



WeldingWorld

UK project aims to cut T&D power losses

The Welding Institute (TWI) has teamed up with Brunel University, startup Enertechnos and cable maker Eland Cables on a project which could cut power losses in the transmission and distribution sector.

The work has come following a £1m (\$1.4m) grant from the country's innovation agency, Innovate UK.

The key to the project is the aim to bring Enertechnos' new long linear capacitor cable technology, called the capacitive transfer system (CTS), to market.

As part of the project, Brunel University's Institute of Energy Futures will develop a software simulation that will test CTS on a virtual grid to demonstrate energy savings across extended cable runs. TWI is providing support on materials handling, jointing and installation assistance.

Meanwhile, Eland Cables is on hand for laboratory testing, prototype development and production, blending the CTS technology with existing cable manufacturing processes. Beyond the prototype phase, the firm plans to commission a full manufacturing run.

A test site is currently running 15 km of standard underground cable alongside the CTS cable, which Enertechnos said in October was due to be tested by standards consultancy DNV GL in late 2017. Enertechnos said the technology can also be suspended from pylons to replace existing overhead transmission lines, and would require much smaller supports than current cables.

It has been estimated that the UK currently loses around 7.6 per cent of the power it generates during transmission and distribution, which equates to £1.1bn spent per year and could account for as much as 7,425,000 tonnes of carbon.

Given this, the project partners noted that with over 60 million km of power distribution cable in use in the UK, of which 75 per cent is over 25 years old, the new technology could deliver potentially huge efficiency gains when the network is updated.