HYPERWIND

MAINTENANCE DASHBOARDS

Managers have always been asked to provide reports, results tables and performance indicators.

However, in view of the sheer volume of data to be processed, managers increasingly need tools to help them process and sort the most relevant information.

In addition, wind turbine technologies are evolving more and more rapidly and as a result, maintenance tasks are increasing and becoming more complex.

Maintenance managers must therefore adapt their maintenance strategies very quickly.

CONTEXT Maintenance performance to ensure machine availability is a huge challenge.

OBJECTIVE Assist managers in analysing, operating and understanding maintenance data to improve their maintenance operations.

BENEFITS

➢ Decision support dashboards
➢ Overview of maintenance status
➢ Characterization of failures over the entire service life of the machines
➢ Access at a glance to recurring maintenance tasks (frequency, cost, etc.)

HOW IT WORKS

Health status

Dashboard of the state of health of the farm and machines
✓ Proportion of health conditions (Correct, broken down, unknown)
✓ Changes in overall health status
✓ Distribution of alarms by criticality
✓ Failure ranking

Maintenance analysis

Dashboard for analysing maintenance tasks
Indicators for analysing the duration of maintenance tasks
✓ Distribution of maintenance times by subsystem
✓ Proportion of time spent on maintenance over the period
✓ Classification of maintenance tasks by recurrence or duration

Losses analysis

Estimated Energy Production Losses Analysis Dashboard
✓ Comparison between energy produced and estimated energy production
✓ Performance indicator on estimated energy production losses
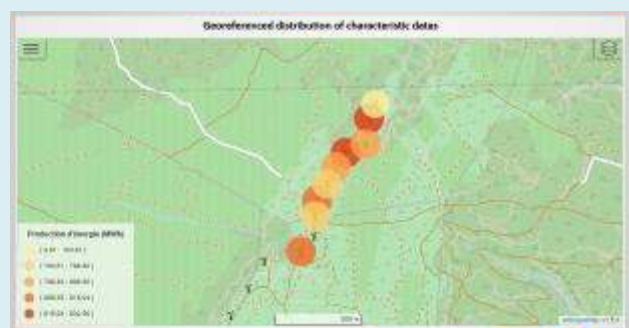✓ Proportion of different machine states
✓ Power curve and operating point

Georeferenced distribution

Interactive geographical map with performance indicators for farm and machines
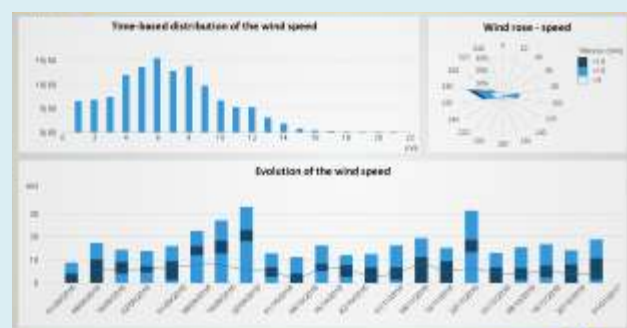✓ Power generation - Power generation
✓ Estimated production losses
✓ Etc…
An interesting dashboard especially for a high density of machines

Wind analysis

Dashboard dedicated to wind analysis and characterization
✓ Wind speed distribution
✓ Rose of the winds over the period
✓ Daily, weekly or monthly change in wind speed during the period

Wind forecast

Dashboard with some wind forecast indicators over 4 days
✓ Wind speed distribution
✓ Wind direction distribution
✓ Daily change in mean, max and min wind speed over the next 4 days
Better understanding of the possibilities of intervention on the wind farm

Version A