

New data platform marks turning point for predictive maintenance in T&D and Offshore Renewables

Synaptec has launched a real-time data analytics platform which reveals previously hidden indicators about networks, enabling network operators and generators to effectively predict outages and significantly reduce operations and maintenance costs.

The new software platform, called Synthesis, was developed by Synaptec's Head of Power System Technologies, Dr Steven Blair, in direct response to the pressing need for detailed visibility of electrical networks as they become increasingly complex.

Synthesis has been designed to build upon the unique capabilities of Synaptec's distributed sensing hardware and is designed specifically to work with continuous point-on-wave (CPOW) data, and cope with the visualisation and analytics needs for large-scale monitoring schemes. To this end it's being trialed with ORE Catapult and Innovate UK through their REACTION project.

The software platform works by accessing multiple high-resolution data streams from Synaptec's sensor platform, to fully leverage the unique capabilities of the hardware. It supports any combination of electrical and mechanical sensors, visually summarises their outputs, shows measurements in a geographical context, and securely archives important data.

Steven said:

"Synthesis automatically produces summarised data formats, such as synchrophasor outputs and power quality metrics. It also implements additional processing and analytics to extract everything possible from the detailed data, to minimise the effort required by our customers to deal with this themselves. It means that operators are not overwhelmed with raw data points from CPOW monitoring.

"This is crucial as the availability and processing of detailed data from multiple inputs enables greater possibilities for asset management and a definitive leap forward in the role of data in managing electrical networks and smart grids. We're able to monitor and visualise the status of power system assets (cables, circuit breakers, wind turbines, and so on) with very detailed measurements – at a high sampling rate."

Steven adds:

"This is a radical upgrade even compared to synchrophasor-based monitoring. With Synthesis we are able to aggregate both electrical and mechanical measurements within the same unified visualisation and analysis platform. The result is that, for the first time, the transmission and distribution sector can overcome the major challenges of cost-effective condition monitoring and prognostics."

The trial with ORE Catapult and Innovate UK at Levenmouth is now streaming live data which will be collected and analysed by Steven and the team at Synaptec to further develop Synthesis

and provide the T&D sector with much needed progress in software and data platforms.

Steven is available to provide his expert knowledge regarding the launch of Synthesis, should you wish to set this up please contact Sara Hawthorn on: 07841756144 or sara@infusioncomms.co.uk to arrange.

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Notes to editors

1. Synaptec was founded in 2014 and funded by both Government and private equity investment, including the Foresight Williams Technology EIS Fund, Scottish Investment Bank, Equity Gap and University of Strathclyde.
2. Dr Phillip Orr was awarded the University of Strathclyde's inaugural Entrepreneur of the Year Award in May 2019.
3. Refase™ is Synaptec's flagship product and is an acronym which stands for **R**emote **F**ault **S**ensing
4. Refase™ product development was funded in part by SSE and ScottishPower
5. Synaptec's core technology was the product of research and development carried out by the company founders at the University of Strathclyde's Institute of Energy and Environment
6. The company is chaired by a board of directors which comprises energy industry leaders including Professor Campbell Booth and Ian Marchant, formally CEO of SSE PLC
7. Synaptec was awarded the 'Best Offshore Renewables Innovation' award at the 2017 UK Energy Innovation Awards, the Sustainable Energy Award at the 2017 Scottish Renewables Green Energy Awards