The movement of the world’s water – whether in open seas or inland – provides a vast source of kinetic energy that can be harnessed to generate electricity. Existing solutions are high risk, difficult to maintain and have an increased cost of failure.

Instream is the owner of patent-pending hydrokinetic technology, developed in partnership with BAE Systems, that provides a better solution to generate clean cost-effective power and an unprecedented opportunity to generate electricity from significant untapped water resources that cannot be captured with conventional hydro technology.

Instream is experiencing a rapid build-up of interest from around the world and is currently working to complete the commercialisation of the technology to deliver on a robust equipment sales pipeline in the UK and abroad. Over 90% of inquiries into Instream Energy Systems come from potential DG customers.

Unlike wind and solar, in-stream tidal and inland resources are predictable and consistent, differentiating it in the marketplace. The global resource for hydrokinetic power is estimated to be over 1,200GW, with Instream’s addressable market expected to exceed 300GW.

THE ENGINEERED ADVANTAGE

By using small, smart devices networked together, Instream’s technology is applicable to a much broader market in shallower marine and inland water, with the potential to dramatically reduce the cost and risks inherent to larger devices. View the installation and operation of the system here: https://youtu.be/YhhZyDZDvel

Instream has significantly de-risked the technology and has received validation of both the technology and market potential from world-recognized third parties, including Sandia National Labs, ITPEnergised, Tractebel Engineering, and Powertech Labs.
LEVERAGING SUCCESS

Instream has completed proof of concept demonstrations in Canada and the United States, where it has realized a 71% increase in efficiency resulting from the BAE Systems design as validated in the field by Sandia National Labs. Instream has secured a seabed berth and up to 30MW of grid capacity in Wales, which will serve as its first commercial pilot and expansion sales opportunity with a UK developer. Instream is currently engaged in an engineering program with UK partners including ITPEnergised, A&P, Tension Technology International, Plymouth University and Leask Marine to design a floating platform for the UK and global marine markets. This £1.5 million project has recently been awarded a grant from the UK Government for 70% of the project expenses to offset the design, fabrication, and sea trial costs.

Instream’s existing Roza Canal Project in Washington serves as an ongoing sales showcase and development centre. Visits to the site by various US agencies and water authorities to view operations first hand will continue with an expectation that we will host representatives from international groups commencing late summer of 2018.

Instream will advance its ongoing relationship with BAE Systems, and has signed an MOU with Black & Veatch to provide engineering expertise and EPC services for Instream’s UK activities beginning with the Welsh project. Black & Veatch will also provide third party assessment of the IUK project currently underway.
THE INSTREAM SOLUTION IS A DISTRIBUTED GENERATION SOLUTION THAT IS VERSATILE AND SCALABLE

The Instream power unit can perform as a small, single system of 25kW or can scale up to farms of 100-200 kW floating platform turbine deployment units to provide tens of MWs of power.

The ability to operate in a variety of conditions from shallow and narrow channels to wide and deep environments is a distinct advantage. In contrast to the competition who have dedicated their businesses to large scale, expensive single devices. Instream is extremely nimble and versatile without the need for custom built vessels and engineering teams to deploy, operate and maintain in deep sea installations. Instream’s surface-mounted system keeps the sensitive and maintenance prone equipment relatively insulated from harsh, sub-aquatic conditions and easily accessible for scheduled servicing. The simplicity of design also ensures that, where applicable, manufacturing can be completed locally.

Future technology advancements will include system hybridization, working with partners to include other blends of renewables such as wind and solar, battery storage and, where necessary, diesel gensets. These solutions can be customized and shipped globally as DG ready, scalable power plants utilizing inherent local resources for sustainable, cost effective, and zero emission electricity production.