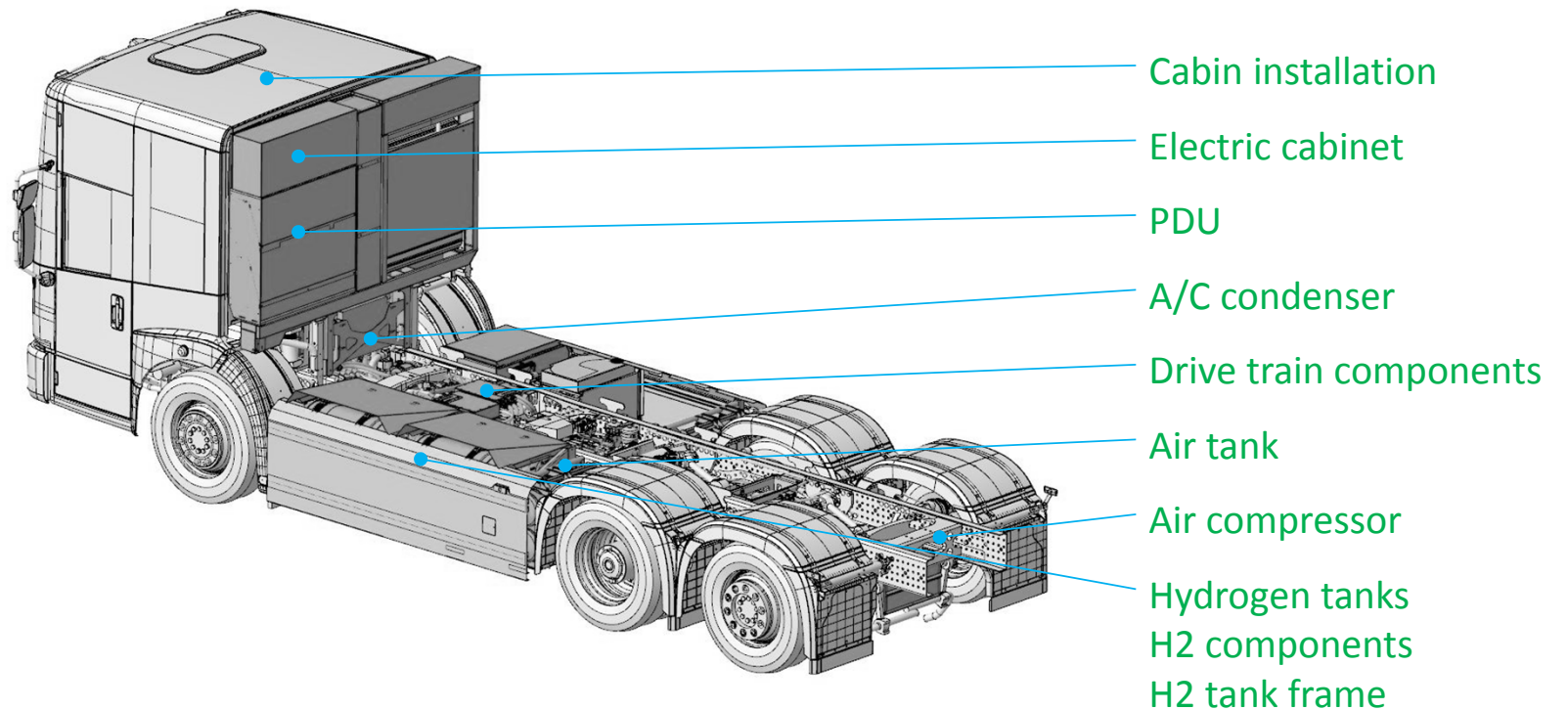
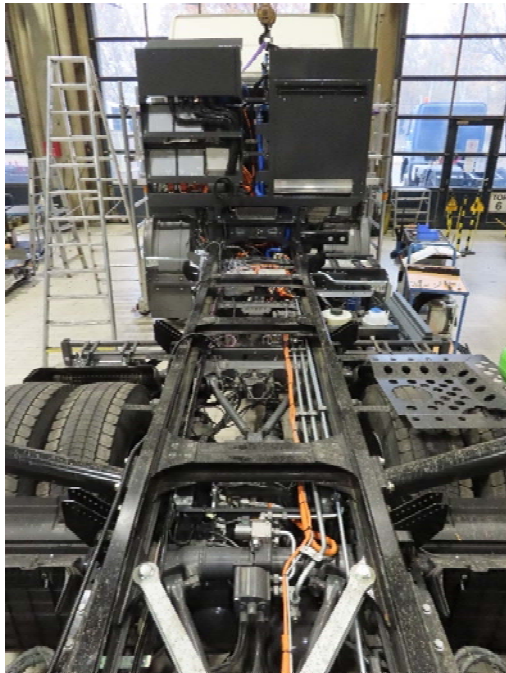
28.01.2020

G. Sandkühler

BLUEPOWER RCV 3-axle chassis 5277777



Work Progress



assembled

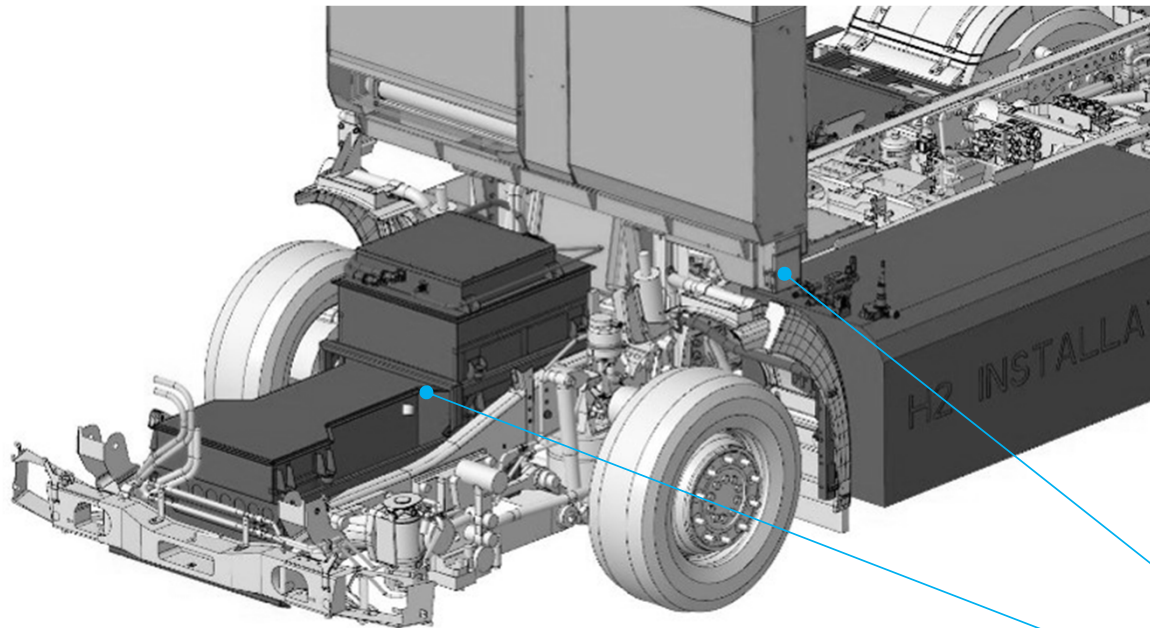
parts available, assembly in progress

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BLUEPOWER RCV 3-axle chassis 5277777



Work Progress



Hydraulic system

Cooling system

Cabling system

HV 95%

LV 90% (FC, H2 tank missing)

DC charge inlet

Battery 85 kWh

assembled

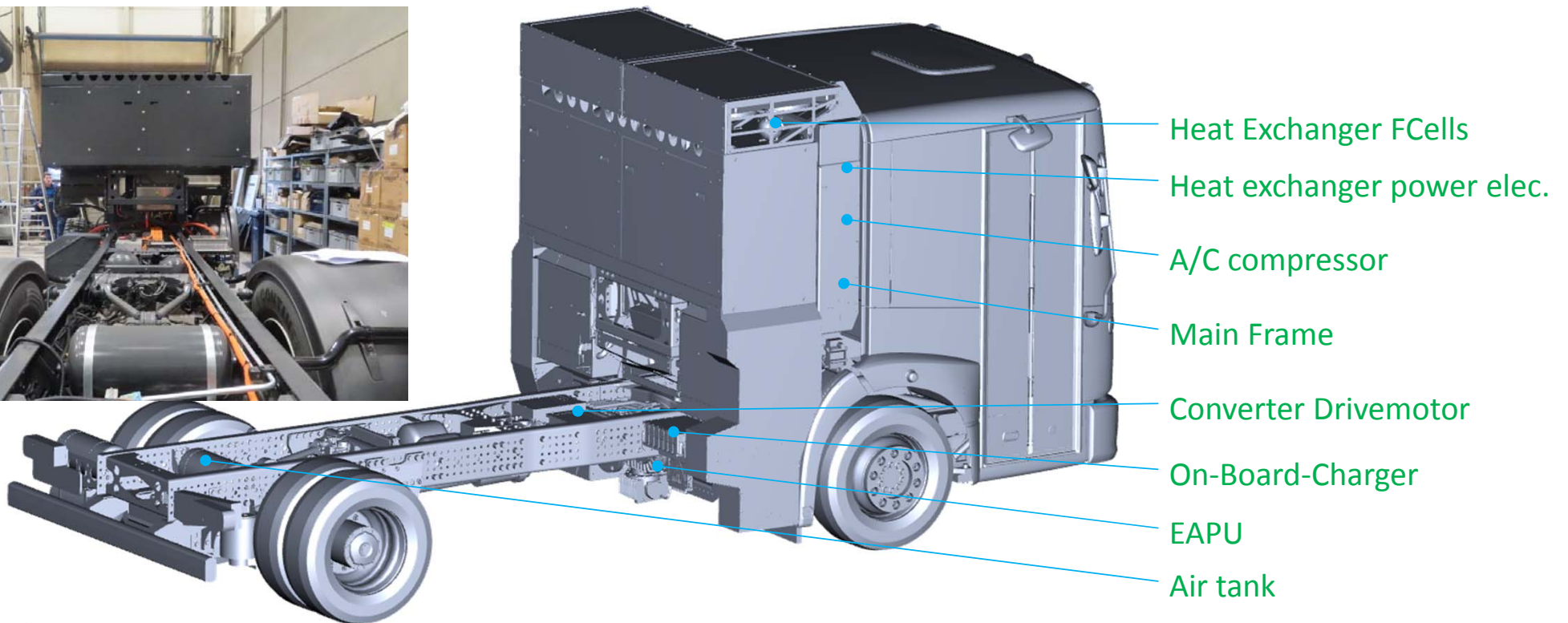
parts available, assembly in progress

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BLUEPOWER Sweeper 2-axle chassis 5277888



Work Progress



assembled

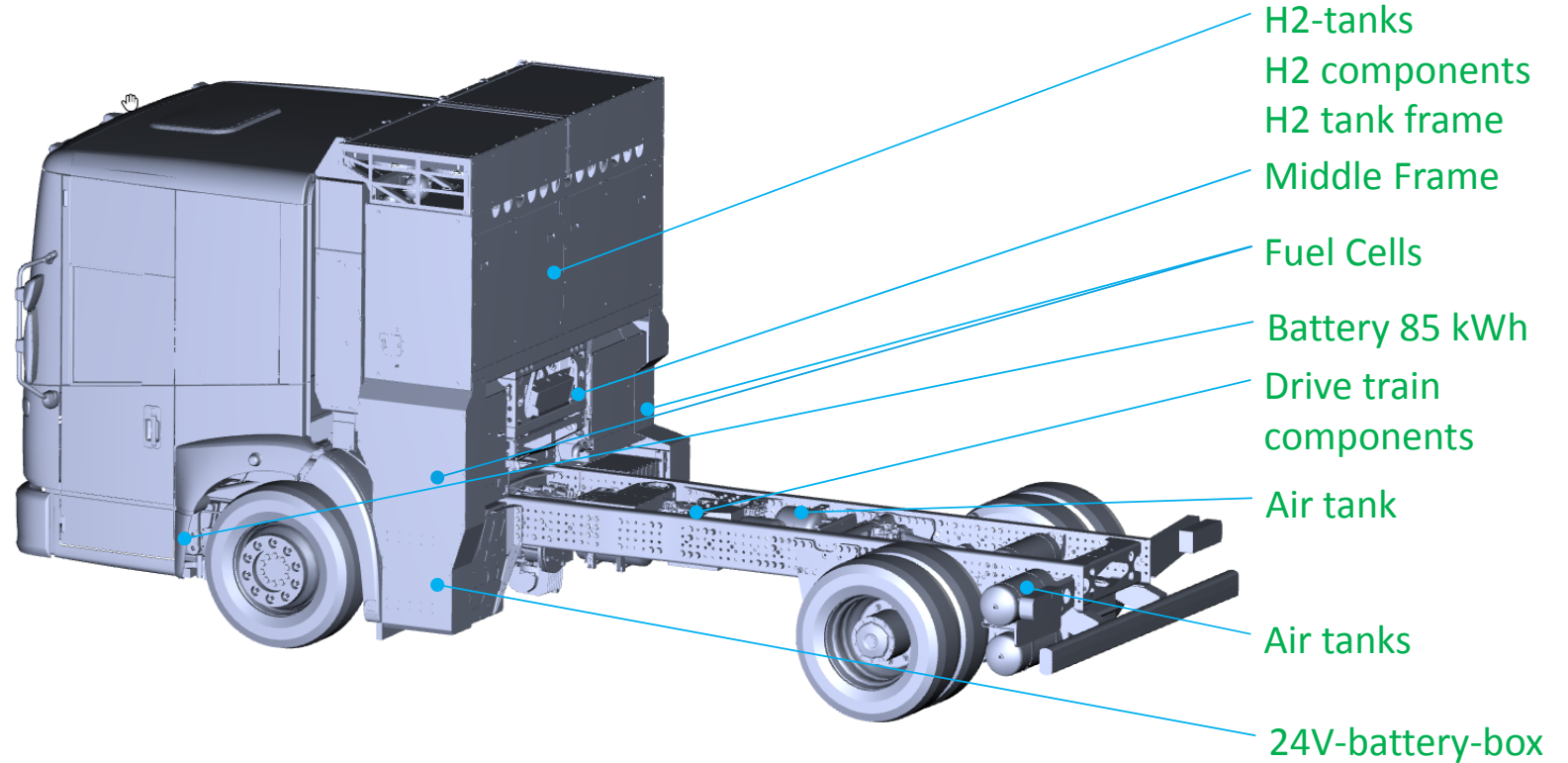
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BLUEPOWER Sweeper 2-axle chassis 5277888



Work Progress



assembled

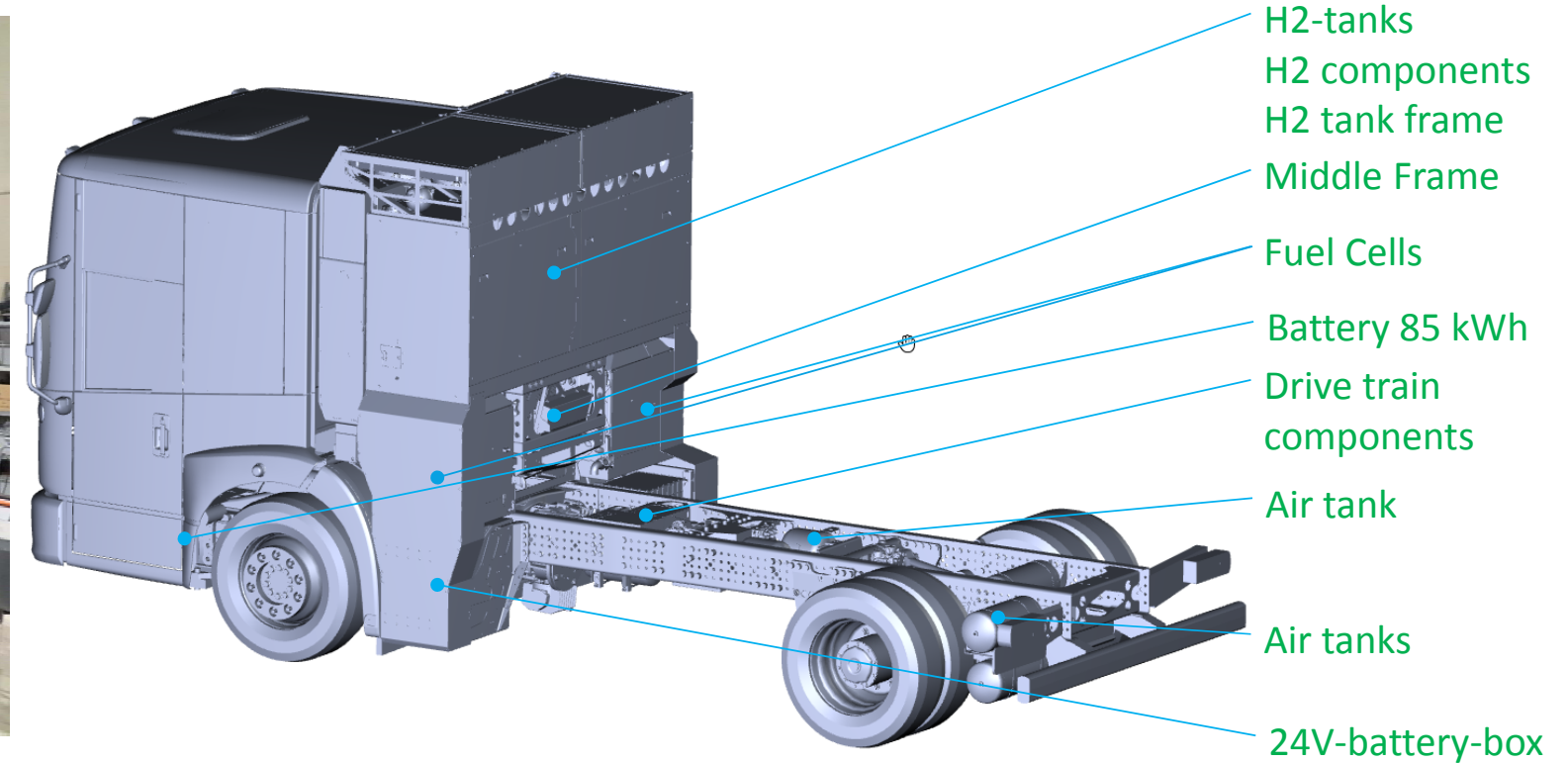
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BLUEPOWER Sweeper 2-axle chassis 5277888



Work Progress

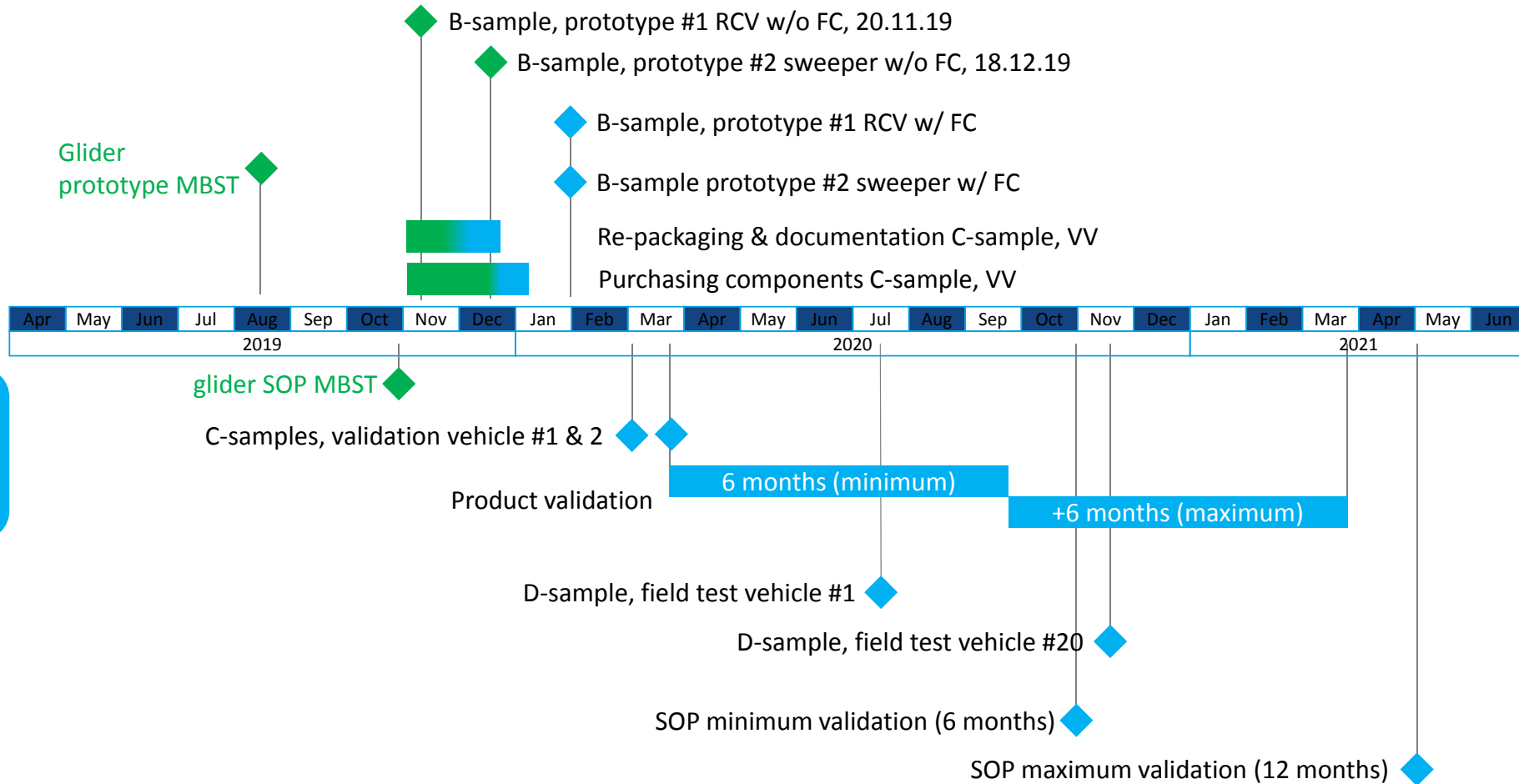


assembled

parts available, assembly in progress

design work in progress or parts not available

Project Schedule

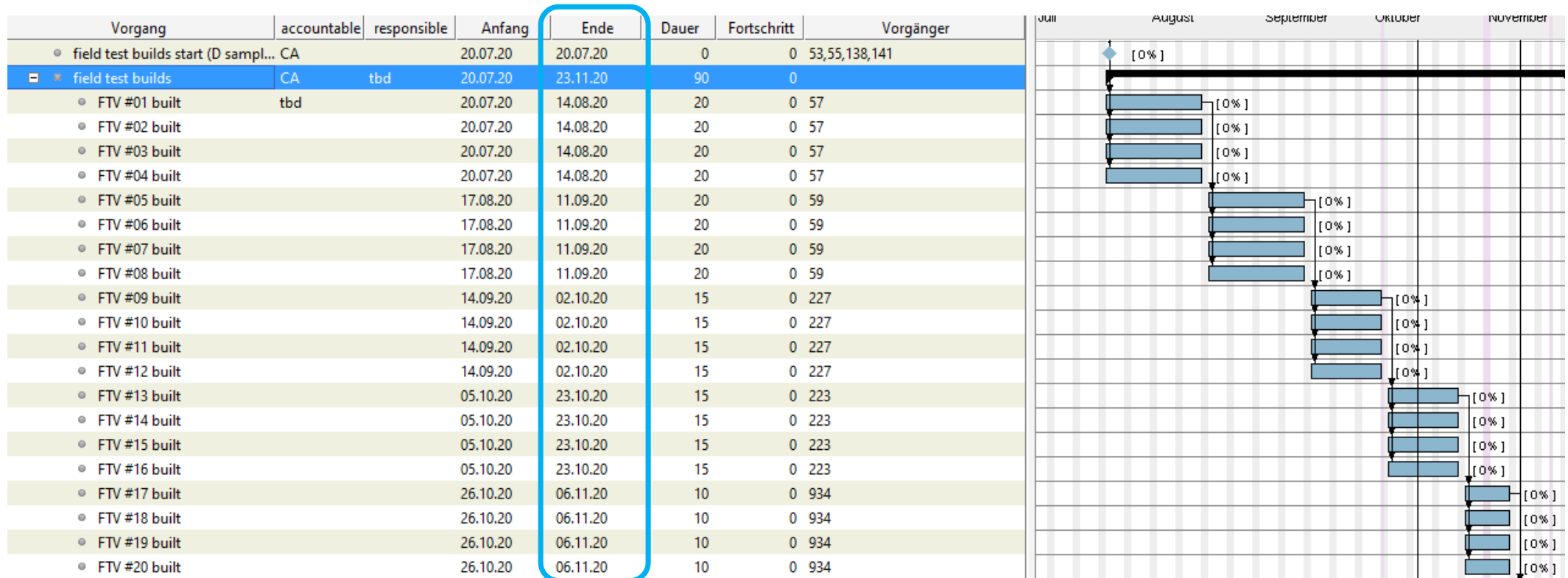


SOP glider
11/19 – 2 units
Ramp-up plan in
coordination w/ MBST

Build-up plan for 20 FVs; Fixed position production with 2 teams (20 FTE); each team 2 FVs in parallel.



Project Schedule D-samples





100 % CLEAN

Up to **40 %** less energy

No CO₂, **No** NO_x

Less emissions

super **QUIET**