

EC&R and GE: A Power Up Story

EXECUTIVE SUMMARY

In 2013, GE Renewable Energy launched the PowerUp Platform, powered by Predix™, to help wind developers get more power from their existing wind fleet. E.ON Climate and Renewables (EC&R) North America partnered with GE to PowerUp their fleet and, after one year, is seeing incredible results.

THE CHALLENGE

EC&R was experiencing an unfavorable 30% design margin due to underutilized wind turbines. They also calculated that over-estimating wind conditions was resulting in energy losses of 10% annually. Analyzing tens of thousands of data points captured on a wind farm each second required powerful analytics. A one percent increase in Annual Energy Production (AEP) translates to an approximate \$2,500 value per year. The potential AEP increase for EC&R is the equivalent of adding 10 more turbines to their fleet.

“There’s nothing more significant to our business than the actual wind itself. Being able to harness that wind, even a little bit has massive implications for our bottom line.”

- Patrick Woodson, CEO of EC&R North America

THE SOLUTION

PowerUp is a part of the GE brilliant wind platform, which harnesses the power of the Industrial Internet to analyze tens of thousands of data points on a wind farm each second. This leads to higher power output, increased service productivity and the creation of new revenue streams for customers.

The PowerUp solution architecture combines operational/configuration data, historical data and real-time data to enable estimation/forecasting, monitoring and evaluation. Customer value analytics, mechanical load analytics and energy prediction and forecasting provide insights into asset availability and reliability and asset and operational efficiency.



RESULTS

After partnering with GE in November 2013 to upgrade 469 of their 1.5-77 turbines with PowerUp, EC&R has seen tremendous growth in its output, announcing an increase of 4% AEP in the first year. EC&R now have over 1,400 turbines powered by PowerUp and have realized up to 20% more profit. “PowerUp is allowing us to produce energy levels we’ve never seen before,” Woodson

said. “I think in the end, we ended up with a great product that will be great for both sides.”

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ABOUT THE INDUSTRIAL INTERNET CONSORTIUM

General Electric is a founding member of the Industrial Internet Consortium. The Industrial Internet Consortium is a global public-private organization of over 190 members, formed to accelerate the development, adoption and wide-spread use of interconnected machines and devices, intelligent analytics, and people at work. Founded by AT&T, Cisco, General Electric, IBM and Intel in March 2014, the Industrial Internet Consortium catalyzes and coordinates the priorities and enabling technologies of the Industrial Internet. Visit www.iiconsortium.org.

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