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Collaboration results in innovative solar inverter

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Digi International and SolarEdge have collaborated on connectivity solutions for photovoltaic (pv) systems, including data harvesting from revenue grade power meters, pv inverter mesh networking and future interaction with the Smart Grid.

SolarEdge is using Digi's XBee-PRO to provide what it claims is the industry's first solar inverter with embedded ZigBee connectivity. SolarEdge continuously collects data from each solar panel and transmits it without added communication wires from panels to inverters. This is said to provide wireless network and remote connectivity between solar inverters and enable access to high resolution, performance monitoring data.

Designed to address problems such as wire line communications between inverters, by embedding ZigBee connectivity into each inverter, Digi says it enables SolarEdge to create a self healing mesh network between all of a site's inverters which eliminates line of sight issues. The inverters can also be connected to any local area network using any ZigBee equipped gateway with cellular, Wi-Fi or Ethernet connections.

According to Digi, this distributed architecture approach also contributes to higher reliability due to the lack of cables and connectors and lower susceptibility to lightning hits.

Lior Handelsman (pictured), SolarEdge's Product Strategy vice president, said: "There are many limitations to wire line system configurations, including higher failure rates, added costs and labour, as well as compromised aesthetic appearance. Our collaboration with Digi has meant that we can now overcome these challenges and has allowed us to offer a comprehensive, robust and cost effective solution, which simplifies installation procedures and prepares system owners for future Smart Grid interaction."