



# Welcome to Intelligent Energy

# 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

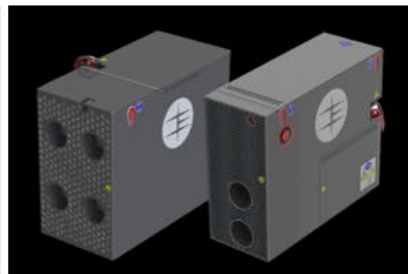
Clean power for construction, standby power and telecoms



## 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 – multi-MW**



eVTOL



Small Aircraft



Large Aircraft



**IE-GRID™**

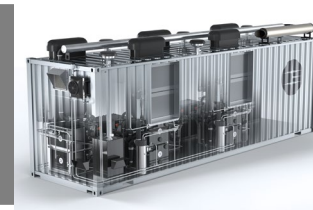
**200kW – 1MW**



Stationary Power



Mobile Power



Marine





# Our history



**2001**  
Intelligent Energy  
opened operations



**2005**  
First fuel cell  
motorbike



**2008**  
First manned fuel cell  
aircraft with Boeing



**2010**  
First PEM fuel  
cell taxi



**2011**  
First fully road approved  
fuel cell scooter



**2012**  
Fuel cell taxis  
at London Olympics



**2015**  
100kW high power  
system



**2016**  
Fuel cell power for UAVs



**2017**  
Company reset  
standard products



**2017**  
Fuel cell scooter Met  
Police fleet trial



**2018**  
4kW module  
launched



**2019**  
UAV world flight  
time record achieved  
with customer



**2019**  
Fuel cell welfare cabin  
for the construction  
industry



**2019**  
2.4kW UAV module  
launched



**2019**  
Automotive partnership  
with Changan



**2021**  
Aerospace partnership  
with GKN



**2021**  
1kW compact module  
launched



**2022**  
172kW achieved from  
single EC stack



**2022**  
BMW introduces fuel cells  
to AGV fleet



**2022**  
Shell use fuel cells for  
pipeline inspection



**2023**  
World first hydrogen  
powered MEWP for  
construction



**2023**  
First standard 100kW HD  
fuel cell dispatched



**2023**  
Fuel cell for passenger  
vehicles launched



**2024**  
Fuel cell powered  
SUV with Changan



**2024**  
New testing site  
announced for high power  
products



**2024**  
Aero product  
launched



**2024**  
200kW heavy goods  
vehicle unveiled



**2024**  
Development of fuel  
cells for eVTOL



**2025**  
Launch of ATI HEIGHTS  
programme for aerospace

# Our partners and customers

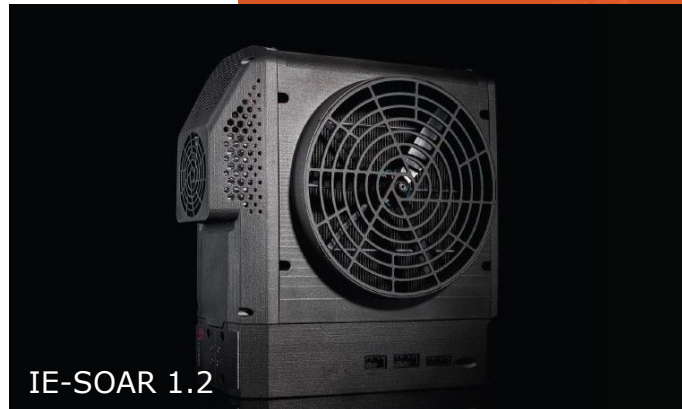
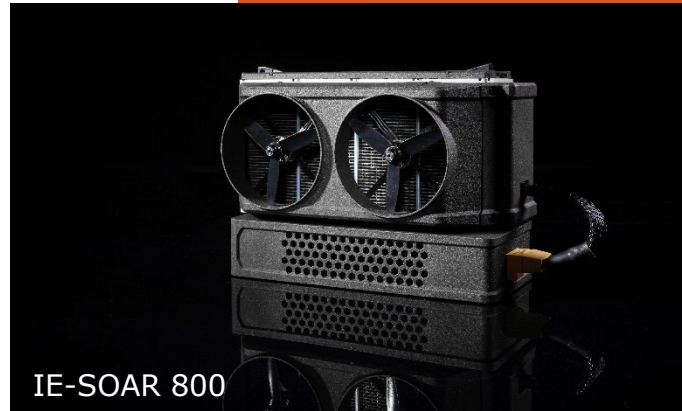




# IE-SOAR:

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





# Case studies

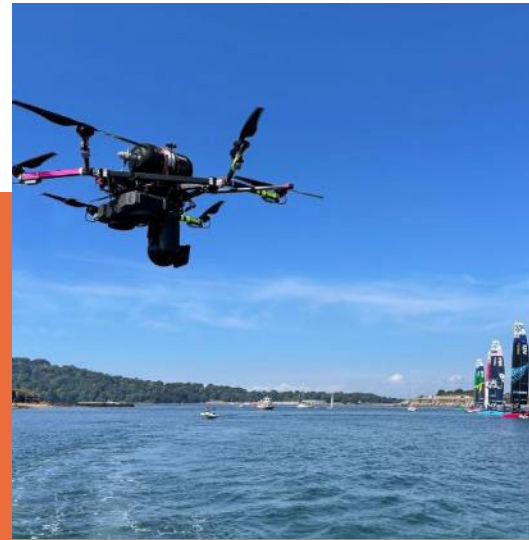
**Replace your battery and unlock long endurance flight**



**Data capture and monitoring**



**Pipeline inspection with Shell**



**Broadcasting the Sail Grand Prix**



**Long range reconnaissance**

# 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



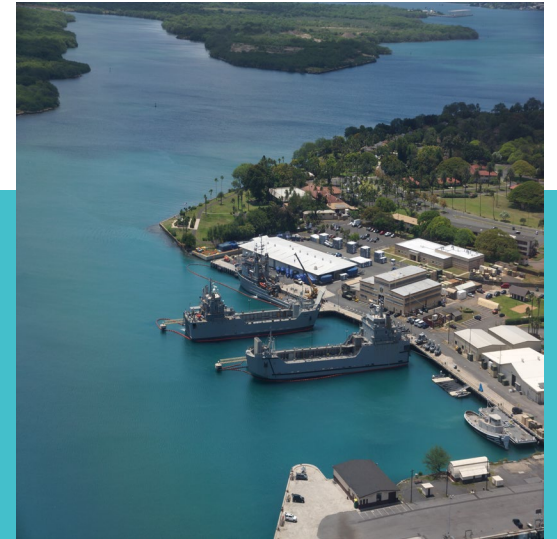
**Fuel cell powered  
passenger vehicles with  
Changan UK**



**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 – multi-MW 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

# Facilities

## Facility Capability

- 1.3MW fuel cell total testing capability
- Produced power recirculated into energy park infrastructure
- Development and durability of FLIGHT and DRIVE products

## Supporting Infrastructure

- Fuel cell workshop and offices
- 450kg hydrogen generation per day
- Green hydrogen generated from local renewables
- Situated at Chelveston Renewable Energy Park





# 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.





# Disclaimer



- This presentation was prepared on behalf of Intelligent Energy Limited (the “Company”) for information and discussion purposes. The Company is not under any obligation to update or keep current the information contained in this presentation. No representation or warranty, express or implied, is given by or on behalf of the Company or its respective subsidiary undertakings, affiliates, respective agents or advisers or any of such persons’ affiliates, directors, officers or employees or any other person as to the fairness, accuracy or completeness of the information, or of the opinions, contained in this presentation and no liability is accepted for any reliance placed on any such information, opinions and/or its completeness contained therein.
- The paragraph above refers to, without limitation, forward-looking statements, including financial and business projections (collectively referred to herein as forward-looking statements). These forward-looking statements are not guarantees of future performance and no reliance should be placed on them. Such forward-looking statements necessarily involve known and unknown risks and uncertainties, which may cause actual performance and financial results in future periods to differ materially from any projections of future performance or results expressed or implied by such forward-looking statements.
- Although forward-looking statements contained in this presentation are based upon what management of the Company believes are reasonable assumptions, there can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. The Company undertakes no obligation to update forward-looking statements if circumstances or management’s estimates or opinions should change. The reader is cautioned not to place any reliance on forward-looking statements.