



## 4 Wheel Hydrogen Cargo Bike

- AFPM Drive + Hydrogen **CIXH**
- Output Power : 250W AFPM AXDrive System
- Max. Peak power : 1,5kW
- Output : Torque : 120Nm
- Voltage : 36V/48V
- Hydrogen : PEM Fuel Cell 250/500/1000W
- Energy Storage : Supercapacitor
- Range of Drive : 150km/single charging
- Energy : 1,300~3,000Wh
- H<sub>2</sub> Tank : 300bar(2~10L)
- H<sub>2</sub> Charging time: 2~5min
- Max Load : 300kg
- L/W (2,011mm x 905 mm)
- Tire (Front/Rear) : 20 inch
- Heflow Weight : 75kg



With us !  
Get a Better Green Solution !!!

e

과거와 현재와 미래를 연결하고 새로운 시간을 여는 상징적인 의미로 이플로우의 새로운 기술을 자랑합니다.

As a "e" symbol that connects the past, present and future and opens a new time.

*flow*

과거와 현재를 기반으로 새로운 혁신의 미래를 연결하고 정체되지 않은 새로운 흐름의 기술 비즈니스를 추구합니다.

As a "flow" eflow aims for new technology. Based on the past and the present, we connect the future of new innovation and pursue a new flow of technology business.



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**He**flow



AFPM Motor Drive with H<sub>2</sub> Fuel Cell



H<sub>2</sub> LEV CargoBike



**HOASIS**

Green H<sub>2</sub> Production & Refueling

## AX DRIVE - AFPM

(Axial Flux Motor)



AXD

### LEV Motor

### In-Wheel Drive 20"

Motor	AFPM Motor Hub Type Front / Rear	Motor	PMSM/AFPM In-Wheel type
Spec.	36V/250W/100Nm/IP65 48V/250W/100Nm/IP65 300rpm	Spec.	36V/250W/120Nm/IP65 48V/250W/120Nm/IP65 300rpm

## SDV (Software Defined Vehicle)

### LEV Software Solution

#### Embedded development of ECU

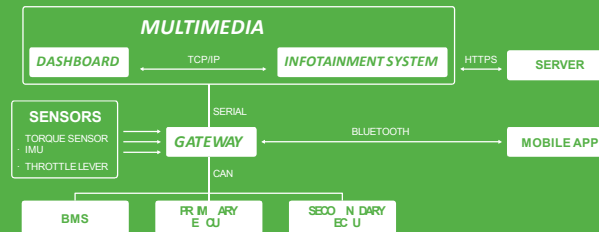
- Based on STM32F4 Micro Controller
- VDItage : 6-60V
- RTOS
- Networking based on J1939
- Motor control algorithm : FOC
- Support for field weakening with configurable
- Weakening current
- Support hall sensor, sinco encoder



### Embedded Linux development



- Dashboard based on ARM microprocessor on Linux environment
- Software specification document elaboration
- High level and low-level design document elaboration
- Development of applicative and basic software for dashboard and infotainment system using crank software.
- Software unit testing



## Hydrogen Cargo Bike

(Light Electric Vehicle)



Load capacity	1.80 m <sup>3</sup> x 250 kg
Frame	Modular carbon monocoque
Motor	AFPM In-Wheel Drive 20"
Power	Hydrogen fuel cell or Re-USED LI-ion/LFP battery
Range	140km (AXH) 40 km (AXD)
Front axle suspension	Rear axle suspension
Rear axle suspension	Carbon leaf springs
Dimension	2,580 x 1,400 x 800(mm), 49Kg(Dry Weight)

## H<sub>2</sub> production & refueling of LEV (Light Electric Vehicle)

Compact and cost-affordable hydrogen stations



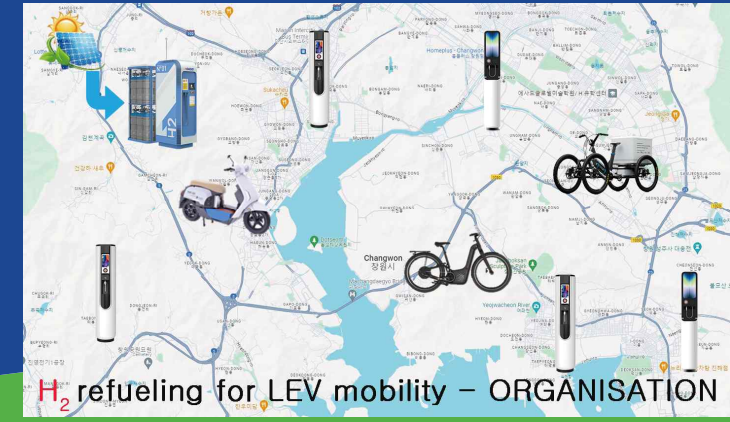
Refueling Station  
@300 bar, 1.0 ~ 4.0kg  
100 e-bike  
refueling per day



# HOASIS

- 3.5kWh capacity solar power
- 1 kg hydrogen production per day
- Hydrogen production and storage for more than 5 days a week
- Energy-independent automatic charging
- H<sub>2</sub> charging facility (100 units/day)
- 1903 x 656 x 1631mm
- Green H<sub>2</sub> production : 1kg/day

## Changwon project in South Korea



H<sub>2</sub> refueling for LEV mobility – ORGANISATION

## New York project in USA



H<sub>2</sub> refueling for LEV mobility – ORGANISATION

## H<sub>2</sub> Fuel Cell Power Module with Supercapacitor



### AXH-450W Hydrogen Module

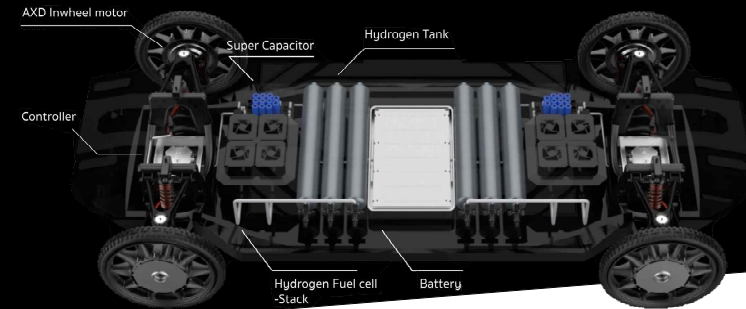
- Dimensions : 220X360X120mm
- Energy Storage : Supercapacitor
- Energy : 1,300Wh
- H<sub>2</sub> Tank : 3L/300bar
- Hydrogen Gas : 99.95% Grade
- H<sub>2</sub> Charging time : 2min



### 1500W Hydrogen Module

- Energy Storage 2,600mAh/10,000mAh
- Energy : 2,600Wh
- Rated Power : 1500W
- Output Power : 42-90VDC with DC/DC converter
- Start up time : <10s
- Communication : CAN-bus
- H<sub>2</sub> Tank : 7L/350bar
- Hydrogen Gas : 99.95% Grade
- H<sub>2</sub> Charging time : 5min
- Weight : < 10 kg (Incl, Tank)

## 4 Wheel Platform of Cargobike



H<sub>2</sub> CIXH

- AFPM In-Wheel Motor + PEM H<sub>2</sub>
- Output Power : 250W AFPM AXDrive
- Output : Torque : 140Nm
- Max. Peak power : 1,5 – 3.0kW
- Voltage : 36V/48V
- Hydrogen : PEM Fuel Cell 250/500/1000W
- Energy Storage : Supercapacitor
- Range of Drive : 150km/single charging
- Energy : 1,300~3,000Wh
- H<sub>2</sub> Tank : 300bar(2~10L), <5min Charging

Battery CIXL

- AFPM In-Wheel Motor + Reused Li Battery
- Output Power : 250W AFPM AXDrive
- Output : Torque : 140Nm
- BMS : AI BMS  
(SOC : Status of Current, Patented)
- Pack Voltage/current : 42 V / 110Ah (Current)
- Pack Energy(Wh) : 4,752(4Kwh)
- Pack Operating voltage range : 32.4 ~ 52V