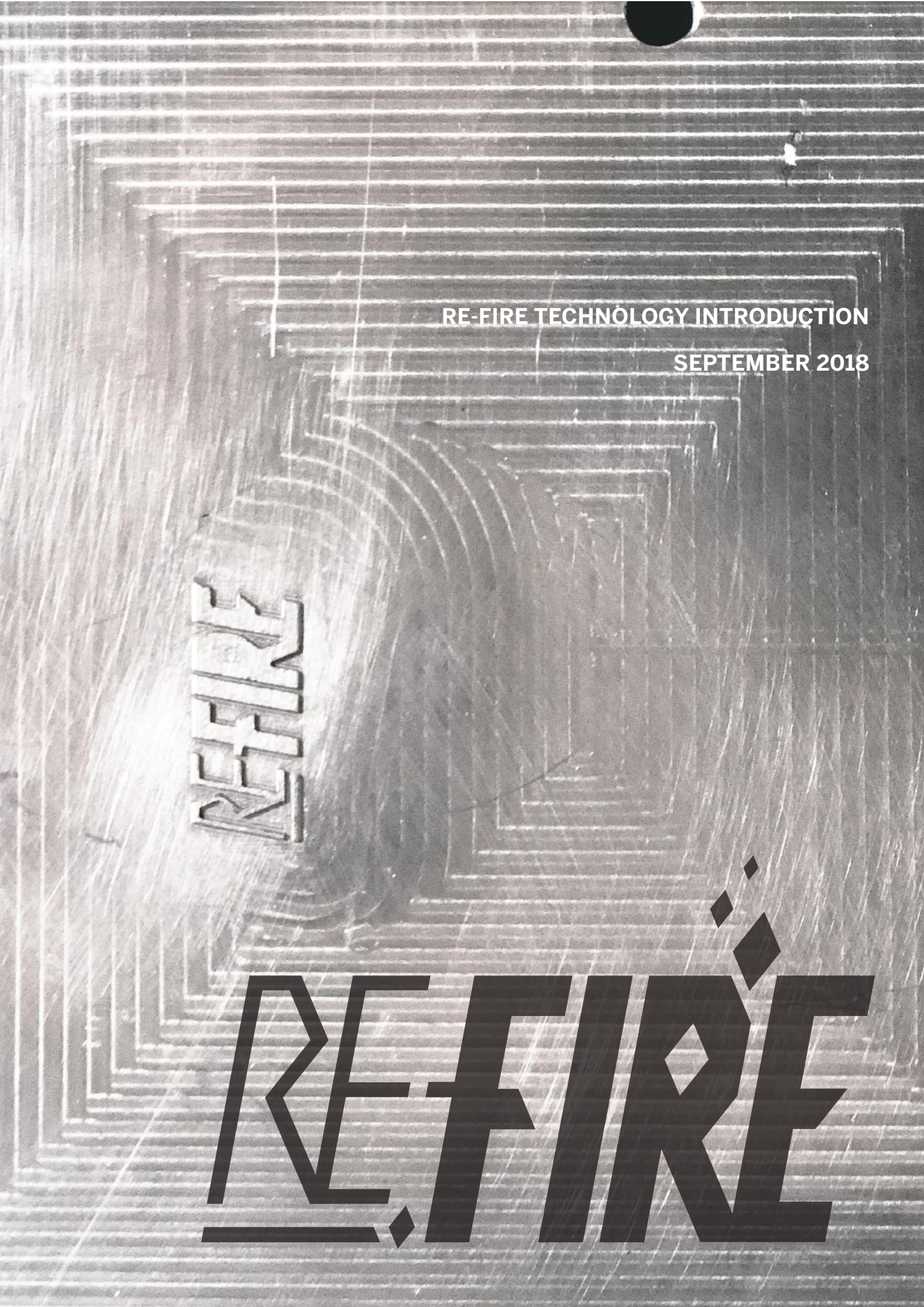
RE-FIRE TECHNOLOGY INTRODUCTION

SEPTEMBER 2018



FUEL CELL

www.re-fire.com/en


RE:FIRE
CREATING SUSTAINABLE FUTURE

RE-FIRE TECHNOLOGY COMPANY INTRODUCTION

At Re-Fire, we believe that hydrogen is the ideal energy source for the sustainable growth needed in our industries. We also believe in the environmental and economic advantages fuel cell technology could bring forth into the transportation sector. Staying on this path, Re-Fire Technology was incorporated in 2015 with the vision to commercialize hydrogen and fuel cell applications by bringing products to market.

We recognize that hydrogen fuel cell will transform our automotive industry in the near future, and being a part the force driving it, Re-Fire engineers have focused on building fuel cell engines and BOP components in the past three years through dedication, innovation and engineering excellence.

Through the end of August 2018, more than 700 commercial vehicles with Re-Fire fuel cell engines have been delivered to our customers, accumulating to more than 2,000,000 kilometers of on-the-road experience accrued.

Re-Fire currently employees over 370 people in Shanghai, Beijing, Shenzhen, Yunfu, and Hong Kong, two third of staff are engineers by training.

370+ EMPLOYEES

LOCATIONS:

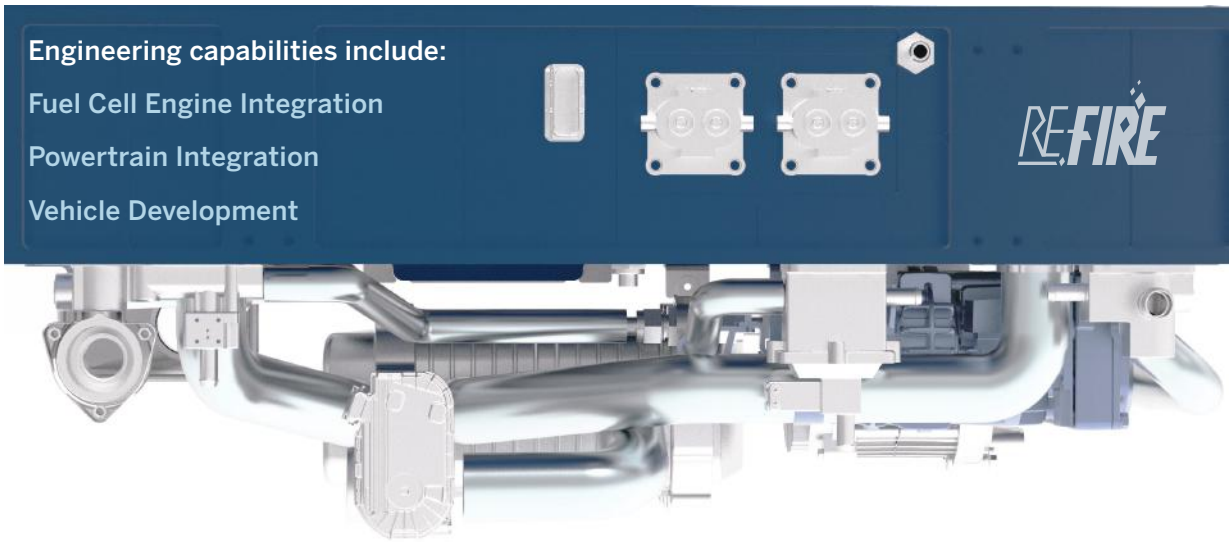
BEIJING

SHANGHAI

YUNFU

SHENZHEN

HONG KONG



FUEL CELL ENGINE

Re-Fire currently has a three proprietary fuel cell engine models designed for commercial vehicle applications.

1. **CAVEN 3** - 32kW Fuel Cell Engine

CAVEN 3 Specification	
Rated Power	32 kW
Dimension(L*W*H)	890*480*375 mm
Weight	135 kg
Peak Efficiency	55 %
Durability	≥ 12,000 hr
Freeze Start	-15°C
IP Rating	IP67

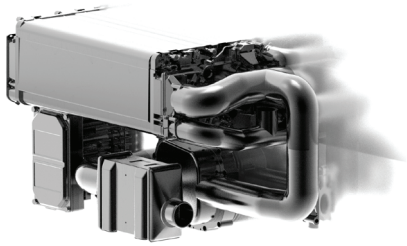
*In serial production

2. **CAVEN 4** - 46kW Fuel Cell Engine

CAVEN 4 Specification	
Rated Power	46 kW
Dimension(L*W*H)	926*550*408 mm
Weight	160 kg
Peak Efficiency	56 %
Durability	≥ 12,000 hr
Freeze Start	-15°C
IP Rating	IP67

*In production 3Q 2018

3. **CAVEN 7** - 80kW Fuel Cell Engine



CAVEN 7 Specification	
Rated Power	80 kW
Peak Efficiency	60 %
Durability	≥ 12,000 hr
Freeze Start	-20°C
IP Rating	IP67

*In production 2019

BALANCE OF PLANT (BOP) COMPONENT DEVELOPMENT

On engine BOP components, Re-Fire has developed Fuel Cell Vehicle Control Unit (VCU), Fuel Cell Control Unit (FCU), and Hydrogen Management System (HMU) used in our vehicles and has established the corresponding development processes, product verification systems, and corporate standards.

On key power electronics, Re-Fire's subsidiary company Pondo Electric Technology Co., Ltd. offers 36kW, 60kW and 90kW fuel cell DC/DC converter products to market.

MASS PRODUCTION

Re-Fire fuel cell engines are designed, engineered, validated, and prototyped in Shanghai. Engine production currently takes place in our factory in Yunfu city of Guangdong province.

Commissioned in July 2017, the production factory is the first of its kind in China with a phase one capacity of 5,000 units of fuel cell engines per year.

The factory is equipped with information detection and quality management systems to ensure the processes are in check to deliver excellent products to our customers.

VEHICLE INTEGRATION

Through August 2018, Re-Fire has altogether completed the integration of 19 commercial vehicle fuel cell powertrain and 3 fuel cell passenger vehicle prototypes.

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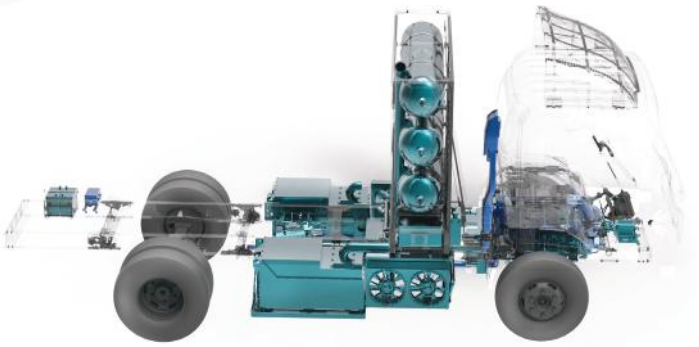
COMMERCIAL BUS PROTOTYPES



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DELIVERY TRUCK PROTOTYPES

3
PASSENGER VEHICLE PROTOTYPES

MARKET DATA

2016
- Completed **2** prototype Vehicle Integration projects
- Provided **15** units of Fuel Cell Engines

2017
- Completed **14** prototype Vehicle Integration projects
- Sold **550** units of Fuel Cell Engines

2018
- Will complete **20+** prototype Vehicle Integration projects
- Projected sales of **1000 - 2000** units of Fuel Cell Engines

VEHICLE INTEGRATION

In 2017, **530** 7.5 tonne delivery trucks, equipped with Re-Fire's CAVEN 3 fuel cell engines, were delivered to our customers.

Of the 530 delivery trucks, **25** are being operated in Foshan city for e-commerce packages and local produce delivery, **5** are being operating in Shiyan city, the remaining **500** fuel cell trucks are being deployed in Shanghai.

In September 2016, the first hydrogen fuel cell public transportation fleet in China consisting of **12** 11-meter buses was launched in Foshan city of Guangdong province. Re-Fire was in charge of the design and integration of the fleet's powertrain and control systems. The total combined service mileage for this fleet of buses has now surpassed **360,000** kilometers.

MARKET PROMOTION

Approximately 1,500 fuel cell commercial vehicles were deployed globally in 2017; of which the Chinese market accounted for 1,272.

At present, more than **50%** of all operating fuel cell commercial vehicles in China are equipped with fuel cell engines and powertrain solutions provided by Re-Fire.

Through the end August 2018, **24** e-commerce logistics and distribution companies in China have integrated Re-Fire powered zero-emission, long-range, high-load ratio fuel cell logistics vehicles to their delivery service fleets. The total fleet mileage accrued from January 2018 has exceeded **1,800,000** kilometers.

Fuel cell truck drivers from STO Express delivery services

7.5T fuel cell truck fleet in Foshan, Guangdong


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NEW ENERGY VEHICLE DATA PLATFORM

Re-Fire's subsidiary company, Shenzhen Suyun Technology Co., Ltd. builds and manages a cloud-based telematics monitoring platform to enable the real-time data tracking capability of powertrain and vehicle components for all Re-Fire fuel cell vehicles deployed in the field. This data package is available to fleet operators as an added service option.

Furthermore, information about partnering refueling stations are also collected through the platform to better serve our end users. To name a few, current hydrogen price, nearest stations, the maximum driving radius relative to the closest refueling point are among the features displayed through an mobile app on drivers' end.

2015

Re-Fire's first fuel cell UAV took flight.

2016

China's first fuel cell bus fleet integrated by Re-Fire deployed in Guangdong;

Re-Fire released the first fuel cell engine CAVEN 3 for commercial vehicle application.

2017

China's first fuel cell engine mass production factory commissioned by Re-Fire;

530 fuel cell vehicles equipped with Re-Fire fuel cell engines delivered to customers.

2018

Through the end of August 2018, over 2,000,000km of on-the-road mileage accrued;

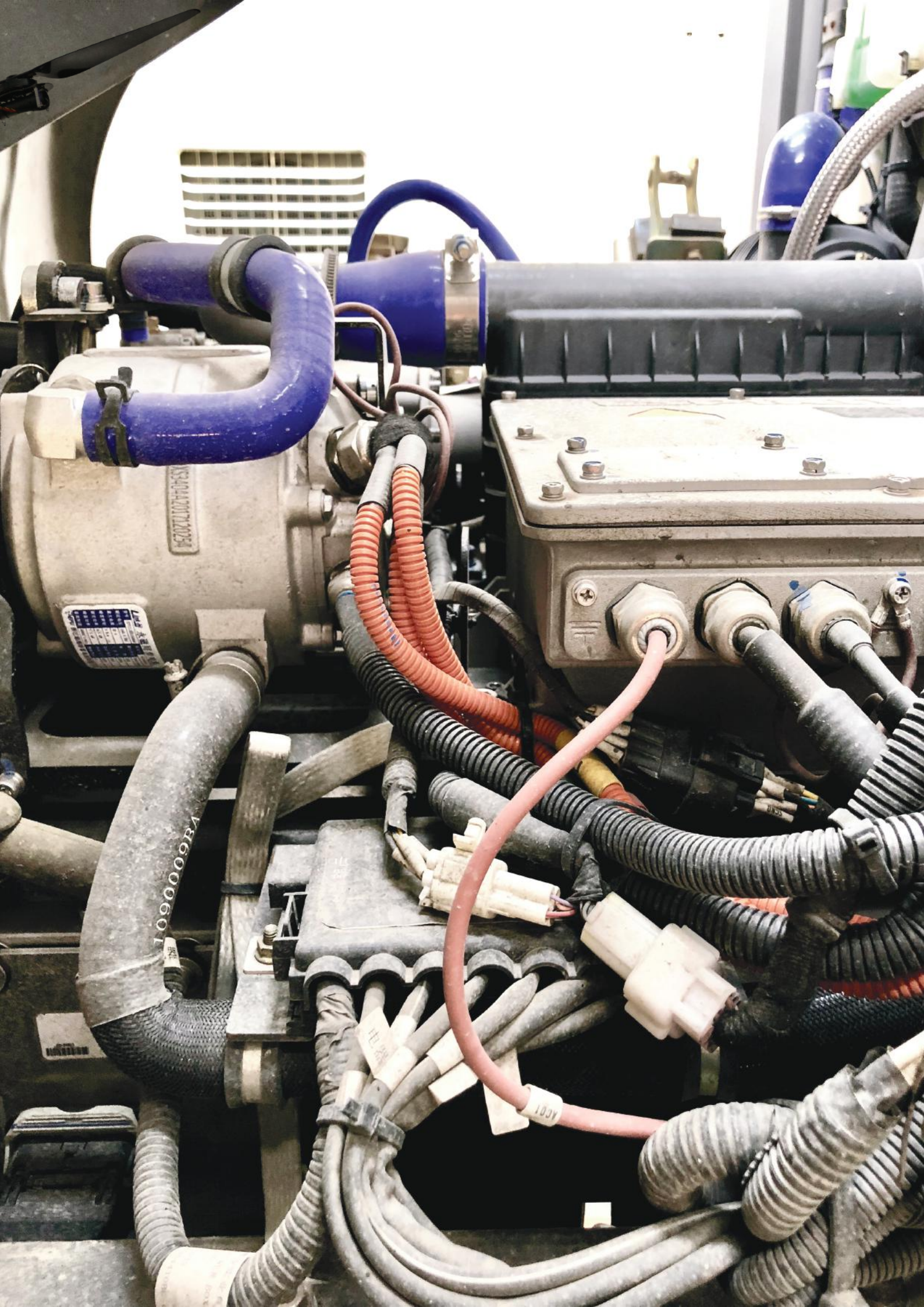
Established China's first fuel cell vehicle operation and maintenance service system;

China's first dedicated fuel cell vehicle aftersales service centre built and operated by Re-Fire to support the fuel cell delivery trucks in Shanghai;

Re-Fire was appointed the Committee Chair for Fuel Cell Committee of China Power Battery Industry Innovation Alliance under the guidance of the Ministry of Industry and Information Technology;

Re-Fire named one of China's first fuel cell whitelist companies by China Association of Automobile Manufacturers;

Now a member of the Hydrogen Council.



@ **Re-Fire**, We honour and respect the engineering culture

We are dedicated to commercializing fuel cell technology and to **creating a sustainable future**

Our Vision

Creating Sustainable Future

Bringing Fuel Cell Applications to Life

www.re-fire.com/en

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