

Introduction of DFAC New Energy Products



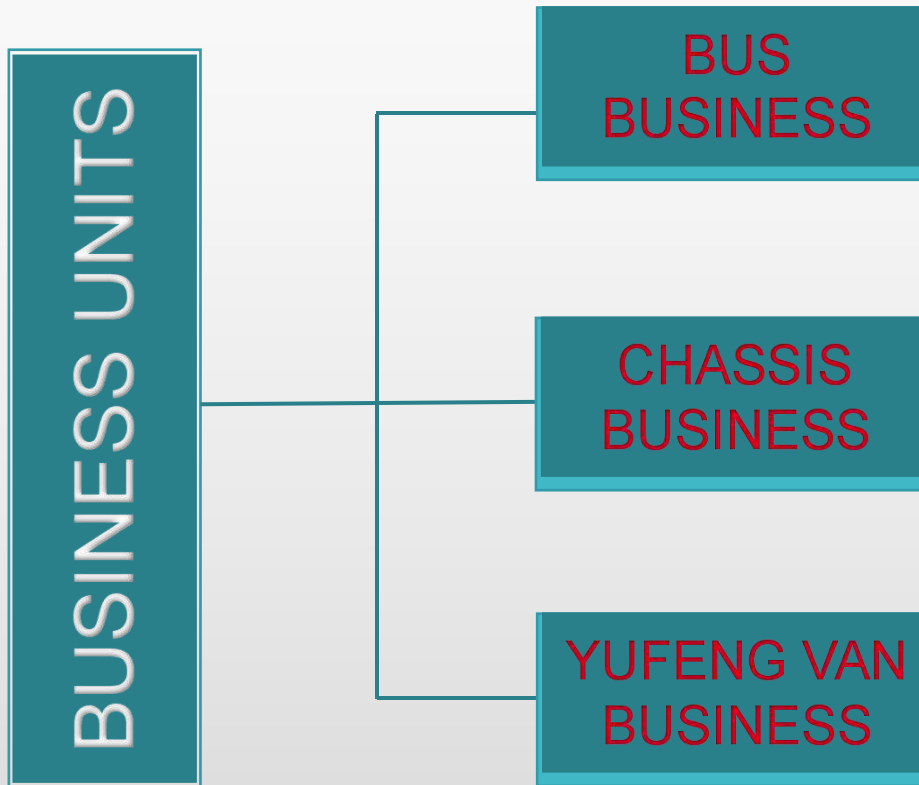
COMPANY INTRODUCTION

An aerial photograph of a vast industrial complex, likely a manufacturing plant. The facility features numerous large, rectangular buildings with blue and grey roofs, arranged in a grid-like pattern. There are several paved roads and parking lots within the complex. The surrounding area appears to be a mix of industrial and some greenery.

Dongfeng New Energy Business Unit. is a subsidiary of Dongfeng Automobile Co., Ltd. (SSE: 600006), established on May 12, 2003. At present, the main business includes the design, manufacture and sales of bus chassis, Dongfeng Tianyi buses, school buses and new energy buses, and Dongfeng Yufeng multi-purpose vans, as well as the modifications. The company is a high-tech enterprise of Hubei province with a registered capital of RMB 80 million. From 2003 to 2021, the company has achieved the cumulative sales of more than 480,000 vehicles and the sales revenue of RMB 35 billion.

Bus Products Series

◆ Bus series: Diesel and new energy powered vehicle; covering inter-city, inner-city and school bus from 6-12m series



R&D, manufacturing and sales of "Dongfeng Tianyi" bus

- ◆ All series of 5~12m conventional buses and special buses;
- ◆ 6.5m, 8m, 10m and 12m battery electric buses.

R&D, manufacturing and sales of bus chassis and new energy second-class chassis

- ◆ All series of 5~12m bus chassis platforms, including conventional chassis and new energy chassis;
- ◆ Supply for more than 50 main bus refitting factories in China, such as Dongfeng Special Vehicle and Zhongtong Bus;
- ◆ Adaptation to the transformation of bus enterprises, and provision of new energy second-class chassis.

Sales of European Yufeng multi-purpose vans

- ◆ Including combination bus, special cargo van, commuter van, commercial bus, and special van;
- ◆ Conventional power and new energy.

Conventional Power Bus

City Bus



6/6.7/7.2 M KA



7.2/7.8/8.2 TG



7.3M TE



8.5HE

School Bus



5.1/5.4/5.7/6.6M



6.9/7.5/9.1M



9.3/9.7/11M

Coach



6/6.6/7.2M KA



7.5M KL

VAN



5.7M food truck



6M Cargo van



6M Refrigerated



6M Cargo van

New Energy Bus

Electric Bus



CITY BUS: 5.9/6.5m



8m



8.5m



10/11/12m



COACH: 8m



10m

HYBIRD



8.5m



10.5m



CITY BUS: 8.5m



10.5m

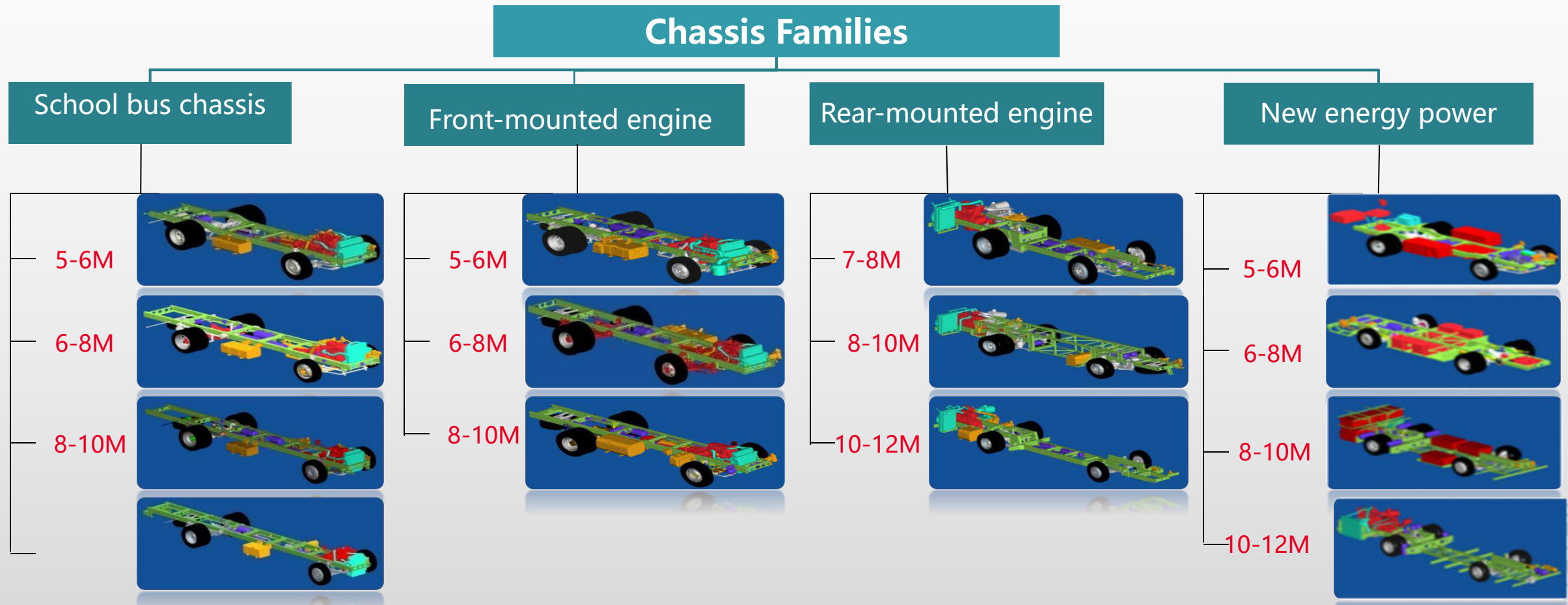
FUEL CELL



7m VAN

Chassis Products Series

- ◆ Chassis covers diesel, New energy powered products, totally 62 basic platforms, which includes inner-city, inter-city and tourist bus from 5m to 12m, provide chassis for around 80 bus manufactures



New Energy Bus R&D Course

◆ EV Bus starting: the first E-bus was put into test operation In 2005

2005



1st stage

Refitting and lead acid



2007



2^{ed} stage-A

Integrated design +lead net+ analogue control



2009



2^{ed} stage-B

LFP + Digital Control



2011



2^{ed}- stage-C

Electric improvement and platform



Since 2013



3rd Stage

1. Monocoque . Low entry , light-weight
2. CAN and Cloud remote control
3. Intelligent control
4. Battery 5A balance control



TECH
Roadmap

2005

Pure -E R&D

2007

2009
Hybrid R&D

2009

2016

Fuel cell R&D

SINCE 2017

Pure-E special R&D

New Energy Bus Tech

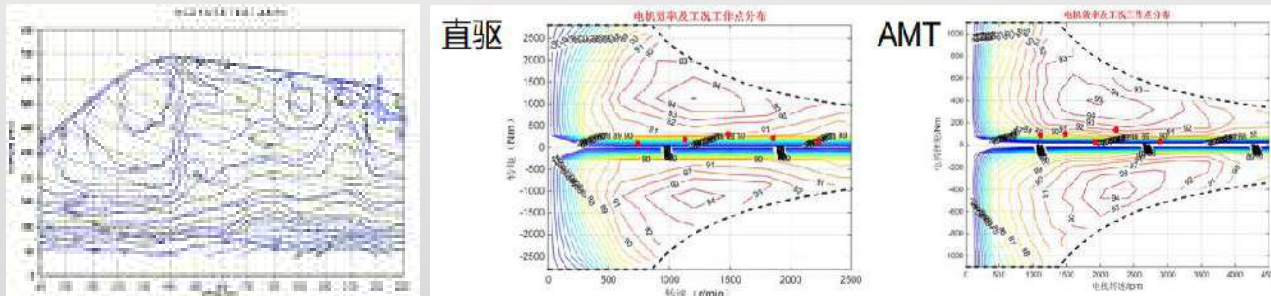


Independent R&D on vehicle controller

Ten years of technical accumulation, new vehicle controller (VCU) with independent intellectual property rights has been newly developed to make the vehicle run more efficiently, more smoothly and more intelligently.

Vehicle power system matching and optimization

Improve product dynamics, adaptability and economy through matching design of motor + electricity, electricity + electricity and electricity system designing.

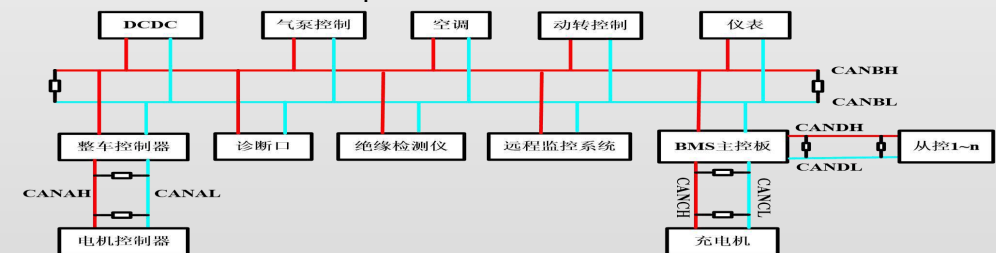


Vehicle electrical safety

Through six major safety design, improve the safety of the high-voltage system of the whole vehicle, realize early warning of faults and automatically take corresponding measures

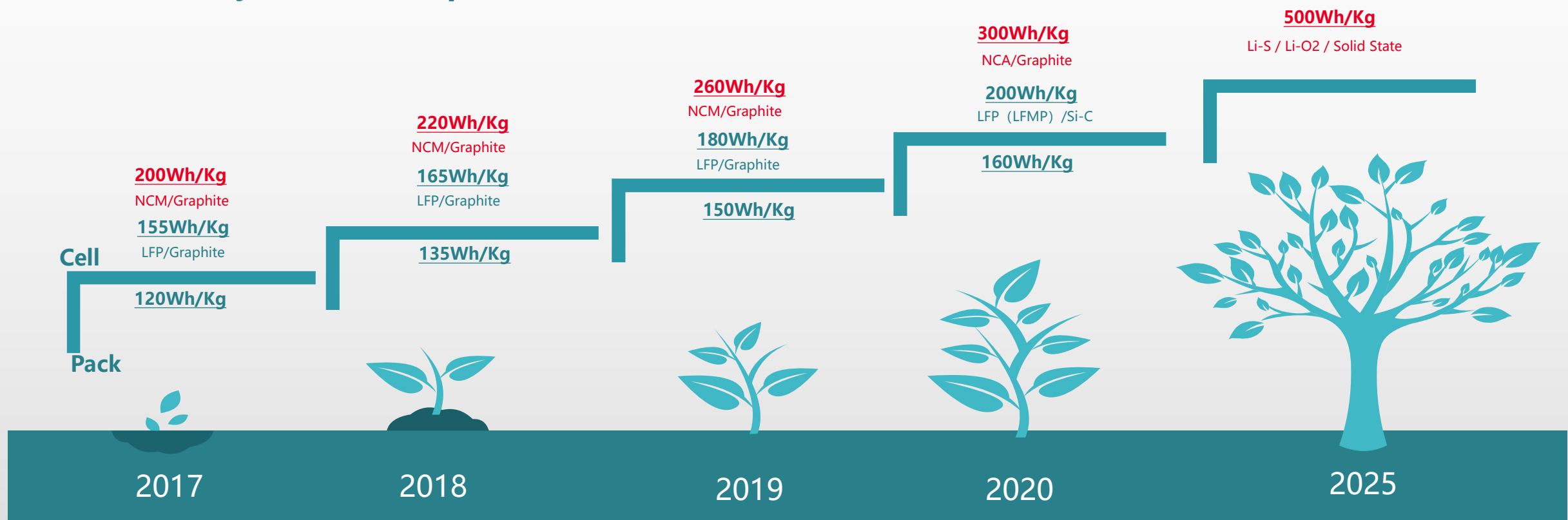
Communication protocol and fault code system standard

According to the SAEJ1939 and ISO015031-6 standards, the CAN bus general protocol specification (DFTCQG10001-2015) and the vehicle fault code system diagnostic protocol specification (DFTCQG10002-2015) for pure electric vehicles are developed.



Main Power Battery Type & Plan

LFP: Mainly on bus
NCM: Mainly on PV and special Ve



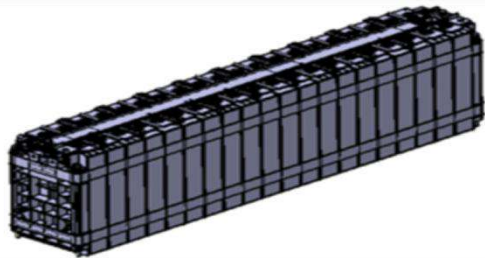
Standardized design and safety applications

Battery cell dimension standardized



Cell

Mouldle



Pack



Pack
standardized
design:
B/C/D pack

Battery system test points

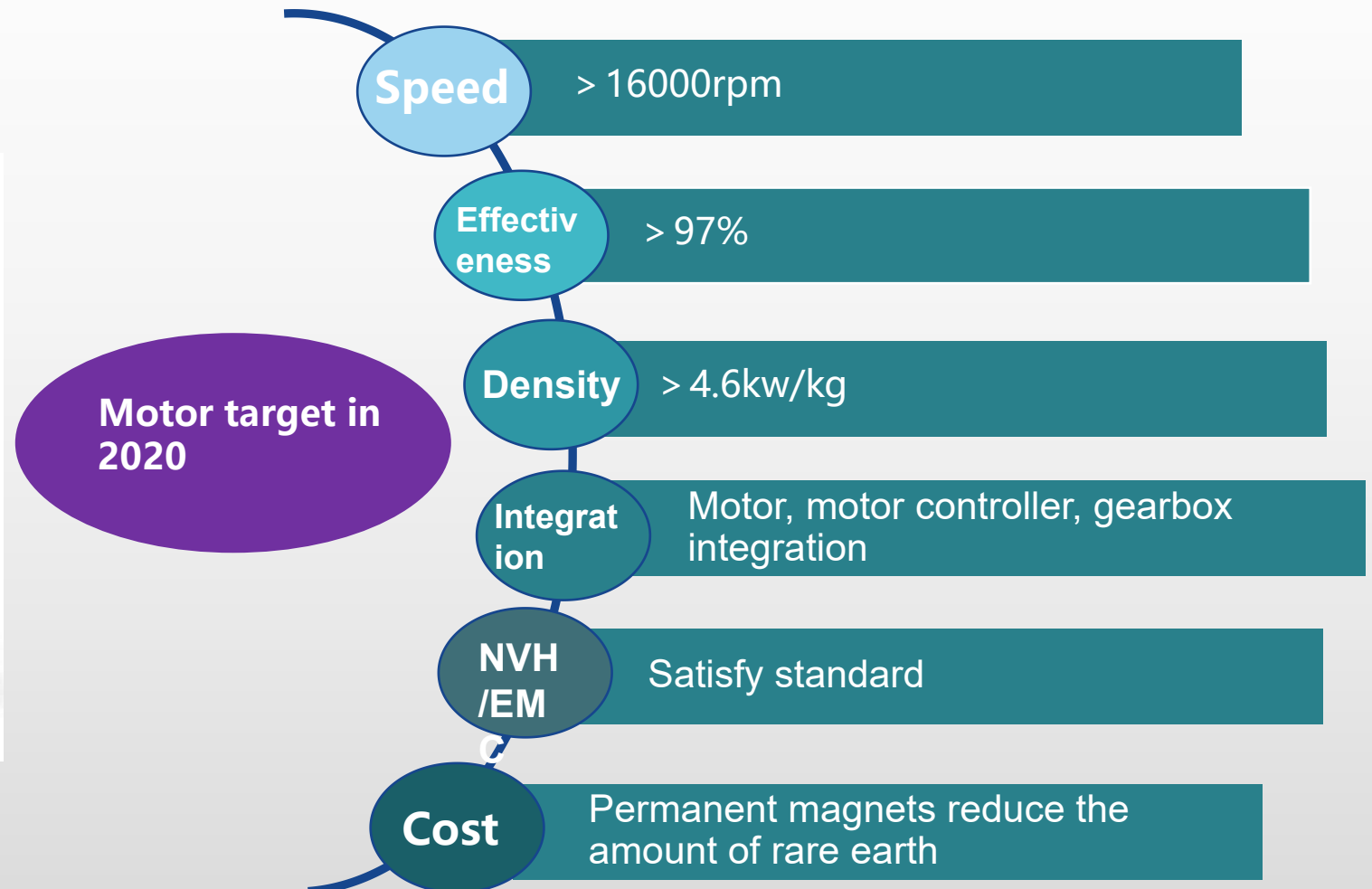
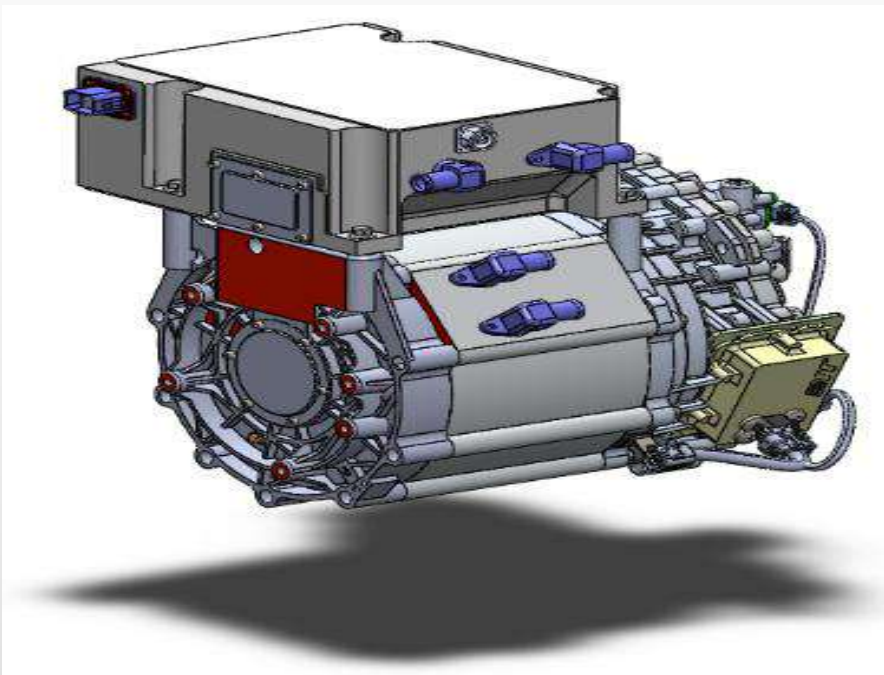


Drive System Status

Drive system series	Usage on bus model	Basic spec.
 DM Direct drive pure electric system	6 ~ 12 m EV city bus 6 ~ 12 m fuel cell bus	P Peak power: 100 ~ 200 Kw T Peak torque: 600 ~ 3000 N.M N Peak speed: 2600 ~ 3300 rpm
 TED Based on AMT Pure E-system	8 ~ 12 m EV inter-city	P Peak power: 100 ~ 200 Kw T Peak torque: 750 ~ 1500 N.M N Peak speed: 5000 ~ 14000rpm
 DEP Coaxial double motor pure E-system	10 ~ 12 m Luxury E-city bus	P Peak power: 100 ~ 200 Kw T Peak torque: 600 ~ 2100 N.M N Peak speed: 5000 ~ 6000rpm
 MHD Hybrid system	10 ~ 12 m Hybrid city bus	P Peak power: 100 ~ 200 Kw T Peak torque: 600 ~ 2100 N.M N Peak speed: 2600 ~ 3000rpm

Motor Development Trend

◆ The motor is developing at high speed, high efficiency, miniaturization, integration, NVH/EMC, and low cost.



H2 fuel Battery Status

Products series: 32KW、46KWh、
50KW、65KW



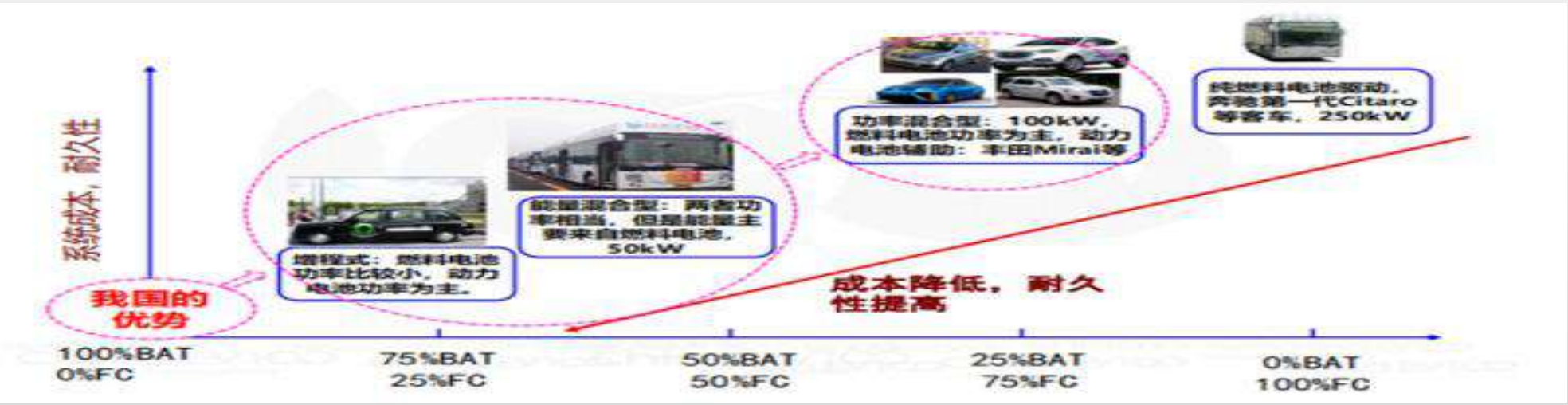
Performance principle:

类 别	2020年	2025年
额定功率(Kw)	60	120
冷启动温度℃	-20	-40
系统最高效率	55%	60%
体积比功率(KW/L)	2	3
使用寿命(h)	10000	20000
储氢压力(Mpa)	35	70

H2 storage cylinder:

Type III	Type IV
	
CNG & H ₂ 燃料汽车	CNG & H ₂ 燃料汽车
铝合金内胆+碳纤维或玻璃纤维	塑料内胆+碳纤维或玻璃纤维
20-70MPa	20-70MPa
无“氢脆”，有腐蚀性	无“氢脆”，无腐蚀性
CNG:0.30-0.50kg/L H ₂ :0.50-1.00 kg/L 重容比较小	CNG:0.25-0.55kg/L H ₂ :0.40-0.85 kg/L 重容比最小
15年/20年	15年/20年
最高	高

增程
↓
半功率
↓
全功率



Parts Testing



Vehicle VCU hardware in-loop test



VCU offline test



Battery charge and discharge test



Battery pack charge and discharge test



Pure electric power system performance test



Hybrid system performance test



Electric power steering pump performance test



Air compressor performance test



EMC surge test



Combustion test



Salt spray test



Three-degree-of-freedom vibration test bench



High and low temperature test



Waterproof rating test



Hydrogen line air tightness test

Vehicle Tests



Hydrogen Vehicles

Develop 7m, 8m and 10m hydrogen bus platform; 9T, 12T and 18T Cargo Van

H2 fuel battery vehicles

Bus and Chassis

7M



Power: 32KW
LFP: 33kwh
Range: 400KM

8.5M



Power: 46KW
LFP: 50KWH
Range: 400KM

10.5M



Power: 50KW
LFP: 50kwh
Range: 400KM

VAN

9T



Power: 32KW
LFP: 67KWH
Range: 400KM

12T



Power: 50KW
LFP: 67KWH
Range: 500KM

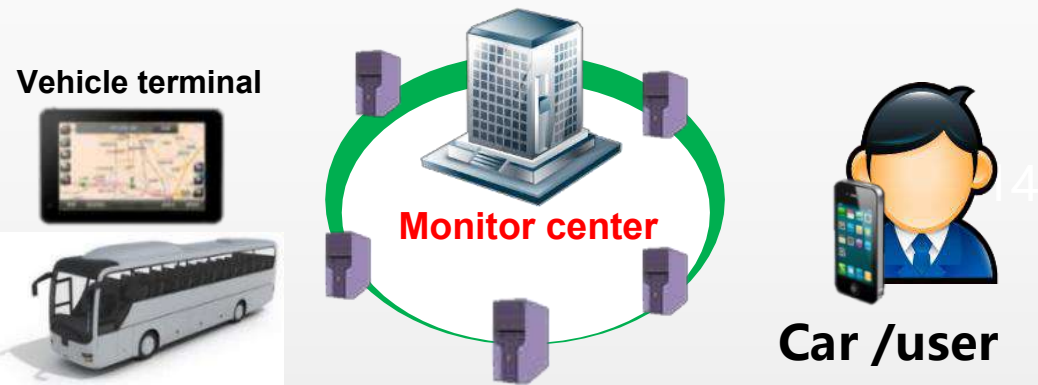
18T



Car network after-sales service system

Full implementation of remote monitoring system for vehicles

The company can monitor and control the dynamic data of all new energy vehicles through the network platform and mobile APP.



8 Functions



Range



Location



Fault warning



Running route



Phone contact



Service



Maintenance reminder



Power-cutting



Product introduction

6/6.5m battery electric city bus



In response to the adjustment of the financial subsidy policy for new energy vehicles in 2018, a battery electric city bus has been developed for urban-rural and urban lines, with front wall in a new unique "big eyes" shape, dual high-beam headlamps which are suitable for urban-rural roads, front and middle doors, and two steps.

Product model	DFA6600GBEV1	DFA6650GBEV1
L×W×H (mm)	5995×2120×2730	6540×2120×2730, 2930
Wheelbase (mm)	3050	3300
Front/rear overhang (mm)	1625/1320	1625/1615
Curb weight (kg)	4600.4800/7200	4730.4930/8500
Rated seating capacity (person)	19/10-16	46/10-19
Battery manufacturer/type	EVE Energy/lithium iron phosphate pack: Dongfeng Haibo	
Battery capacity (Kwh)	96.76	96.76
Motor manufacturer/type	Jing-Jin Electric/	Jing-Jin Electric/
Motor rated/peak power (Kw)	67/112	70/120
Rated/peak torque (N.m)	320/750	479/1000
Range	400 (constant vehicle speed)	340 (constant vehicle speed)
Maximum speed (Km)	69	69
Charging time (h)	1.5	1.5

8m battery electric bus

Product main features:

- Square shape, novel styling, and excellent appearance with clear and smooth lines
- Middle truss structure design, optimized chassis, and noise-reducing lifting lugs
- Two steps for passengers to get on and off easily
- Straight standing area for large space
- Suitable for urban-rural roads, meeting various road conditions
- Closed-loop body structure, strong bending and torsion resistance, and higher safety
- High-current active balancing battery management system (BMS) which is energy-saving and high-efficiency
- Quick-change design of battery pack for convenient and quick removal



Product model	DFA6800EBEV3	DFA6800EBEV4	DFA6800EBEV5 (Bus without standing area)	DFA6800EBEV6
Dimensions (mm) L×W×H	8050×2260×2875,3050 (A/C)			
Wheelbase (mm)	4100			
Front/rear overhang (mm)	1820/2130			
Curb weight/Max. gross weight (kg)	6430.6670/11000	6220.6460/11000	6400.6700/11000	6300.6700/11000
Rated seating capacity (person)	55/14-29		24-30,24-34	55/14-29
Battery manufacturer/type	EVE Energy/lithium iron phosphate			
Pack manufacturer	Dongfeng Haibo New Energy Technology Co., Ltd.			
Battery capacity (Kwh)	150.52	118.27	118.27	118.27
Motor manufacturer/type	Shanghai Dajun Technologies/permanent magnet synchronous motor			Jing-Jin Electric/permanent magnet synchronous motor
Motor rated/peak power (Kw)	85/125	85/125	85/125	75/127
Rated/peak torque (N.m)	705/1700	705/1700	705/1700	800/1700
Range (Km)	425 (constant vehicle speed)	330 (constant vehicle speed)	320 (constant vehicle speed)	320 (constant vehicle speed)
Maximum speed (Km)	69		75	69
Charging time (h)	1.5			1.5

8.5m battery electric bus



1. Middle truss structure design for higher safety;
2. Three types of battery capacity at choice;
3. Tilting front and rear walls for more convenient maintenance;
4. Battery power consumption per 100 km under working conditions is less than 50 kWh (about 2.2 km/kWh), which is at the advanced level in the industry

- ✓ Main configuration: unibody; all configurations adopt the top brands in the industry.
- ✓ The bus has square shape, small fillet styling, and simple and excellent appearance, in line with the characteristics of city bus. The bus adopts three-dimensional layout, finite element analysis, and high-strength and light-weight materials to realize safe and reliable structure, low energy consumption, and longer range.



Model	DFA6850EBEV1	DFA6850EBEV2	DFA6850EBEV3
Dimensions (mm) L×W×H	8470×2400×2960,3140,3170		
Curb weight/Max. gross weight (kg)	7350.7600/12500		
Rated seating capacity (person)	70/14-31, 59/14-31		
Battery manufacturer/type	EVE Energy/lithium iron phosphate		CATL/lithium iron phosphate
Battery capacity (Kwh)	150.53	172	180.87
Motor manufacturer/type	Jing-Jin Electric/permanent magnet synchronous motor		
Motor rated/peak power (Kw)	75/127		
Rated/peak torque (N.m)	800/1700		
Range (Km)	380 (constant vehicle speed)	440 (constant vehicle speed)	460 (constant vehicle speed)
Maximum speed (Km/h)	69		
Charging time (h)	1--1.5		

8.5m battery electric bus



1. Unibody and modular design;
2. Idle start-stop and high-efficiency drive technology for more energy-saving effect;
3. Battery power consumption per 100 km under actual working conditions is 65 (about 1.54 km/kwh), which is at the advanced level in the industry.

Product model	DFA6100CBEV1	DFA6100CBEV2	DFA6100CBEV3
Dimensions (mm) L×W×H	10480×2500×3040,3080,3125,3170	10480×2500.2550×3080,3125,3250	10480×2500.2550×3080,3125,3250
Curb weight/Max. gross weight (kg)	10600,10900,11200/18000	10600,10900,11200/18000	10900,11200,11500/18000
Rated seating capacity (person)	83/21-39,79/21-39,92/21-31	83/21-39,79/21-39,92/21-31	83/21-39,79/21-39,92/21-31
Battery capacity (Kwh)	255.48	300.81	301.056
Rated/peak torque (N.m)	1091/2500	1520/2800	1520/2800
Range (constant vehicle speed, Km)	500	590	590
EKG	0.133	0.143	0.146
Battery energy density (wh/kg)	160.26, 159.79	158.98, 157.18	145.50/145.10

- ✓ Main configuration: modular high-strength unibody; front/rear brake disc, reinforced maintenance-free wheel ends, air suspension, vacuum nitrogen-filled tires, aluminum alloy wheel hubs, centralized lubrication and other high-stability chassis configurations; one-button automatic fire extinguisher, electronic rearview mirror, driver's seat with airbag, aluminum alloy air ducts, A/C and other high-safety and high-comfort interior configurations. In addition, intelligent and networked customization can be carried out according to user needs.
- ✓ Operating areas: All domestic provinces and cities (except Hong Kong, Macao and Taiwan) and some overseas areas, achieving the "zero leakage and zero fire" operation.

New generation 10m battery electric bus



The new generation Tianyi bus adopts modular and systematic design, and follows the concept of family series: with an upward extension of 12m and a downward extension of 8.5m based on the 10.5m bus; it has an overall appearance showing a sense of science and technology, high-quality and clean interiors, flat and low front and rear floors with passage, and smart cab with clear divisions and high-tech configurations, in line with the characteristics of modern city buses.

Main parameters	
Bus type	Low floor
Chassis type	Uni-chassis
Motor rated power/torque (kW/N.m)	135/1430
Motor peak power/torque (kW/N.m)	260/2800
Battery capacity (kwh)	302
Range under NEDC (km)	≥640
Range under working conditions (km)	≥280
Maximum speed (km/h)	69 (speed limit)
Front/rear overhang (mm)	2350/2410
Length (mm)*Width (mm)	10560*2550
Height (mm)	≤3300
Interior height (mm)	2460
Curb weight (kg)	≤12000
Seating capacity (person)	92/21-31, 83/21-39, 79/21-39
Wheelbase (mm)	5800
Max. gross weight (kg)	18000
Front/rear wheel track (mm)	2085/2110, 1840/1860/1880/1900
Approach angle (°)	≥9.1
Departure angle (°)	≥8.3

10.5m fuel cell bus

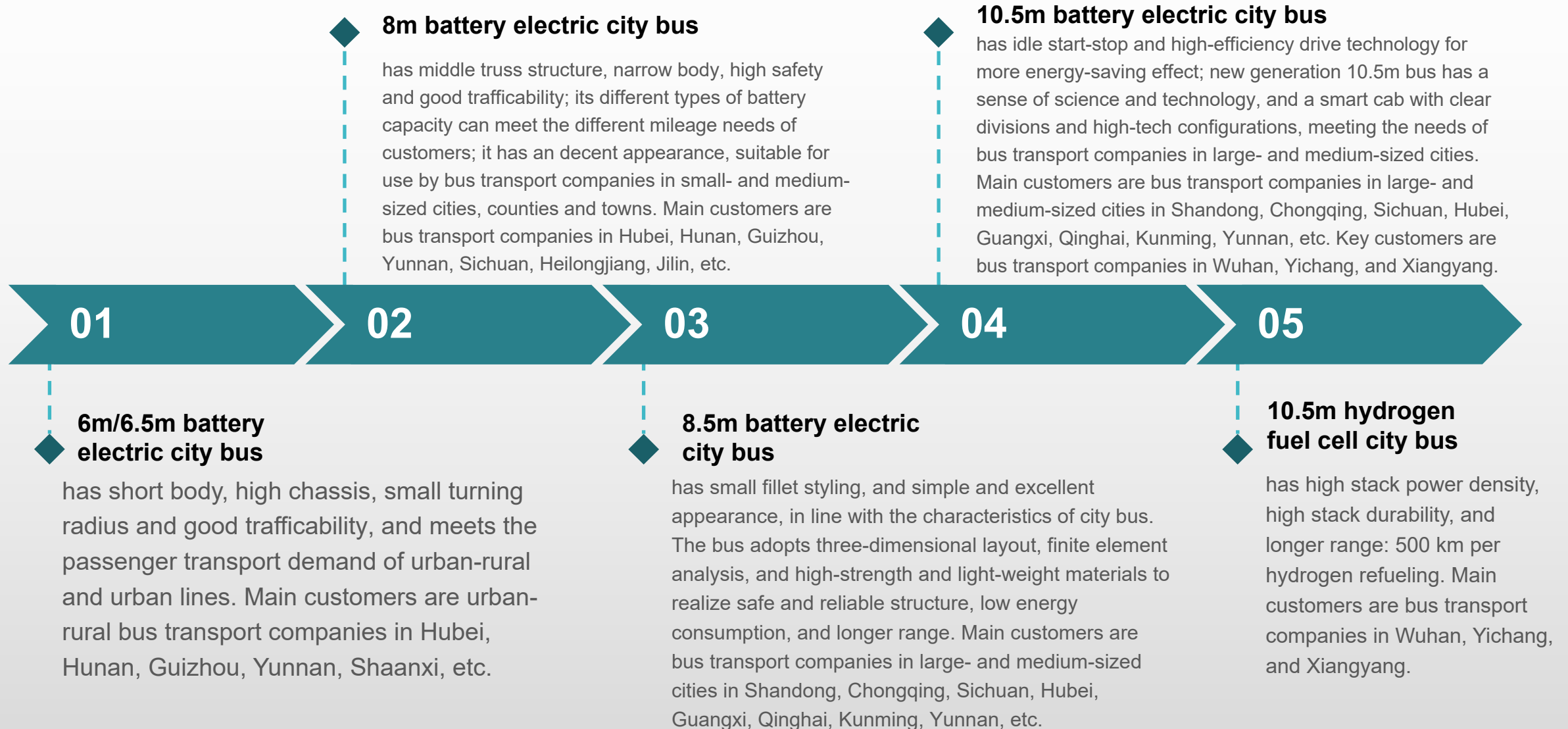


1. High stack power density, and high stack durability;
2. Longer range: 500 km per hydrogen refueling;
3. High environmental adaptability: -30° C~80° C.

Product model	EQ6100CACFCEV3	EQ6100CACFCEV5
Dimensions (mm) L×W×H	10500×2500×3490	10500×2500×3490
Curb weight/Max. gross weight (kg)	12300/18000	12300/18000
Rated seating capacity (person)	87/21-33,83/21-37,80/21-39	87/21-33,83/21-37,80/21-39
Battery capacity (Kwh)	105	105
Fuel cell model/manufacture	VISH-80A/Wuhan Vision	TWLQ95/Wuhan Troowin
Fuel cell rated/peak power (kw)	84/85	95/95.5
Fuel cell stack power density (kw/L)	2.5	2.7
Hydrogen capacity (L)	140*6 (35MPa)	140*6 (35MPa)
Range (KM)	≥510	≥510

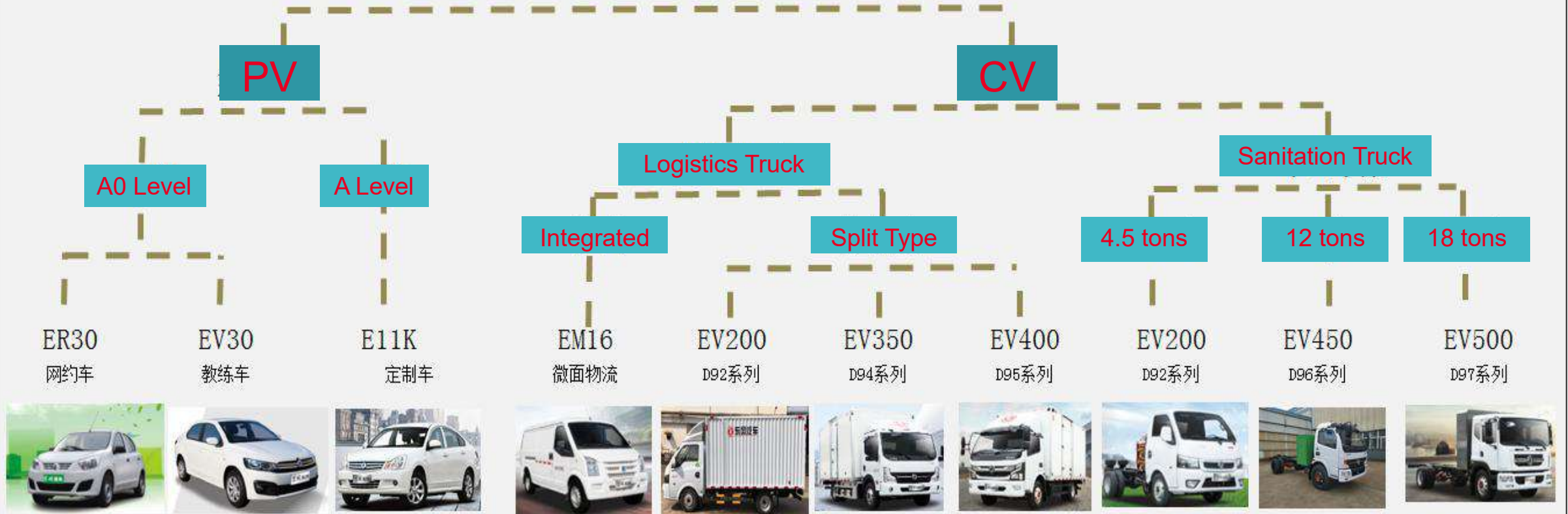
- ✓ Main configuration: modular high-strength unibody; front/rear brake disc, reinforced maintenance-free wheel ends, air suspension, vacuum nitrogen-filled tires, aluminum alloy wheel hubs, centralized lubrication and other high-stability chassis configurations; one-button automatic fire extinguisher, electronic rearview mirror, driver's seat with airbag, aluminum alloy air ducts, A/C and other high-safety and high-comfort interior configurations. In addition, intelligent and networked customization can be carried out according to user needs.
- ✓ Operating areas: Hubei Wuhan, Yichang, Xiangyang, etc.

Product application scenarios



Other Electrical Series

New Energy Product line



EM26-VAN



Product model	DFA5030XXYMBEV	DFA5030XXYMBEV	DFA5030XXYMBEV	DFA5030XXYMBEV
Dimensions (mm) L×W×H	4865×1715×2060	4865×1715×2060	4865×1715×2060	4865×1715×2060
Curb weight/Max. gross weight (kg)	1640/3000	1640/3000	1640/3000	1640/3000
Motor rated/peak power (kW)	30/70	30/70	30/70	30/70
Motor rated/maximum torque (Nm)	90/230	90/230	90/230	90/230
Battery capacity (Kwh)	41.86	41.86	41.86	41.86
Battery Brand	CATL	CATL	CATL	CATL
Motor controller	KTZ33X28S001	KTZ33X28S001	KTZ33X28S001	KTZ33X28S001
Exterior rearview mirror adjustment	Manual	Manual	Manual	Electric
Range (KM)	220	220	220	220

Small model, large capacity

As the new small VAN launched by DFAC this year, while ensuring the advantages of flexible driving and lightweight body, the effective capacity of the cargo box reaches 5.6m³ Leading in the same class of models, ensuring maximum customer efficiency.

Low price, high configuration

Positioning the mid-range VAN car market, pricing principles are people-oriented and maximizing market share. Simultaneously achieve price reduction without quantity reduction. In addition to regular configurations, there are also various optional configurations available. Such as reverse imaging, aluminum alloy wheels, integrated in car multimedia, etc. Multiple Choice Facing Customers

New styling, new performance

The new model has a more minimalist/stylish/elegant design. Better fitting the aesthetic trend of the era of new energy logistics vehicles. Matched with Ningde Era batteries, other core components are selected from reliable brands in the industry, resulting in more stable vehicle performance and guaranteed quality.

Product introduction

EV200-Cargo Truck

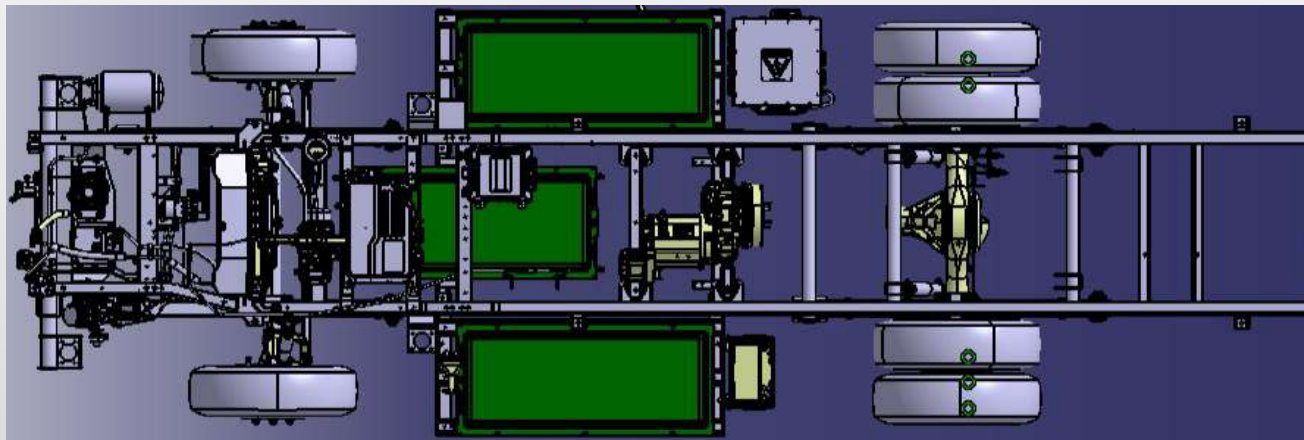


Small model, large capacity
Working condition information
Cargo weight: 1-2 tons

Product advantages
High load-bearing capacity: Lightweight body with a capacity of up to 12m³
High convenience: designed with high and low compartments, allowing access to the basement
High quality: mature basic vehicle platform, brand big three electric system

Product model	D92-100	
Overall dimensions of the vehicle (mm)	5750×1910×2670	
Overall dimensions of the chassis (mm)	5500×1650×1950	
Wheelbase (mm)	3000	
Driving Motor	Brand/Model	Jing-Jin/TZ180XSA02
	Rated/Peak Torque (N.m)	90/230
	Rated/Peak Power (kW)	42/70
	Rated/maximum speed (r/min)	4500/12000
Battery	Layout form	Tile Left, Center, and Right
	Battery Brand/capacity (Kwh)	CATL/66.8
	Rated voltage (V)	386.4
Front Axle	Rated load (kg)	1500
	Leaf spring distance (mm)	700
	Brake form/size (mm)	Disc / φ 264
Rear Axle	Rated load (kg)	3000
	Leaf spring distance (mm)	700
	Brake form/size (mm)	drum-type/ φ 280*64

Product introduction



Product introduction

E Start-Cargo Truck



Intelligent Logistics Navigator

- Humanized New Design, Understanding Cars • Better Understanding You
- Super durable carrying capacity, saving money • more economical
- Multiple security protection, rest assured • more confident
- Strong brand alliance, stable • more reliable
- Empowered by ecological technology, intelligent • simpler

Product Model	Standard Version	Technology Version	Intelligent version
Overall dimensions of the vehicle (mm)	5995×2180,2380×2940,3150	5995×2180,2380×2940,3150	5995×2180,2380×2940,3150
Container size (mm)	4200×2100,2300×1890,2100	4200×2100,2300×1890,2100	4200×2100,2300×1890,2100
Wheelbase (mm)	3308	3308	3308
Cab width (mm)	1900	1900	1900
Container Capacity (m ³)	16.7/18.5	16.7/18.5	16.7/18.5
Braking Type	Hydraulic	Hydraulic	Hydraulic
Driving Type	Single reduction	Single reduction	Single reduction
Rated/Peak Torque (N.m)	150/320	150/320	150/320
Rated/Peak Power (kW)	60/120	60/120	60/120
Battery Brand/capacity (Kwh)	CATL/81.14	CATL/81.14	CATL/81.14
Constant speed range (km)	≥350	≥350	≥350
Multifunction steering wheel	√	√	√
Cruise control	√	√	√
Folding key	√	√	√
Full LCD instrument	√	√	√
Parking sensor	√	√	√

Product introduction



Product introduction

EV400- Urban Logistics Expert



1. Safety: air brake system, three-level fault alarm of high-voltage system
2. Large Integration: High Voltage Control Integration and Low Voltage Safety Box Integration
3. Quality Improvement: Vehicle Performance Calibration, 15 000 km Durability Test
4. Additional Configuration: Power Supply Switch, Battery Heating System, All-Aluminum Large Container Volume: 20m Load
5. High Safety Performance: Standard Valve Brake and Air Break BrakeHigh Comfort: Capt Wide Body CabLow noise, suitable for urban logistics

Product Model	EV400
Overall dimensions of the vehicle (mm)	5995x2380x2890/3090
Container size (mm)	4200x2300x1900/2100
Wheelbase (mm)	3308
Cab width (mm)	2030
GVW/Curb Weight (Kg)	4495, 7000/3200,3200
Loading Capacity(Kg)	1165/3605
Braking Type	Air brake
Driving Type	Center mounted rear drive
Rated/Peak Torque (N.m)	220/500
Rated/Peak Power (kW)	60/110
Battery Brand/capacity (Kwh)	CATL/86.02
Constant speed range (km)	≥200
Contoller Type	Five in one
Max Gradeability	≥30%/25%
The max speed (km/h)	100/95
Tyre	7.50R16LT 8PR/12PR

Product introduction

EV400- Urban Sanitation



- Super bearing capacity, maximum total mass up to 14 tons
- Multi-power selection, suitable for various environmental sanitation upgrades
- Safe and reliable: configure the domestic high-end battery brand of CATL, customer trust
- Powerful: 5 AMT, suitable for sanitation operation
- The same tonnage vehicle with short wheelbase is suitable for urban street sanitation operation.
- The whole vehicle is equipped with a large amount of electricity and has no worries about working for a long time.
- Maximum slope climbing over 25%, suitable for various road conditions

Product Model	CAPTAIN 2030
Overall dimensions of the vehicle (mm)	7130x2280x2520
Wheelbase (mm)	4200
Cab width (mm)	2030
GVW/Curb Weight (Kg)	12100/5430
Loading Capacity(Kg)	1165/3605
Battery layout form	Back mounted
Braking Type	Air brake
Driving Type	Center mounted rear drive
Rated/Peak Torque (N.m)	350/850
Rated/Peak Power (kW)	70/120
Battery Brand/capacity (Kwh)	CATL/218.54
Constant speed range (km)	300
Controller Type	All in one
Max Gradeability	≥25%
The max speed (km/h)	85
Tyre	8.25R20 14PR

THANKS FOR YOUR TIME

