



Tech collaboration blowing wind turbines into the next generation

Oxford University Innovation and IEMS collaborate on energy efficient electric generators for wind turbines to get the most out of wind power.

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Oxford University Innovation (Hong Kong) and Australia's Intelligent Electric Motor Solutions (IEMS) today announced the launch of the Torrent Technology for Wind Generators (TTWG) series of energy efficient electric generators.

Large-scale wind generators have become firmly established as a key source of renewable energy sources, and are a central part of any future energy strategy. However, until now, the market for smaller domestic or community scale wind turbines (up to 5kW) has been limited due to the poor efficiency and performance of small-scale wind generators.

The launch of the TTWG series marks the next phase of development of Intelligent Electric Motor Solutions, a company founded on award winning technology from Australian electric motor and generator experts. In order for small wind turbines to become economically viable and complement the environmental impact of larger turbines, they must become more efficient - efficiency that the TTWG series is bringing to market.

Dr David Baghurst, Managing Director of Oxford University Innovation (Hong Kong), said:

“Most conventional electric generators are built from 2D laminated structures that limit power density and efficiency. IEMS generators use soft magnetic composites or SMC's that they process into more compact 3D designs offering higher power density and higher efficiency. The clever part is the way IEMS have developed the design, manufacturing and assembly operations together so that cost effective highly efficient generators can be produced for a wide spectrum of applications when compared to competitors”.

David Gehlert, Director of Intelligent Electric Motor Solutions, added:

“To achieve high level of efficiency in small generators we usually work to match the generator and controller combination for the specific turbine application. Our design team has developed a suite of modular components and works closely with clients to provide them with an optimised solution. In addition to energy efficiency, other advantages of our designs include efficient operation at very low wind speeds, elimination of cogging giving greater stability, better heat distribution and much smaller size/weight.”

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Notes to Editor

Oxford University Innovation is keen to talk to companies interested in obtaining samples of the generators and testing them for this broad range of applications. The generators meet and exceed the new IEC normative efficiency classes of IE5 super premium efficiency motors/generators and can be utilised in variable speed modes in the range 0-5000 rpm.

A report detailing the enhanced performance of a compact IEMS generator versus a commercial small-scale wind turbine is available on request. The IEMS generator was less than 50% of the volume of the commercial sample.

About Oxford University Innovation

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