



# Welcome to Intelligent Energy

Author

Date

# Powering the hydrogen future®

Hydrogen fuel cell manufacturer

Products from 800W to 300kW

Automotive, aerospace, telecoms, marine,  
rail, materials handling, stationary and  
portable power



23 years' experience

Over 150 employees

Over 600 patents

12 modular products



Based in the UK  
US, Japan, South Korea and  
China.



Credited with ISO 9001:2015, ISO  
14001:2015, ISO 45001:2018

# What is a fuel cell?



Fuel cells **generate electricity** through an environmentally friendly **electrochemical reaction**.

A **zero-emissions** solution.

**Produces continuous power** when hydrogen and air are supplied.

**No combustion** is involved.



Fuel cell stack

+



Hydrogen

+



Air

=



Electricity

+



Pure water



# Zero-emission power from 800W to 1MW



## IE-SOAR

800W – 24kW

Lightweight fuel cell modules for drones and VTOL applications



## IE-POWER

1kW – 32kW

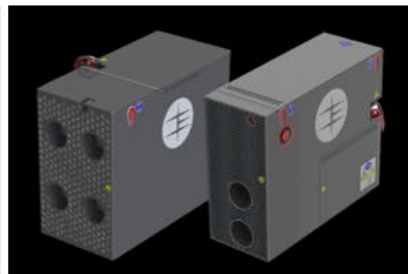
Clean power for construction, standby power and telecoms



## IE-LIFT

1kW – 60kW

Battery box replacement for material handling equipment



## IE-DRIVE

100kW – 300kW

Fuel cells for buses, trucks, cars, rail and marine



## IE-FLIGHT

100kW – multi-MW

Zero-emission flight for eVTOL, small aircraft and large aircraft



## IE-GRID

200kW – 1MW

Fuel cell distributed power solutions



**IE-SOAR™**

**800W – 24kW**



Surveying



Mapping



Pipeline Inspection



**IE-POWER™**

**1kW – 32kW**



Construction



Stationary Power



Telecoms



**IE-LIFT™**

**1kW – 60kW**



Warehouse Trucks



AGVs



Counter balance



**IE-DRIVE™**

**100kW – 300kW**



Buses and Trucks



Cars



Stationary Power



**IE-FLIGHT™**

**100kW – 300kW**



eVTOL



Small Aircraft



Large Aircraft



**IE-GRID™**

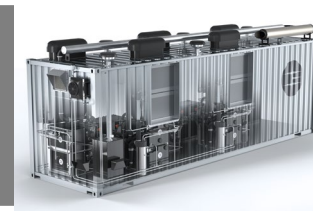
**200kW – 1MW**



Stationary Power



Mobile Power



Marine





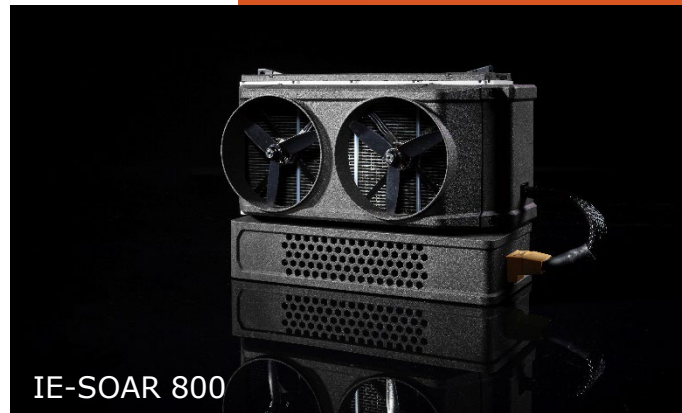
# Our partners and customers



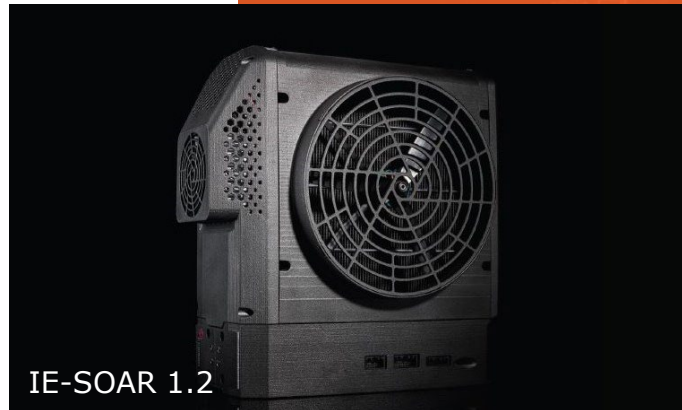
# IE-SOAR:

**800W – 24kW for drone and VTOL applications**

- ✓ 3 to 5 times the flight time over batteries
- ✓ 2-3 minute refuelling
- ✓ Combine systems in parallel for 800W to 24kW systems
- ✓ Over 1000 hours life
- ✓ Rotary wing, fixed wing and VTOL applications
- ✓ Unlock BVLOS operations



IE-SOAR 800



IE-SOAR 1.2



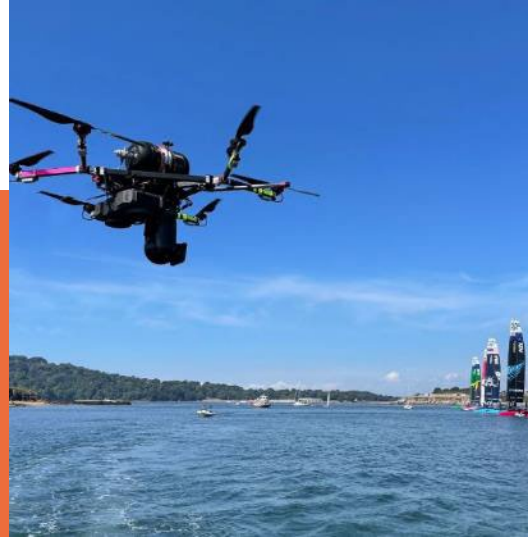
IE-SOAR 2.4

# Case studies

**Replace your battery and unlock long endurance flight**



**Pipeline inspection  
with Shell**



**Broadcasting the Sail  
Grand Prix**



**Military Surveillance**



# IE-POWER:

1kW – 32kW for standby power, telecoms and construction

- ✓ Small, light, power dense hydrogen fuel cells
- ✓ Modular, scalable and easy to integrate
- ✓ Unique patented airflow management
- ✓ Quiet operation
- ✓ Wide environmental envelope
- ✓ Robust against high shock and vibration incidence



IE-POWER 1



IE-POWER 4

# Case studies

## Zero emission hydrogen fuel cell solutions to meet your net zero targets



**Fuel cell electrolyser demonstrator site for EGAT in Thailand**



**Stationary power for welfare cabins on HS2 sites**



**Back up power systems for telecoms sites with Netis**



**Power in off-grid locations with Powidian**

# IE-LIFT:

1kW – 60kW for material handling equipment

- ✓ Complete battery replacement – 24V / 36V / 48V
- ✓ Simple retrofit using existing FLT connections
- ✓ Rapid refuelling improves fleet availability
- ✓ Easily scalable with site / fleet expansion
- ✓ Improved TCO for intensive operations





## Case studies

**Rapid refuelling, improved availability, lower TCO**



**Fuel cell powered  
Automated Guided  
Vehicles at BMW Plant**



**World's first hydrogen-  
electric powered access  
platforms with Niftylift**

# IE-DRIVE:

100kW – 300kW for automotive applications

- ✓ High power density
- ✓ Compact and easy to integrate
- ✓ Patented cooling technology
- ✓ Scalable and modular
- ✓ Long life span
- ✓ Range and re-fuelling experience similar to ICE



IE-DRIVE 100



IE-DRIVE HD100

# Case studies

**High power, lightweight, modular fuel cells for automotive and stationary use**



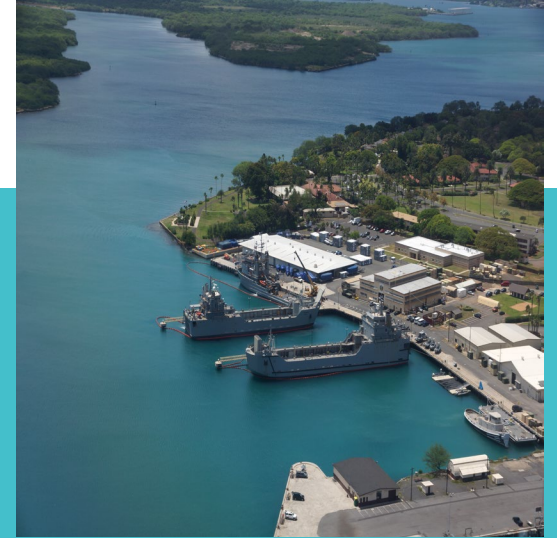
**Fuel cell powered  
passenger vehicles with  
Changan UK**



**44 tonne HGV developed  
with MIRA and Viritech**



**Fuel cell powered buses  
with TYCE, Taiwan**



**600kW microgrid at  
Hickam Air Force Base in  
Honolulu, Hawaii**



# IE-FLIGHT:

100kW – 1MW for aerospace applications

- ✓ Offer zero-emission energy solutions
- ✓ High power density
- ✓ Compact and easy to integrate
- ✓ Unique patented airflow management
- ✓ Scalable and modular
- ✓ Long life span



IE-FLIGHT stack module



IE-FLIGHT F300

# IE-FLIGHT: applications

Committed to achieving zero-emission flight for aviation



# Management team



**David Woolhouse**  
Chief Executive Officer



**Julia Waite**  
Finance Director



**Lauren Gurney**  
Human Resources Director



**Greg Harris**  
Chief Commercial Officer



**Chris Dudfield**  
Chief Technology Officer



**Martin Schaefer**  
Operations Director



**Ashley Kells**  
Programme Director



# Charitable Trust

The Charitable Trust, launched in 2019, donates £100,000 each year to local community groups and organisations in the Charnwood area.

Established to support local causes in need of financial assistance which, support and aid, amongst others; community groups, young people, sport and lifelong learning.



## Ownership

The company is part of the Meditor group, a global investment business with interests across a range of industries from energy to pharmaceuticals.



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