



Llywodraeth Cymru
Welsh Government

Innovation

Crossflow Energy

Welsh Government SMART Cymru funding facilitates development of new wind turbine project.



SMART-funded Pre-Production Prototype Wind Turbine developed by the team at Crossflow Energy

Crossflow Energy provides global communities with sustainable, clean energy as a cost-effective alternative to diesel generation, in an effort to meet growing essential needs for power supply. Offering innovative Integrated Energy Solutions (IES) units specifically designed for each site, the company prides itself on its unique designs which allow for power operations to continue even in extreme conditions.

Welsh Government SMART Cymru funding provides financial support for innovative projects that require a range of expertise to develop and commercialise a product or technology and grow the business. In 2017, Crossflow Energy received SMART Cymru investment to develop a pre-production prototype Wind Turbine for integration with solar pv and battery storage as part of a containerised Integrated Energy Solution — the **Crossflow Turbine**. Low maintenance and robust technology, the unique design features an asymmetrical S-shaped augmentation device to enhance the power output and capability.

The design has eliminated some key components of previous wind turbines which cause breakdown and increased cost of operation

Key achievements:

- SMART Cymru Research & Development investment to develop a Pre-commercial prototype.
- Immediate and long-term job creation in line with the aspirations of the 2015 Wellbeing of Future Generations Act which aims to create a more prosperous, resilient and globally responsible Wales.

— serving as a viable alternative in remote off-grid locations which require a reliable power source. The company’s market research has shown significant opportunity for new energy systems in remote locations, so the IES has been developed to deliver off-grid power to telecommunication towers, remote communities, disaster response and resilience, refugee and military camps.

This research has changed the company’s key role to provide power systems to anchor customers while also facilitating the distribution of local power to serve a variety of different purposes. In the future, Crossflow will be looking to deploy a number of IES demonstrators in North Wales, the Caribbean and Sub-Saharan Africa — further establishing the company’s worldwide services to deliver clean, reliable energy at affordable prices to off-grid customers, as a resilient solution for post-disaster recovery.

As a result of SMART Cymru funding, Crossflow Energy has not only produced its unique wind turbine but has also been able to employ two new members of staff to develop key projects. Furthermore, Crossflow has also employed two new apprentices since 2017, with a total of 13 staff members in the company. More roles are planned in line with the aspirations of the 2015 Wellbeing of Future Generations Act which aims to create a more prosperous, resilient and globally responsible Wales.

“The prototype wind turbine and IES has been successfully delivered thanks to financial and technical support through the Welsh Government SMART Cymru programme. We’ve received significant support from innovation specialists who’ve worked closely with us throughout the project, signposting us towards new opportunities and collaborative partners, while helping us raise a profile in Wales and beyond. The project has proven the Crossflow concept and delivered excellent practical results that have in turn helped us to leverage new investment from overseas to take us forward to the commercialisation phase of our product.”

James Barry, CEO at Crossflow Energy

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Prosperity for All: Economic Action Plan is the Welsh Government’s national strategy. Find out more about the funding and support available from the Welsh Government:

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