

CHALLENGES FACING Renewables Industry

Unplanned outages, unusable data, and shrinking O&M budgets can create a perfect storm of lost revenue...

UNPLANNED MAINTENANCE
 Firefighting v.s. prioritization
 Lots of data, not much insight

SHRINKING O&M BUDGETS
 O&M Productivity
 Workforce Dynamics









MISSED/LOST REVENUE
 Imbalance penalties
 Suboptimal trading

... but with **GE's Digital Wind Farm solution**, you can take charge of your future!

OUR SOLUTION: DIGITAL WIND FARM

Hardware + GE Software = Improved Wind Farm Economics

Connect your assets, technology, and data to generate deep business insights that deliver outcomes specific to your needs.

 <p>ASSET PERFORMANCE MANAGEMENT (APM) Monitor and analyze asset condition data to increase reliability and availability.</p> <p>REAL-TIME ACTIONS</p> <p>RELIABILITY</p>	 <p>OPERATIONS OPTIMIZATION Use data to improve operational performance.</p> <p>BETTER, FASTER DECISIONS</p> <p>PRODUCTIVITY</p>	 <p>BUSINESS OPTIMIZATION Use targeted data to make better business decisions.</p> <p>DEEPER INSIGHTS</p> <p>PROFITABILITY</p>
 <p>PREDIX* PLATFORM EDGE TO CLOUD</p>		
 <p>Our Digital Wind Farm apps are empowering 261 wind farms for 70 CUSTOMERS</p>	<p>WE ALREADY DO IT...⁽⁵⁾</p> <p>20 GW of wind power connected to our Predix operating system</p>	 <p>13,500 monitored turbines use our analytics to drive</p>
<p>Sensor data and analytics to gain greater reliability, flexibility and productivity.</p> <p>13,500+ Assets Monitored</p> <p>\$36MM Annual O&M savings and reduced downtime</p> <p>2000+ Anomalies Resolved Yearly</p> <p>150+ Physics-based and Statistical Software Analytics</p>	<p>Enhance the performance and efficiency of your people and machines to drive outcomes.</p> <p>10,502 Turbines Enhanced</p> <p>62/261 Customers/Wind Farms Around the World</p> <p>1.3/\$75MM Estimated TWh and value (USD) of additional generation</p> <p>75 Sites Using DPOD</p>	<p>Leverage machine sensor data, sophisticated analytics and software to gain greater reliability, flexibility and productivity to serve customers and markets.</p> <p>6% better forecast = \$126K per farm/year lower imbalance penalties</p> <p>2-3% AEP across 1.5 GW GE/non-GE fleet</p> <p>WEEK-AHEAD FORECASTING better O&M planning</p> <p>DAY-AHEAD FORECASTING Manage Grid Expectations</p>
<p>CYBER SECURITY Reduce Enterprise Risk. Protect customer assets and brand.</p>		
 <p>64% Power leaders believe their security strategy not aligned with today's risk environment ⁽¹⁾</p>	<p>> 90% Power leaders say growth only achieved through enhanced management of risk with strategic adoption of technology</p>	 <p>31% Power leaders named security as one of the top concerns in the use of data and analytics ⁽²⁾</p>

GET CONTROL, VISIBILITY, INNOVATION, AND OUTCOMES WITH **GE'S DIGITAL WIND FARM TECHNOLOGY.**

Learn more at GERenewableEnergy.com/Digital-Solutions

1. Source: Ernst & Young
 2. Source: Industrial Internet Report for 2015, GE and Accenture
 3. All figures shown reflect data gathered in 2016

*Predix is a registered trademark / service mark of General Electric Company

