

BLILIOUS GROUPE

INTRODUCTION

May 2023



WHO WE ARE

A leader and front runner in the fields of **Alternative Energy, Automotive, Public Transportation** and **Real Estate** since its inception.



Mr. Ezra Blilious
Founder



Mr. Eli Blilious
Co Chairman & Owner



Mr. Dan Blilious
Co Chairman & Owner

OUR LEGACY

The group was founded in **1964** by the late Mr. Ezra Blilious, whose legacy continues with us to this day:

“ Long lasting success is possible where experience and heritage are the basis for innovation and progress. the integration of strengths and inherit wisdom combined with a passion for results creates a lean, effective and dedicated organization.

OUR CORE VALUES



Decency



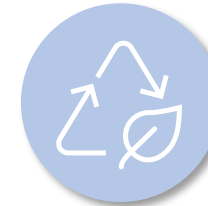
Synergy



Innovation

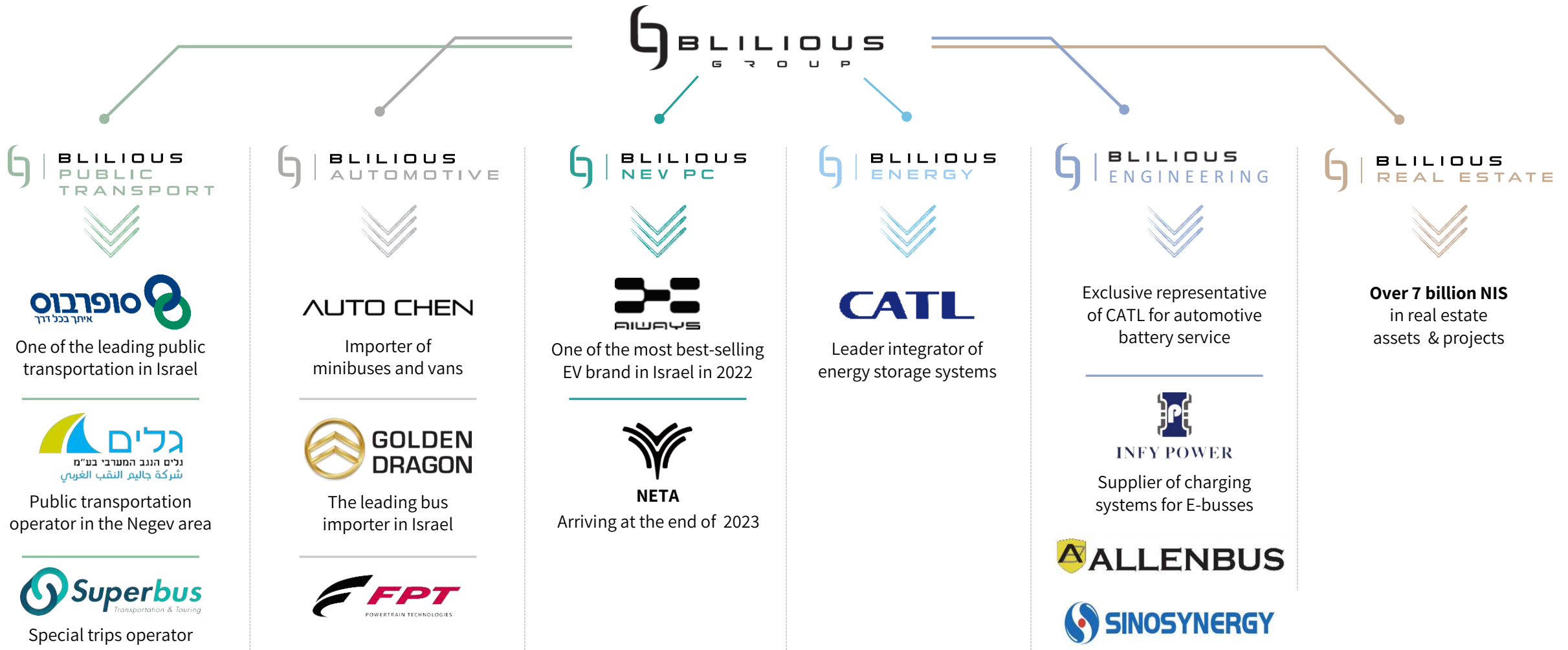


Leading



Sustainability

We are founded by and part of a long-standing tradition
of business integrity perfection and service to our customers



The synergy between the group's divisions forms the basis for creating holistic solutions towards a smart ecosystem.



Application of hydrogen in commercial vehicles

Kent Phang



ALLENBUS

成為新能源生態的卓越組織者，助力低碳社會。

To be the outstanding organizer of new energy ecology and assist low-carbon society.

- PART 1 Hydrogen Industry
- PART 2 H2 Applications in Vehicles
- PART 3 Company overview

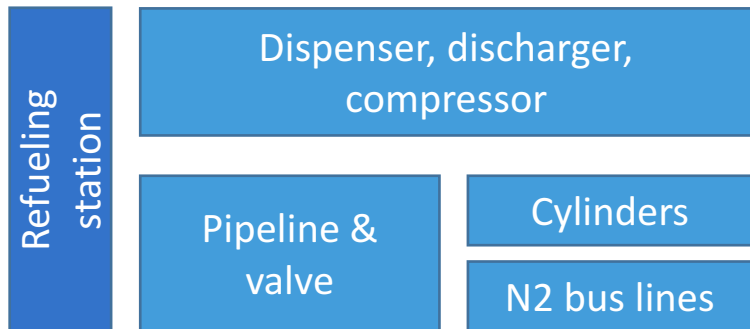
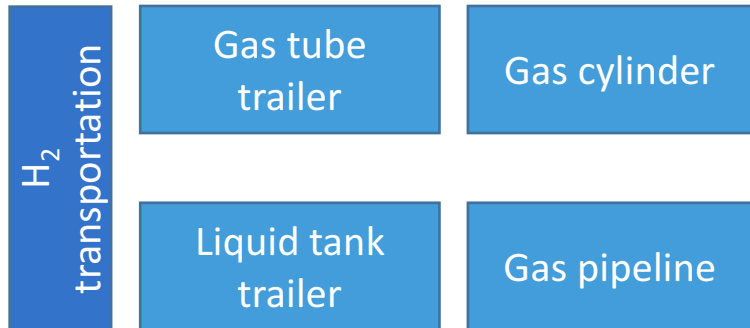
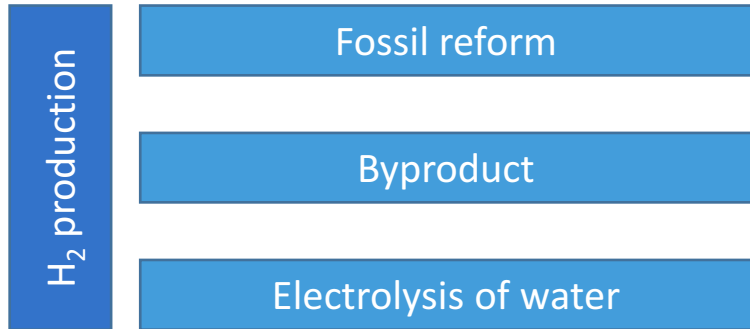
PART 01

Hydrogen Industry

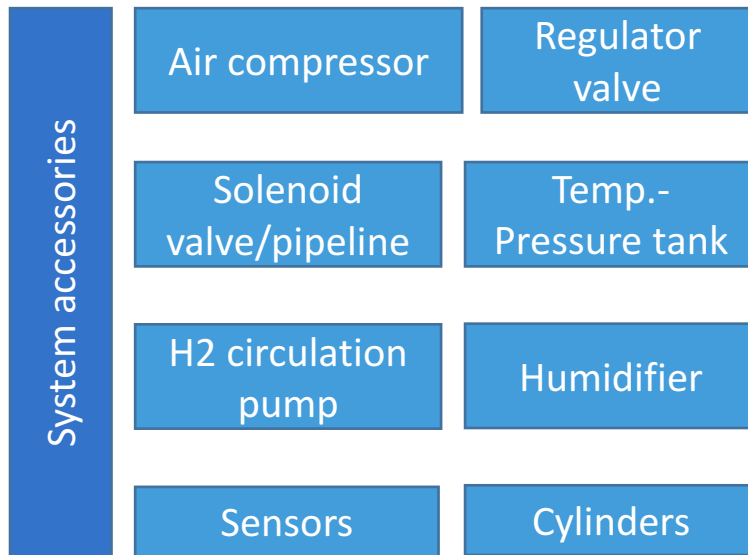
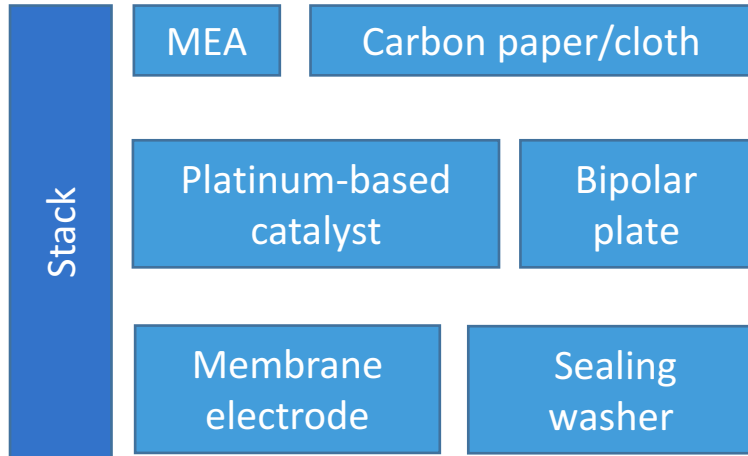


H₂ industry chain

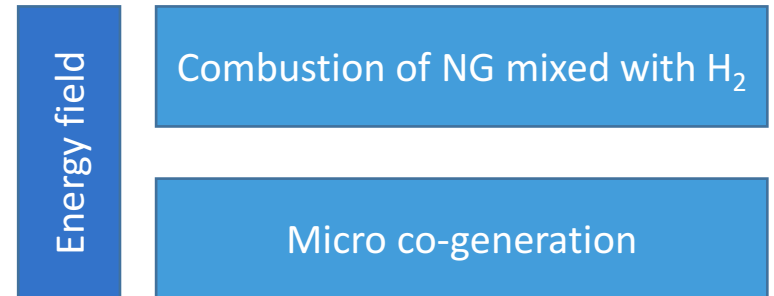
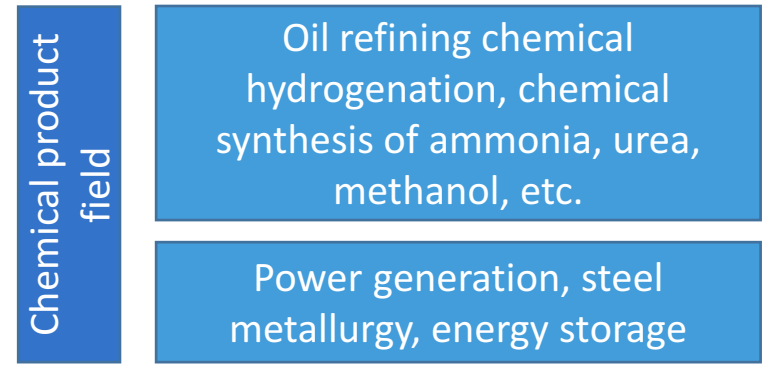
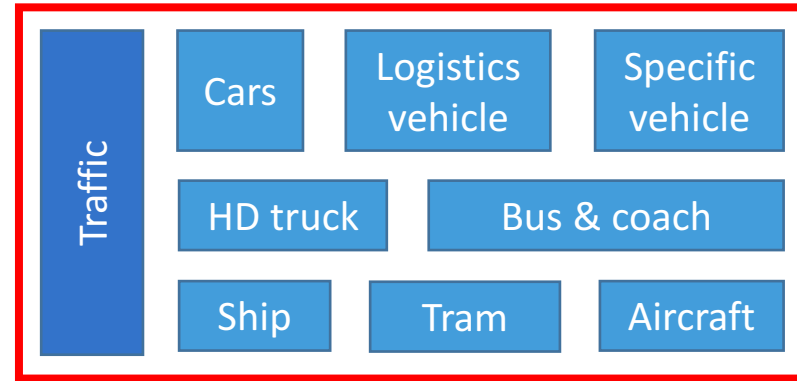
Upstream: H₂ production & supply



Midstream: Fuel cell & key parts



Downstream: H₂ application



To 2050, hydrogen industry will:

Create 30 million ***job positions***

Account for 18% of ***global energy***

Reduce 6 billion tons of ***CO₂***

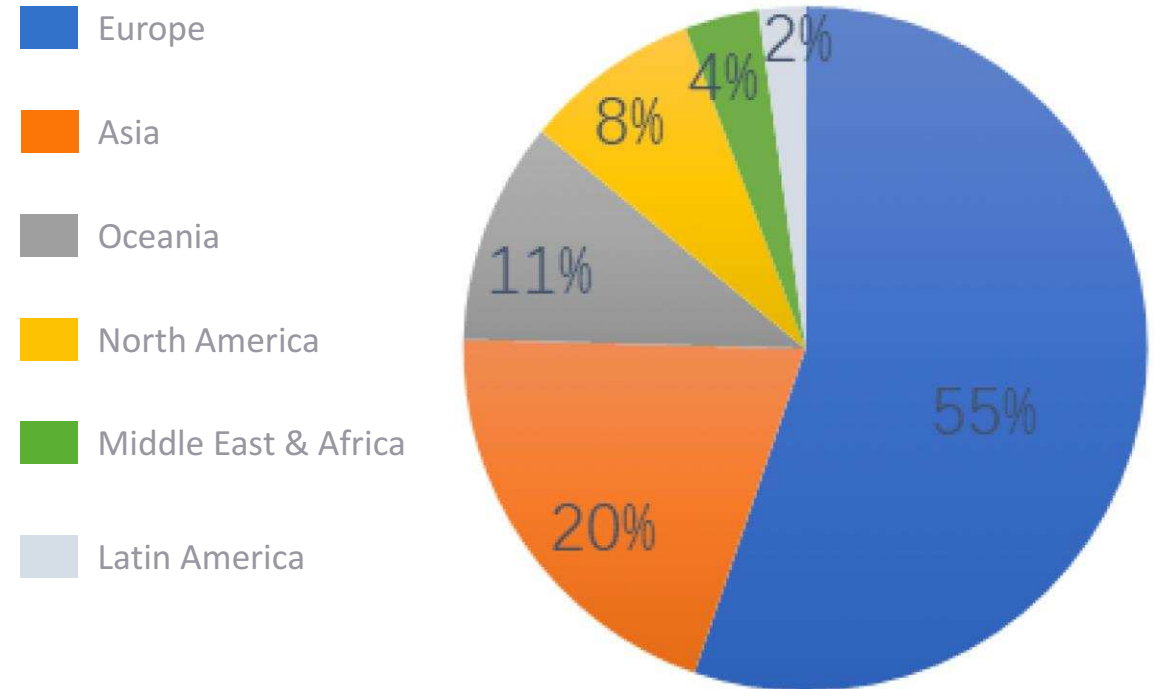
Create 2.5 trillion ***US Dollar output***

Launch date	Country	Key points						
2017	Japan JP	<ul style="list-style-type: none"> ● 2030, 300,000 tons/year, 900 H₂ refuelling stations; 800,000 vehicles; 1,200 fuel cell buses; 1,000 fuel cell forklifts; fuel cell vehicles replace engine 						
2019	Korea KR	<ul style="list-style-type: none"> ● (10 trillion yuan) investment 						
2020	Netherlands NL	<p>H2 vehicle plan of Netherlands</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Number of Vehicles</th> </tr> </thead> <tbody> <tr> <td>2025</td> <td>18,000</td> </tr> <tr> <td>2030</td> <td>300,000</td> </tr> </tbody> </table>	Year	Number of Vehicles	2025	18,000	2030	300,000
Year	Number of Vehicles							
2025	18,000							
2030	300,000							
2020	Germany DE		<ul style="list-style-type: none"> ● promotion and 2 billion € in 					
2020	EU EU							
2020	USA US		<ul style="list-style-type: none"> ● kg 					
2022								
2022	China CN		<ul style="list-style-type: none"> ● 2030, a complete H₂ energy industry technology innovation and green H₂ production and supply system ● 2035, H₂ energy industry system covers transportation, energy storage, industry and other fields. 					

228 H₂ mega projects

53 H₂ transportation projects

30 billion USD investment



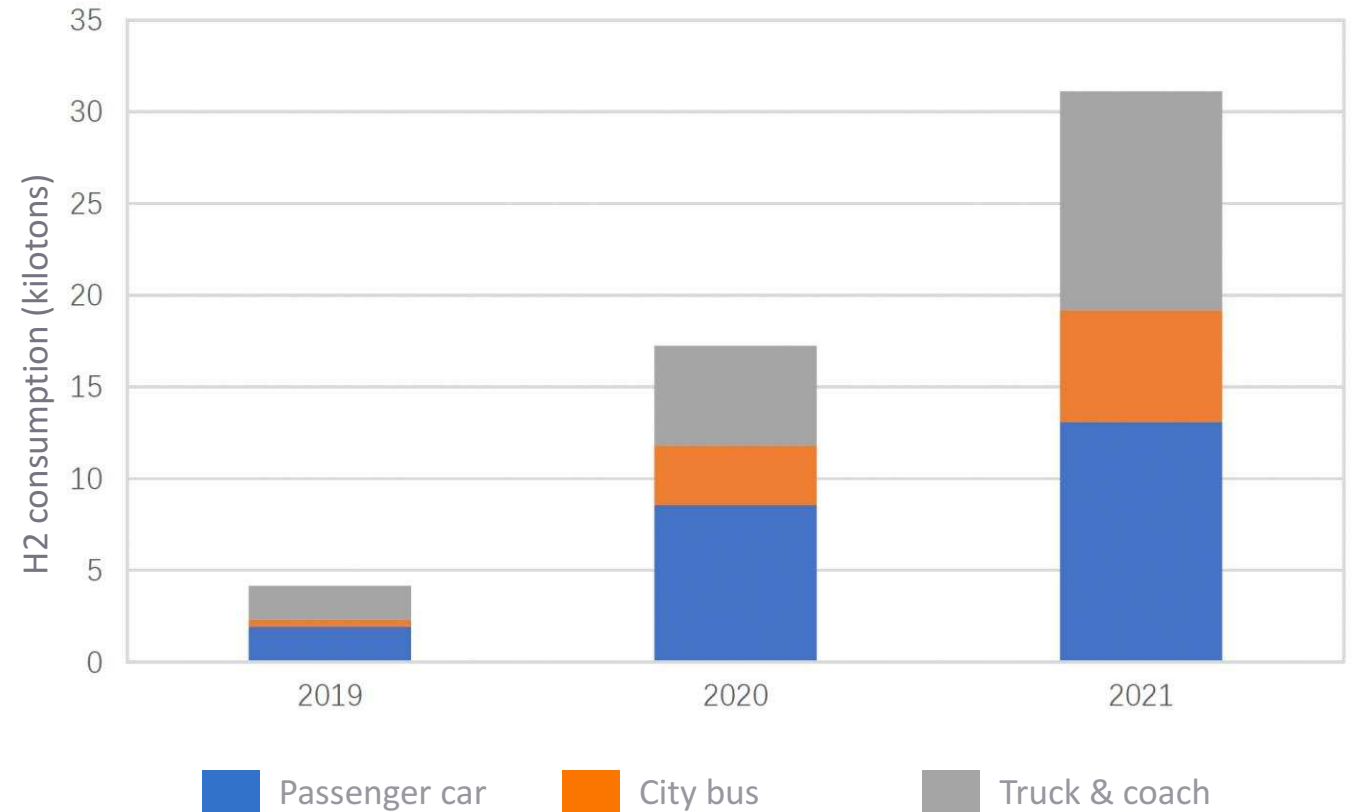
H₂ mega projects

H₂ application in vehicles

Year	Global FC vehicles	Increase
2020	33,000	---
2021	51,000	55%↑
2022	67,315	32%↑

The best option in replacing diesel vehicles:

- ✓ Long range
- ✓ Fast refueling
- ✓ High power density
- ✓ Low-temperature operation




PART 02

H₂ Applications in Vehicles




HFCV key parts



ZF

ZF suspension system combined with an intelligently designed spring and damper system, the high strength and weight-optimized components guarantee benchmark driving safety and ride comfort. The high level of steering angle significantly reduces the turning circle in comparison to rigid axles. Other advantages include high axle load, added comfort, and reduced body roll.




KNORR-BREMSE

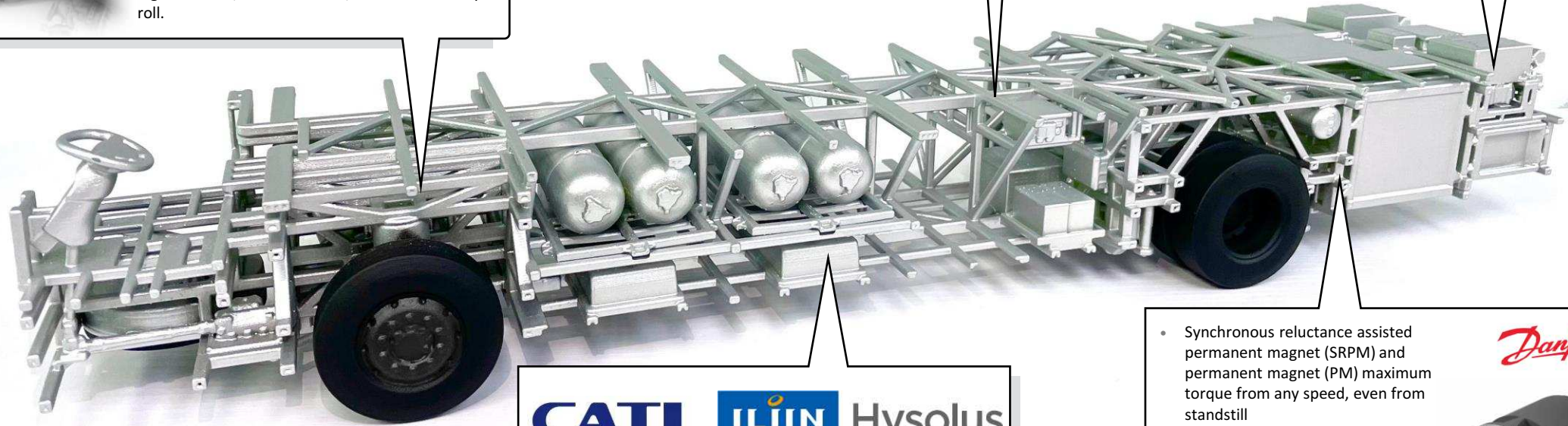
Electronic system

- ESP
- EBS
- AEBS
- LDWS
- ELC

- 2 × 80kW SynRoad G80 fuel cell from Sinosynergy
- A highly integrated solution is adopted and the SynStack G1 high-performance stack independently developed by Sinosynergy is incorporated. Moreover, the module is integrated with the air subsystem, the hydrogen subsystem and the cooling subsystem, featuring convenient maintenance and high reliability.



国鸿氢能 SINO SYNERGY




CATL ILJIN Hysolus

Big range of the Power solution are more convenient for the operation, and different power combination will be suitable for all operation scene.

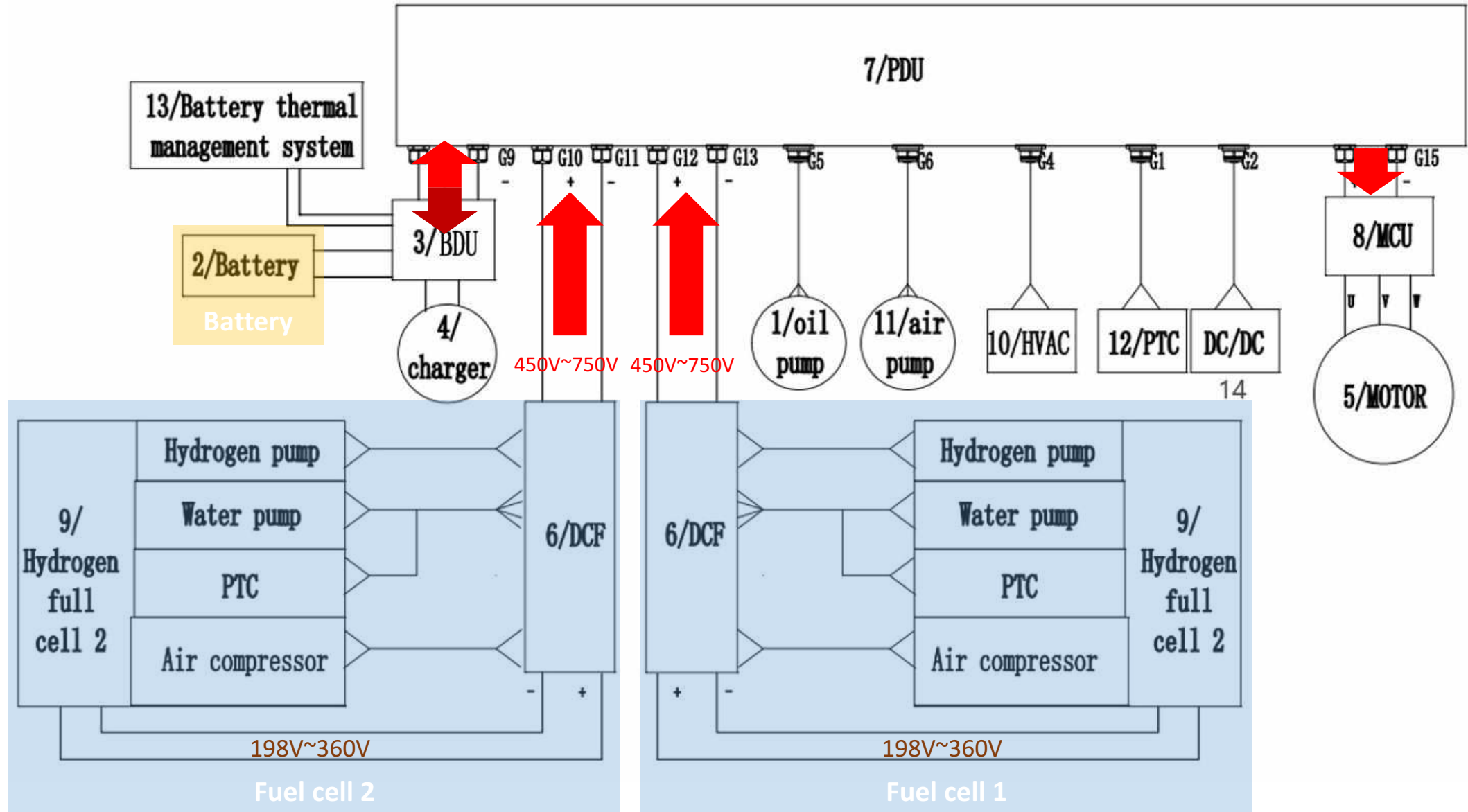
- Hydrogen Tank: From 4 to 10 pcs, 35/70 MPa/each tank
- Power Battery: From 90 KWH to 144 KWH

- Synchronous reluctance assisted permanent magnet (SRPM) and permanent magnet (PM) maximum torque from any speed, even from standstill
- Liquid-cooled
- Designed to work in harsh operating environments
- Reduced noise and maintenance

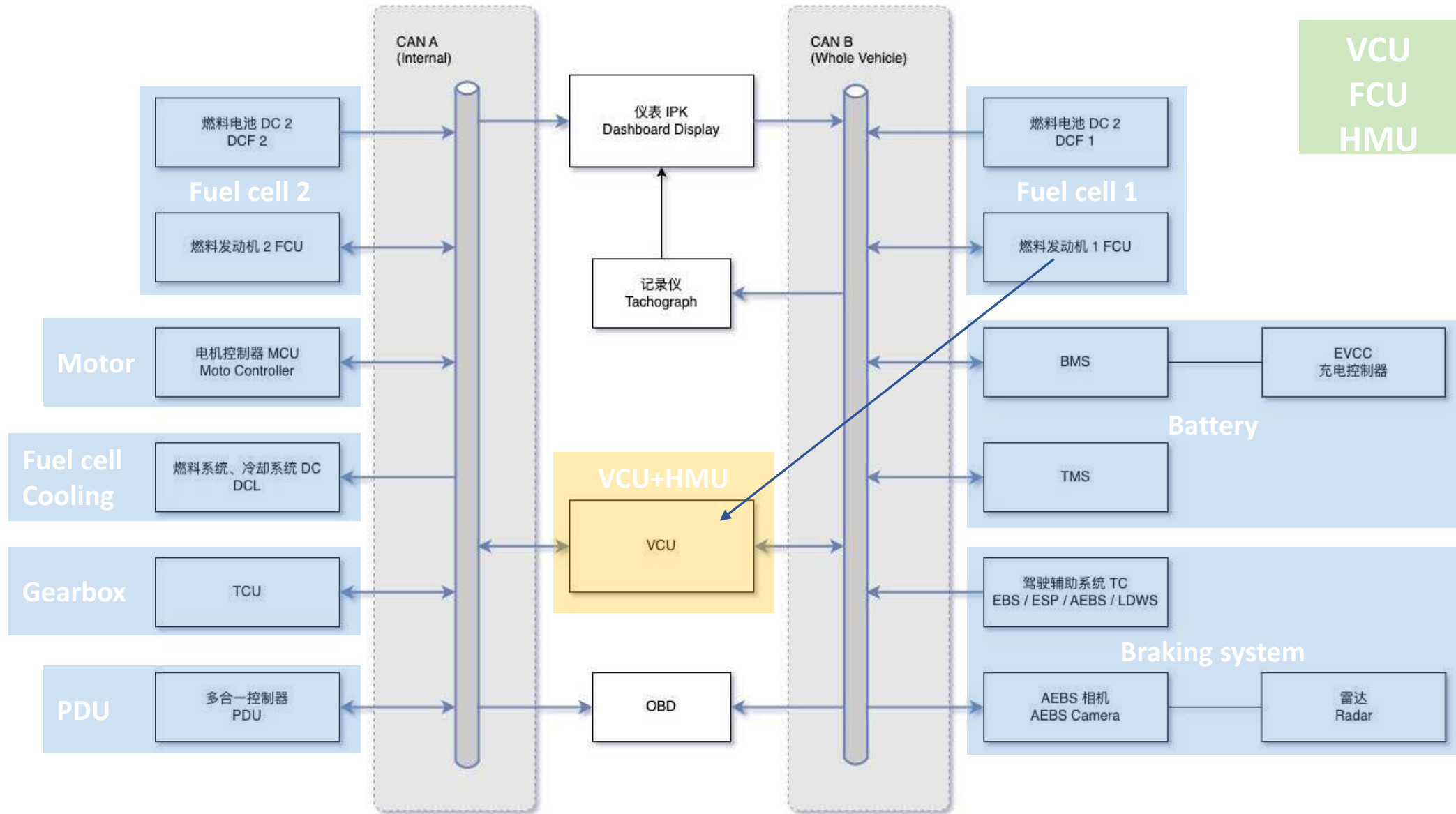


Danfoss

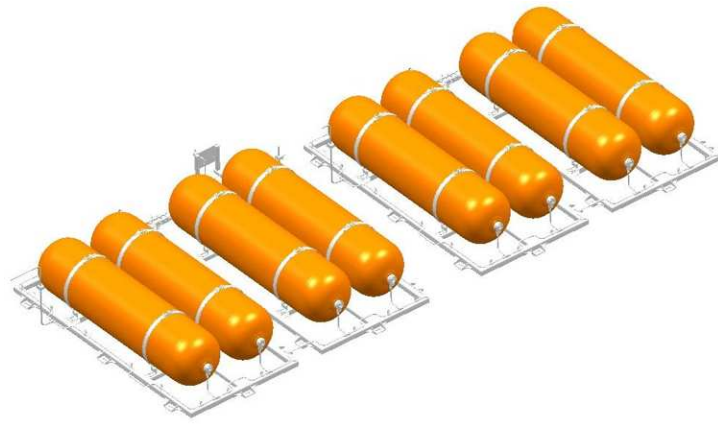
Fuel cell hybrid



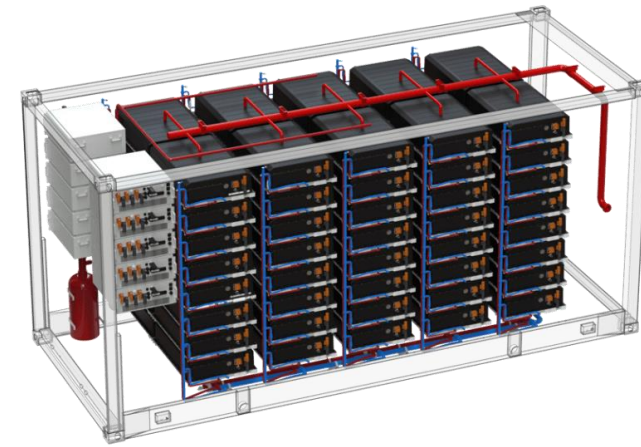
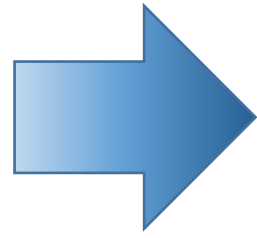
Control units



Energy calculation



A group with 8 cylinders
Total H₂ ≈ 40kg
Total: 587.2kg



720 kWh
>20 battery packs ≈ 4 tons



1 kg



80kW = 168kg
240kW = 320kg



18 kWh



350 bar
Self weight: 68.4kg
H₂ weight ≈ 5kg
Total: 73.4kg



90 kWh



Specific vehicle



Garbage disposal truck

Motor power: rated 100 kW / peak 185 kW

Plus:

A/C, cooling systems, air compressor, steering pump, etc.

==> electricity consumption \geq 120 kW

➔ 300kWh battery (\approx 10 packs), supports **only** 2.5h driving

How you can drive the upper machine???



Refrigerator truck

Better solution:

You need 4 hours driving with upper part machine operation **at least:**

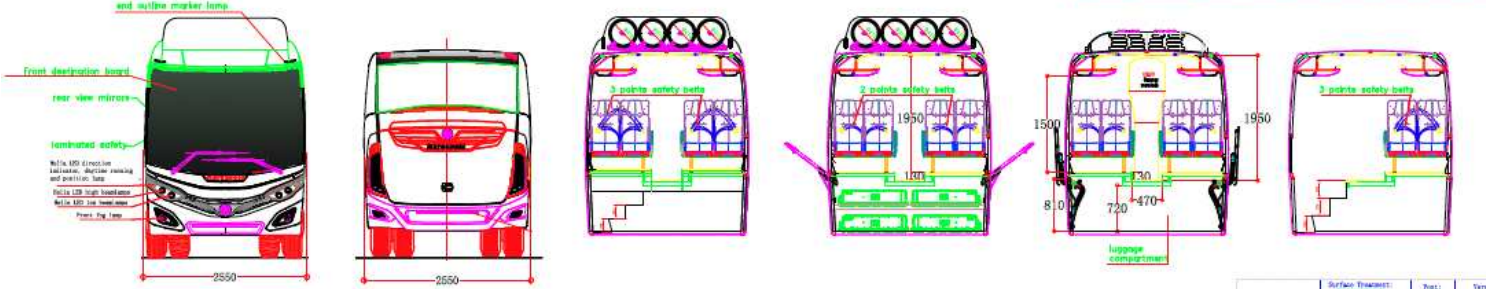
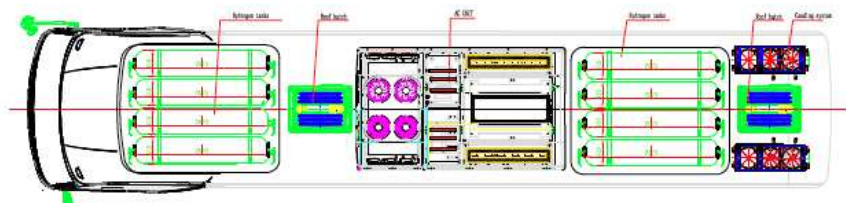
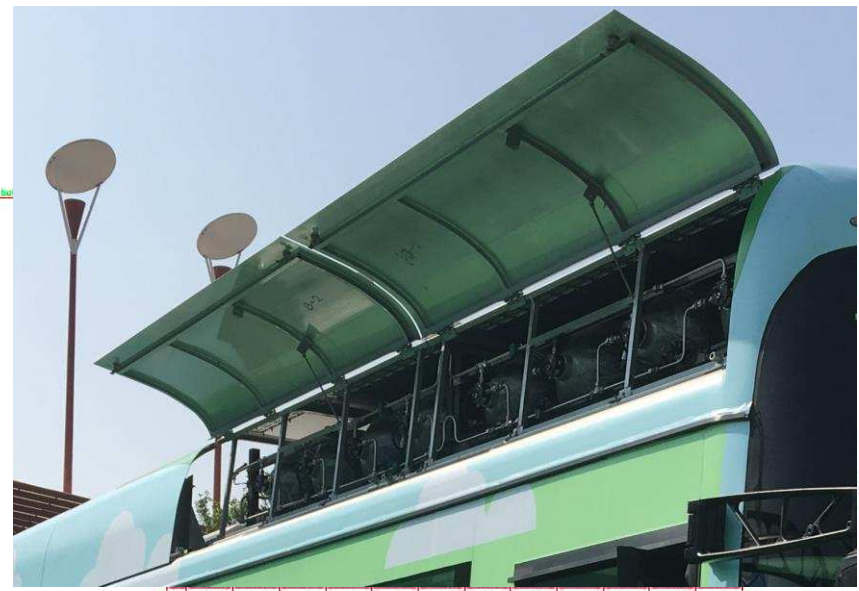
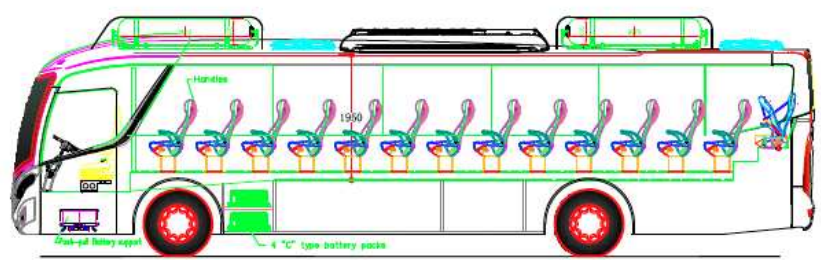
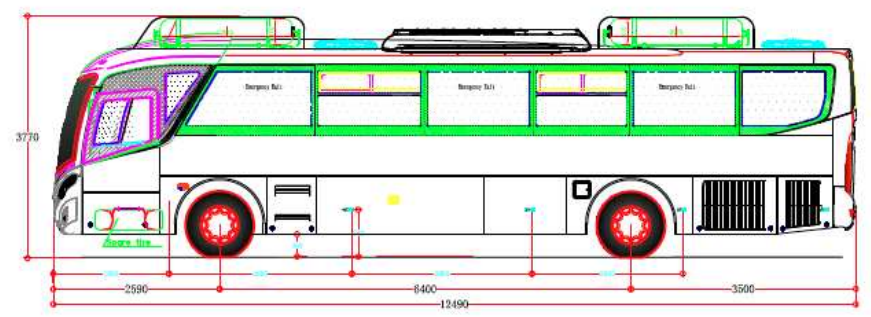
➔ \geq 550 kWh electricity is required

➔ \approx 30 kg H₂ ➔ 6 cylinders (\approx 440 kg)



Reborn with a 15 min refueling!

Layout



CHASSIS: China HFC chassis
 WHEELBASE: 6400mm
 COACH BODY: Audace 800-2.55M
 TOTAL LENGTH: 12500mm
 AIR CONDITIONING: Therom king CS 1200S
 NUMBER OF SEATS: 53+1
 NUMBER OF Standings: 10
 LUGGAGE COMPARTMENT: 5.7 M³

Design based on Israel market:

- High-tech
- Large luggage compartment
- More cylinders can be installed
- Long range

Keywords:

- Intercity bus & coach
- 12490mm~12900mm/19.1t
- 2 × G80 Sinosynergy fuel cell
- Marcopolo G7 Audace 800 bodywork
- Large luggage compartment (5.7+m³)
- 8 × 350bar cylinders on top
- 53~59 passenger seats
- Max. speed 100km/h
- EBS/ESP/AEBS/LDWS+Mobileye



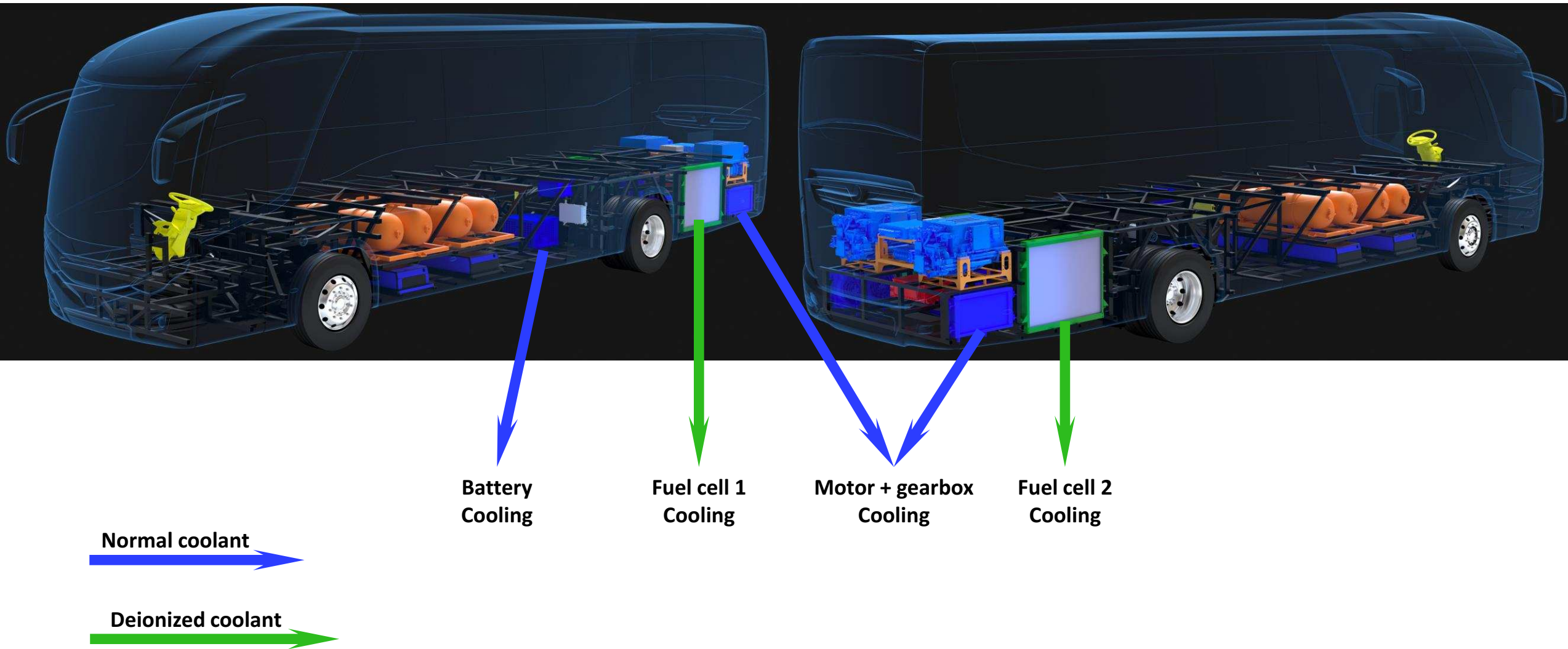
← 1 intercity bus+2 coaches



Layout (truck)



Cooling system for Israel



Weight is not a problem, but **Space** is a problem indeed.

>>Set the number of cylinders reasonably<<

1. According to the range required.
2. According to the refueling station network >> refueling is very fast
3. According to the road condition >> highway / city / traffic jam
4. Upper machine >> additional fuel consumption (refrigerator / garbage disposal / elevator)



H₂ powers everything



PART 03

Company overview





ALLENBUS

Allenbus is a young and energetic manufacturer of zero-emission commercial vehicles and chassis. Our focus is on assisting operators decarbonise their commercial vehicles which cannot be decarbonised by batteries alone.

Allenbus is an expert in **hydrogen** fuel cell powered complete vehicle and chassis. Based in Hong Kong and mainland China offers complete vehicle products, power-chain systems and customized solutions covering light trucks, heavy trucks, city buses, coaches and engineering vehicles.

Working in partnership with the world-leading fuel cell systems suppliers **Sinosynergy**. Allenbus tailor products are developed base on the specific needs and preferences of customers.



Journey

This coach is meaningful. It is a coach for *journey*.

- Comfortable bodywork and powerful powertrain.
- Maximum speed of 100km/h.
- Whole day running after a few minutes refuelling.
- Completed safety facilities such as AEBS, LDWS, ESP, blind spot warning, and even detects if driver is sleepy and after drinking alcohol.

And it is zero harmful to the environment when you enjoy this nice journey, because it is zero carbon. It is powered by hydrogen fuel cell. **Hydrogen** is from the electricity generated by windmill or solar. And its emission is only water.

It will be an important part of *future life*.



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