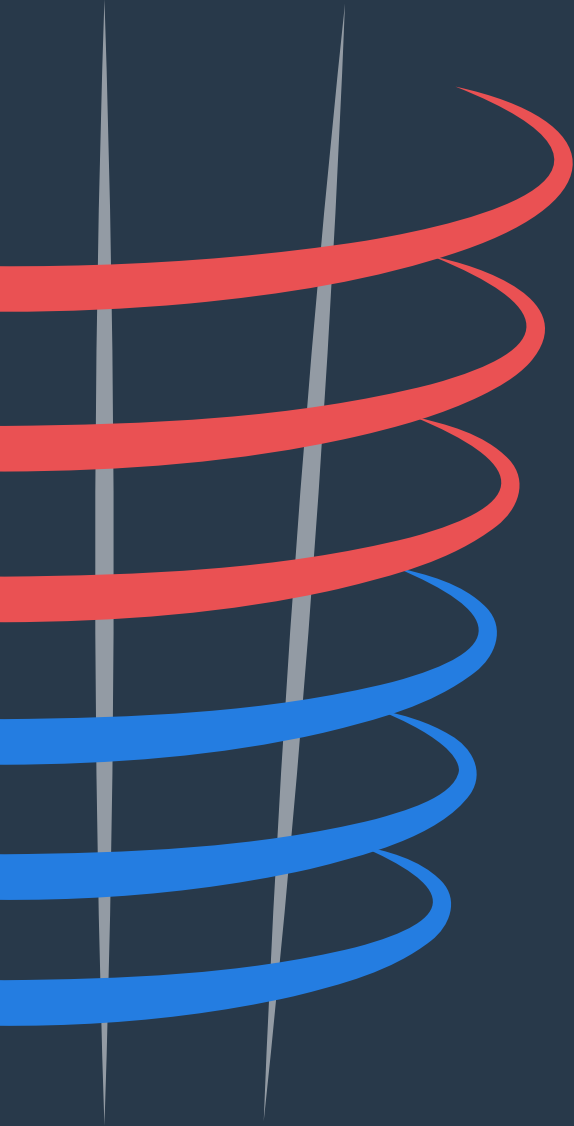




**Inductive**  
Power Projection



# Powering autonomy

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The wireless power solution  
for autonomous systems

# Next-gen MHz inductive charging for full autonomy

## THE INNOVATION

Inductive Power Projection (IPP) has developed a patented, world-leading megahertz (MHz) inductive charging technology. This breakthrough removes the final barrier to fully autonomous operations by eliminating the need for human or robotic intervention during recharging or powering.

## MHZ INDUCTIVE CHARGING BENEFITS



**Universal application**  
Capability across land, sea, air and space.



**Power transfer**  
High, bi-directional power and data transfer capability.



**Peak efficiency**  
Transmitter to receiver is 98% efficient.

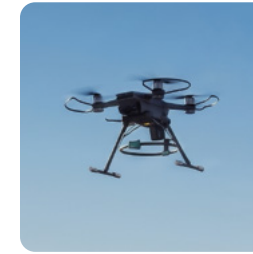


**Forgiving alignment**  
Charges effectively even with imperfect positioning.



# Product roadmap

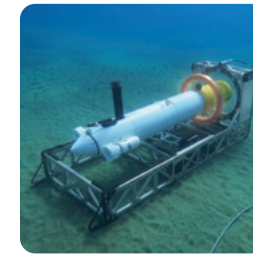
2025



0.5 – 3 kW

- Small airborne and subsea drones
- Small robots

2026



Up to 10 kW\*

- Larger airborne and subsea drones
- Cars
- Large robots

2027

2028

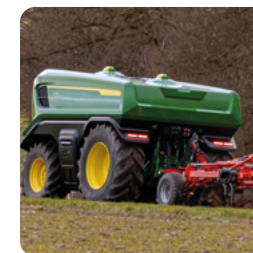


Up to 50 kW\*\*

- Medium vessels
- Light utility vehicles
- Commercial vehicles

2029

2030



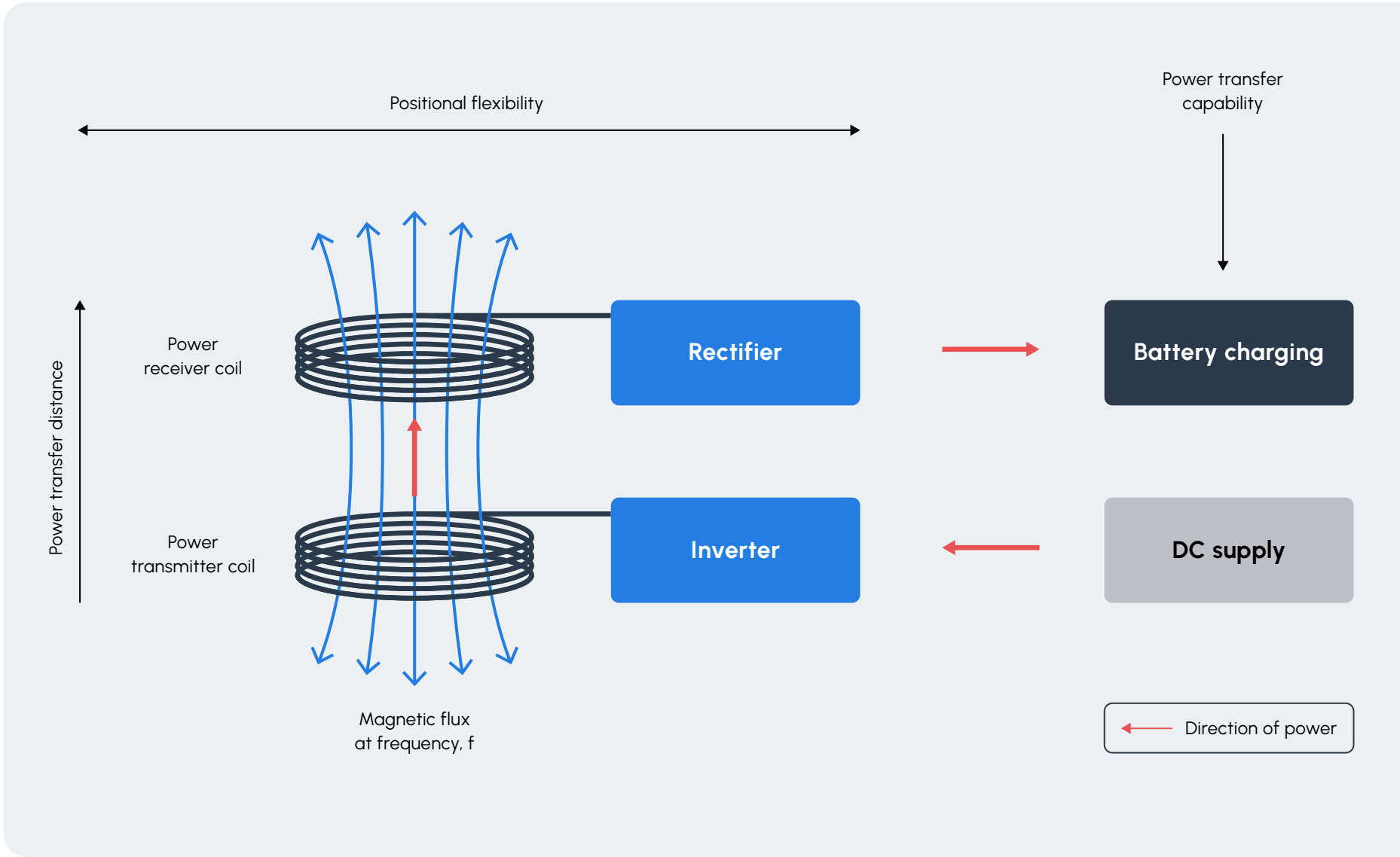
100 kW+\*\*

- HGV
- Mining
- Construction
- Large vessels

\* In current development  
\*\* In development pipeline

# How does MHz-frequency inductive power work?

IPP's solution is a MHz-frequency inductive power transfer system that converts electrical energy into a controlled magnetic field, enabling efficient wireless power delivery across an air gap.



- Our system accepts a wide range of AC and DC power inputs, converting them to the required DC voltage for the inverter
- The inverter converts DC power into high-frequency AC at 13.56 MHz
- The power transmitter coil generates a magnetic field at frequency,  $f$
- The magnetic field induces a current at  $f$  in the power receiver coil
- The rectifier then turns the current back to DC for charging a battery, or any other use of DC power

### Technology maturity

- Fully mature and proven for terrestrial and airborne applications up to 500 W (with up to 5 kW under current development) – [TRL 8](#)
- Subsea wireless technology demonstrators in a relevant environment – [TRL 6](#)
- Space and Lunar applications designed and tested in laboratory conditions – [TRL 4](#)

# The technical advantages of MHz wireless charging



Operating at MHz frequencies, our wireless power technology delivers capabilities that conventional charging solutions simply cannot achieve.

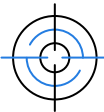
## OUR TECHNOLOGY ADVANTAGES

 <b>High frequency</b> Uses single-turn, air-cored rings rather than conventional multi-turn, ferrite-cored coils.	 <b>Zero moving parts</b> Eliminates mechanical wear and connectors thereby reducing maintenance requirements.
 <b>Transmitter to receiver is 98% efficient</b> Minimises heat generation and thermal management.	 <b>No foreign object detection required</b> Prevents heating of surrounding metallic structures.
 <b>Barrier penetration</b> Projects power through non-metallic materials.	 <b>Two-way power &amp; data</b> Simultaneous power and data transfer with bi-directional capability.
 <b>Fast charging capability</b> Supports multiple C-rate charging profiles.	 <b>Lightweight design</b> Elegant physics enables simple, lightweight and highly robust solutions.

# Capability provision

Every autonomous system is different. From environmental conditions and power demands to platform design and operational objectives, each application requires a tailored approach.

At IPP, we collaborate with customers and partners to develop bespoke wireless power solutions that meet these unique requirements. Backed by proven technology and extensive engineering expertise, our nimble development process is designed to deliver results quickly and effectively.



### Step 1 – Define

Technical parameters, environmental constraints, and user concept of operations (CONOPS).



### Step 2 – Validate

Drawing from the technology library to build and test functional demonstrators.



### Step 3 – Scale

Finalising Design for Manufacture (DFM) parameters, QA frameworks, and batch volumes.



### Step 4 – Deliver

Rolling out systems via in-house assembly, partner networks, or potential international licensing.

# Applications

## SUBSEA & MARINE



### Reliable subsea operations

Reduces UAV operational costs by up to 90% while increasing loitering time. Enables seamless contactless power transfer for wet-mate connectors and subsea slip rings.

## SPACE INFRASTRUCTURE



### Mission-critical endurance

Maximises payload capacity through ultra-low-mass, high-efficiency power architectures designed to perform in extreme environments.

## TACTICAL GROUND



### True unmanned autonomy

Enables continuous, 24/7 hands-off operation in challenging environments by automating the recharging cycle without human intervention.

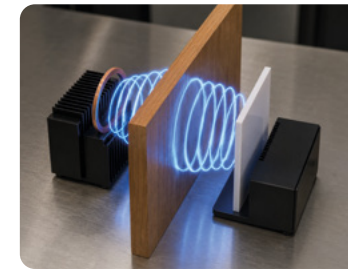
## AIRBORNE SYSTEMS



### Maximum fleet availability

Eliminates manual battery swapping to slash operational cost, maximise fleet uptime, and keep ground crews out of harm's way.

## INDUSTRIAL & HAZARDOUS ENVIRONMENTS



### Safe, contactless power delivery

Ability to deliver power seamlessly through walls, allowing for improved safety and security.

## SUBTERRANEAN INNOVATION



### Efficient pipeline management

Creation of critical surveillance capability within the pipe network, where human intervention is expensive and dangerous.

Defence UUVs & submersibles

Dual-use underwater robotics

Contactless slip rings

Wet mate connector wireless alternative

Lunar rovers and mobile ISRU assets

In-orbit servicing power transfer

Autonomous UGV operation

Drone launch & recovery hubs

Agri-tech autonomous vehicles

Reconnaissance & security UAVs

Logistics and operational efficiency

Drone-in-a-box charging solution

Large payload UAV automation

ATEX compliant

Green hydrogen production

Containment of unstable material

Pipebot and crawler charging solutions

Long-term deployment of cost saving subterranean operations

**To discuss a specific application  
or mission requirement, contact us:**

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