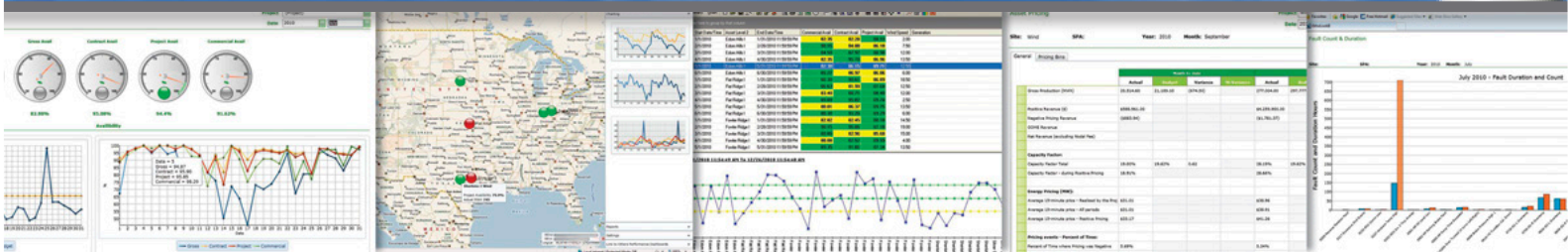


Ekho for Wind

The Performance Management Solution for Wind Farm Operators

- ▶ Collects data from all assets and related systems Historian, SCADA, CMMS, ERP, Internet, MET Data
- ▶ Provides software functionality to analyze all relevant data and generate operational intelligence for O&M Performance Management initiatives.
- ▶ Provides user configurable displays, reports and queries to optimize operations and maintenance activities, and drive ROI from Wind Farm Operations.
 - Performance metrics
 - OEE, KPI's
 - Downtime, RCA
 - Alarms & Notifications
 - Comparative Analysis
 - NERC Reporting
 - Web enabled



About Ekhosoft

Ekhosoft is the leading provider of Performance Management Solutions for major enterprise customers across North America and Europe. The Ekhosoft solution is called Ekho, and has been successfully installed in a broad range of industries, including Pulp & Paper, Mining & Metals, Oil & Gas, Food & Beverage, Chemicals, Consumer Products and Renewable Energy (Wind, Solar, Hydro and Biofuels).

With over 200 man-years of industry experience working exclusively with Performance Management Solutions, and with offices in Canada, Europe and across the United States, Ekhosoft is uniquely positioned to service your needs.



Wind Farm customers use **Ekho for Wind** to address:

Improving asset performance

- Monitor performance of all assets in real time
- Identify sub-optimal operation
- Group or sub group analysis
- Comparisons of performance
- Determine fleet efficiency

Improving asset availability

- Decrease downtime
- Increase mean time between failure
- Decrease time to repair
- Identify abnormal operation before failure
- Triggering alarms and notifications

Regular Diagnostics

- Root Cause Analysis
- Graphical representation of cause and effect

Manage Regulatory Compliance

- Define work processes
- Increase efficiency and effectiveness of resources
- Improved reporting, analysis, communication & knowledge transfer
- Support NERC compliance reporting, Environment Health and OSHA Safety initiatives

Dynamic Query and Reporting Capability

- KPI's, OEE
- Focus lists - Statistics by group, sub group or turbine
- Lost energy analysis
- Export to Excel or PDF
- Select and plot data from historian
- Replay history and correlate events
- Standard Regulatory Reports

All Ekho Solutions Feature:

▷ Ekho is configurable out-of-the-box, and does not require any customization. Each customer can design and configure a specific solution for their needs.

▷ Ekho's scalability allows each customer to focus resources on current priorities, getting immediate returns, and then extending the solution across multiple assets and performance management targets. Ekho provides each customer with the optimum cost effective solution both now and into the future.

▷ All Ekho solution components are totally integrated. They provide a single solution that seamlessly ties together all your requirements from the control systems to your planning systems.

Benefits to the Wind Farm Operator include:

- Improving operational efficiency
- Maximizing production
- Improving asset availability and performance
- Prolonging the life of existing assets
- Lowering costs and improving profitability.
- Increasing reliability of generation forecasts
- Closing the gap between forecast and actual results
- Managing a large and distributed asset base with minimal staffing
- Improving response time to revenue impacting incidents.
- Providing a simplified user interface when compared to control systems
- Providing a minimally invasive, easy to use, industry specific solution.

Project Delivery Options

▷ Together with our partners, Ekhosoft is fully staffed to provide consulting and implementation services, including requirements analysis and confirmation, integration services (SCADA, HMI, Historian or Business Systems), software configuration, project management and implementation services.

▷ Ekhosoft will also work with you on a proof of concept basis (prior to full scale implementation), whereby we will install and configure Ekho to demonstrate how the software will meet your requirements and deliver business value.

Technology

The Ekhosoft solution for Performance Management is 100% Microsoft centric.

Software

- Microsoft Windows Server
- Microsoft SQL Server
- Internet Information Service (IIS)
- Internet Explorer (IE)

Hardware

- Quad Core Processor
- 8 GB Ram
- 50 GB Disk (size depends on volume.)

Operating Environment

Ekho will operate in standard virtual environments such as Microsoft or VMware.

Mobile

Ekho is enabled for mobile use on Windows, Apple and Android devices.

