British company specialised in hydroelectric energy engineering seeks commercial partners and investors for the deployment of a patented low head hydropower solution

Summary

Profile type	Company's country	POD reference
Technology offer	**United Kingdom**	**TOGB20250710031**
Profile status	**Type of partnership**	**Targeted countries**
PUBLISHED	**Research and development cooperation agreement** **Investment agreement** **Commercial agreement with technical assistance**	• **World**
Contact Person	**Term of validity**	**Last update**
Enrico FRANZIN	**10 Jul 2025** **10 Jul 2026**	**10 Jul 2025**

General Information

Short summary

A pioneering British firm specialising in low head hydropower backed by strong technical evidence and industry acclaim, is actively seeking commercial partners for pilot deployments and investors to support scale-up and market expansion. Their patented, scalable technologies—ranging from compact micro-hydro units to GW scale tidal range energy concepts — offering proven fish-friendly, cost-effective, and environmentally low-impact solutions.

Full description

This UK-based engineering firm is pioneering the development of innovative low-head hydropower technologies, designed for head drops of up to 5 m. Their patented enhanced turbine technology enables clean energy generation from previously untapped sites such as weirs, canals, wastewater outfalls, and tidal estuaries.

By leveraging venturi principles to amplify pressure, their patented enhanced turbine technology enables compact, high-speed, gearbox-free turbines that are modular, scalable, and require minimal civil infrastructure. The result is a cost-effective, reliable, and fish-friendly renewable energy solution with low environmental impact.

The technology has been successfully demonstrated through live trials and pilot installations, supported by regulators

and validated in fish-safety testing. The company has received multiple industry awards in recognition of its innovation, environmental benefits, and technical excellence.

The company is actively seeking:

Commercial partners – to identify and develop suitable deployment sites. Ideal collaborators include infrastructure owners, utilities, EPC (Engineering, Procurement, and Construction) contractors, and environmental consultants. Partners benefit from technical support, access to performance data, and the opportunity to co-develop off-grid, grid-connected, or hybrid energy projects.

Grant collaboration partners – to jointly apply for public funding supporting R&D, demonstrations, and deployment in underserved or off-grid communities, aligning with net-zero targets, climate adaptation, and inclusive green growth.

Strategic investors – to help scale operations, expand manufacturing capacity, and accelerate the company's entry into a rapidly growing global market for distributed, sustainable hydropower.

Advantages and innovations

Innovations:

- A patented enhanced turbine system that uses venturi principles to amplify pressure, enabling the use of compact, high-speed, gearbox-free turbines at low head sites (≤5 m).
- Modular & Scalable Design: Systems can be easily scaled for different flow rates and power outputs—from small, off-grid units to larger grid-connected arrays.
- Unique hydraulic design allows ~80% of water to be used for pressure amplification through venturi but bypasses the turbine, ensuring safe fish passage, proven in live trials.
- Plug & Play Micro-Hydro, a modular, low-cost, and quickly deployable solution ideal for remote or temporary energy access.
- Tidal enhance turbine technology, a uni- and bi-directional version of the technology for tidal estuaries and lagoons, offering clean, predictable baseload energy.

Key Advantages:
- Unlocks Previously Inaccessible Sites: Enables renewable energy generation from weirs, canals, wastewater outfalls, and other low-head environments.
- Minimal Civil Works Required: Reduces installation cost, complexity, and environmental disruption compared to traditional hydro.
- Environmentally Sustainable: Quiet, low-visual-impact systems with minimal ecological footprint and regulator-approved fish safety.
- Cost-Effective & Reliable: fewer moving parts (no gearbox), off-the-shelf components, and dry, easily maintainable generators lead to lower CapEx (Capital Expenditure) and OpEx (Operating Expenditure).
- Validated through live deployments and recognized with multiple industry innovation awards.

Technical specification or expertise sought

Stage of development

Available for demonstration

Sustainable Development goals

- **Goal 13: Climate Action**
- **Goal 9: Industry, Innovation and Infrastructure**
- **Goal 7: Affordable and Clean Energy**
- **Goal 11: Sustainable Cities and Communities**

IPR Status

IPR granted

IPR Notes

Patents in the following countries: United Kingdom, Australia, Brazil, Canada, China, Hong Kong, India, Japan, South Korea, United States, Austria, Czech Republic, Germany, Spain, France, Italy, Norway, Poland, Romania, Sweden, Slovenia

Partner Sought

Expected role of the partner

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Type of partnership

Research and development cooperation agreement

Investment agreement

Commercial agreement with technical assistance

Type and size of the partner

- **R&D Institution**
- **University**
- **Big company**
- **Other**
- **SME 11-49**
- **SME <=10**

Dissemination

Technology keywords

- **04002009 - Turbines**
- **04005002 - Hydropower**

Market keywords

- **06002004 - Hydro-electric**
- **06003004 - Marine energy**

Targeted countries

- **World**

Sector groups involved

- **Renewable Energy**