A Premier Energy Company Expands its Smart Solution Portfolio

With Mindteck's Solar PV Power Generation System Management Software

An interactive web-based application managed the efficient installation of PV-based power generation equipment and facilitated ongoing maintenance-as-a-service

Market Reality

In the face of rising traditional fuel costs and eco-friendly fuel alternatives, the renewable and distributed energy market has grown significantly in the last decade. The consumption of renewable energy derived from wind, solar, biomass, and hydropower has tripled in the last five years. As the market for renewable and distributed energy expands, the sector faces new challenges such as fluctuating demand, aging grids, increased competition, and emerging technologies.

Business Challenge

Our client is a leading energy efficiency solutions provider and one of the fastest growing private companies in the UK. It has been recognized by Global Cleantech as one of the top 100 Cleantech companies in the world. In order to distribute a rapidly expanding portfolio of smart energy solutions to its end users, the client had a need for a robust, secure, and scalable system to manage installations of PV-based electrical power generation equipment as well as provide maintenance-as-a-service. The maintenance operations included managing and monitoring the harvested solar PV, providing reports to assist in tracking efficiency, identifying faulty installations, and managing a workforce team to rectify maintenance issues.

Solution Components

C#, ASP .Net, WCF, HTML5, CSS3, JavaScript, JQueryMobile, Cordova, My SQL, DLMS.

Tools: DevExpress, HighChart, DataTables

Scope

The project's scope included designing and developing a web-based application with interactive GUI front end NOC screens. A host of telemetry services were also required to feed various remote meter and sensor data into the system. Finally, there was also a need for a web- and mobility-based end client portal to provide consumers with dynamic reporting.

The Mindteck Solution

The solution included the design, development, and maintenance of a set of telemetry services for reading remote generation/export meters and pyranometers, a back-end server component, a front-end web-based GUI, and a set of hybrid mobile applications for Android, iOS, and Windows platforms.

The implemented features included:

➡ Configurable settings
➡ Installation management
➡ Workforce management
➡ Health check service
➡ Re-computation service
➡ Fault management module
➡ Reporting service
➡ Interactive graph and chart controls enabling dynamic drill down data visualization

Benefits

The key benefits of the system included:

➡ Efficient and automated capture of large volumes of data from remote locations
➡ Early detection of potential faults
➡ Increased efficiency in meeting contractual SLAs with end consumers
➡ Efficient management of workforce and work schedules
➡ Improved visibility of performing and non-performing assets
➡ Advanced PV performance reporting application for consumers

About Mindteck

Mindteck provides Product Engineering and IT services to top-tier Fortune 1000 companies, start-ups, leading universities, and government entities around the globe. The company, established in 1991, is devoted to delivering knowledge that matters to help clients compete, innovate and propel forward. It is among a select group of global companies appraised at Maturity Level 5, Version 1.3 of the CMMI Institute's Capability Maturity Model Integration (CMMI).

For more information, please write to us at info@mindteck.com

The images are for illustrative purposes only

INDIA | UNITED STATES | CANADA | SINGAPORE
MALAYSIA | PHILIPPINES | BAHRAIN | NETHERLANDS
GERMANY | TURKEY | UNITED KINGDOM

info@mindteck.com   www.mindteck.com

CS-SPV-041019