

# Lex<sup>X</sup> Case Study | US Wind Farm

## Digital Intelligence for Optimised Maintenance

Lex<sup>X</sup> Technologies was the winner of a **US Energy Provider's Global Innovation Award** in 2019, held at the *Lisbon Web Summit*.

From this, a **12-week Pilot commenced with their Renewables branch in North America** to validate a set of field troubleshooting and performance management objectives, ahead of wider deployment.

This Pilot **took place at the Energy Provider's Wind Farm** located in Illinois.

## Targets of the Pilot

### The Energy Provider's key initiatives:

- Provide a user-friendly troubleshooter for desktop and mobile, for technicians in the field
- Provide a troubleshooter configured for support, targeting fault resolution time saved
- Enable Algorithmic Work Order Classification by resolution type and auto-correction functionality
- Enable reports addressing sample of performance analysis questions, and spare and tools consumption trends

## Downtime and Efficiency Improvements

### From the use of Lex<sup>X</sup> during the Pilot:

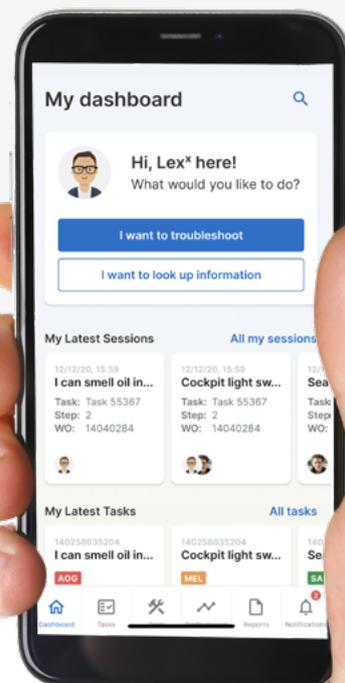
- 18.77% **Reduction in lost kWh** per hour of downtime
- 34% **Reduction in average downtime** per incident
- 35% **Time reduction** across top 10 maintenance faults
- 10% **Cost reduction** via part replacement prevention



*My only regret is that this program was not available sooner!*

*If all technicians have this, it is going to help save a lead tech's time, it is very helpful. We needed this years ago.*

**Senior Wind Farm  
Technician**



# Data Ingestion



Lex<sup>X</sup> was able to **ingest a large amount and array of data** (including OEM manuals, work instructions schematics, SAP data, work orders, notifications, fault codes, OPs data, ROCC fault logs, events & alarms, inventory/spares, and SCADA)



- Lex<sup>X</sup> **improved the quality of data** and therefore performance analysis
- Lex<sup>X</sup> was able to **link various datasets accurately and efficiently** to support performance analysis
- Lex<sup>X</sup> **automated mundane tasks such as correcting**, improving quality and classifying raw data
- Lex<sup>X</sup> **captured accurate data from troubleshooting** to assist performance analysis

## The Value | Key Findings



Strong engagement from technicians; Lex<sup>X</sup> empowered and reduced the workload of lead technicians



Demonstrated that Lex<sup>X</sup> can link troubleshooting and performance analysis



Auto correct and auto classification returned high accuracy, with some results better than human interpretations



Provided a single searchable interface to disconnected datasets linked to faults and turbines



The learning feature enabled better capture of turbine behaviour and technician behaviour

**Overall, Lex<sup>X</sup> enabled the availability and efficiency of critical equipment**

## The Technician's Response

- **84%** agreed Lex<sup>X</sup> improved reliance on data, taking the guesswork out of troubleshooting
- **86%** agreed Lex<sup>X</sup> increased the reliance on digital tools while on the tower
- **90%** agreed Lex<sup>X</sup> improved quality of repairs and allowed better utilisation of individual skills of technicians



**Our vision is to transform maintenance by empowering every technician everyday**



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