Improving the levelized cost of energy (LCOE) for wind power is currently a critical challenge for the industry. One of the main issues is the optimization of a wind farm’s capacity factor by maximizing the uptime of its individual wind turbines, ensure they operate consistently and reliably for as long as possible. The reliability of individual components throughout the wind generation chain, together with the availability of spare parts is a crucial requirement. However, the digital era has now ushered in new developments in asset health management that are taking the operation, maintenance and servicing of wind turbines to the next level.

The Asset Health as an enabler for LCOE control

The fact that wind turbines are both numerous and distributed across large geographical areas distant from population centers has driven the development of remote monitoring and operation solutions. Data from turbines is collated in centralized remote control centers and used by the operators to optimize production across their fleet. This data is invaluable in helping to further improve the operation, maintenance and servicing of wind turbines. Data driven diagnostics solutions and condition monitoring tools are forming a solid Asset Health Center, a central tool enabling to take the right and timely decisions regarding maintenance of the assets in wind farms. With connectivity to Energy Portfolio Management (revenues) and the Asset and Workforce Management (costs), Asset Health Center becomes a steering tool for the LCOE of wind power.