

Challenge

Wind turbine component failures are a leading cause of **downtime, lost revenue, and expensive repairs**

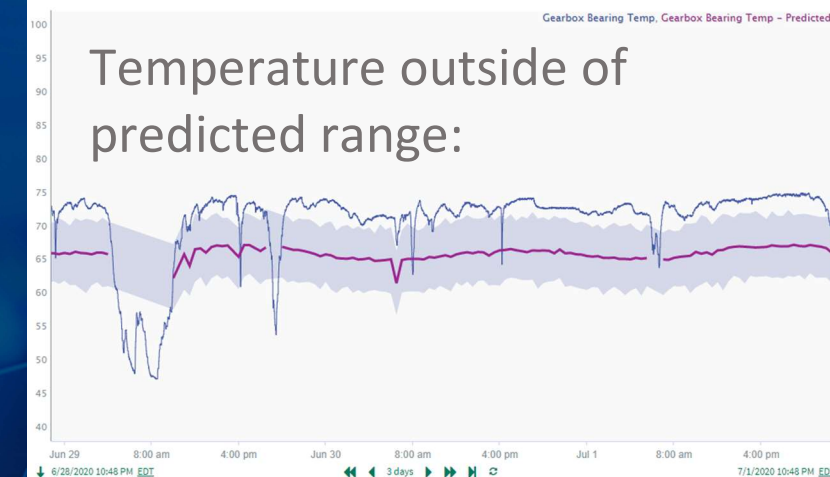
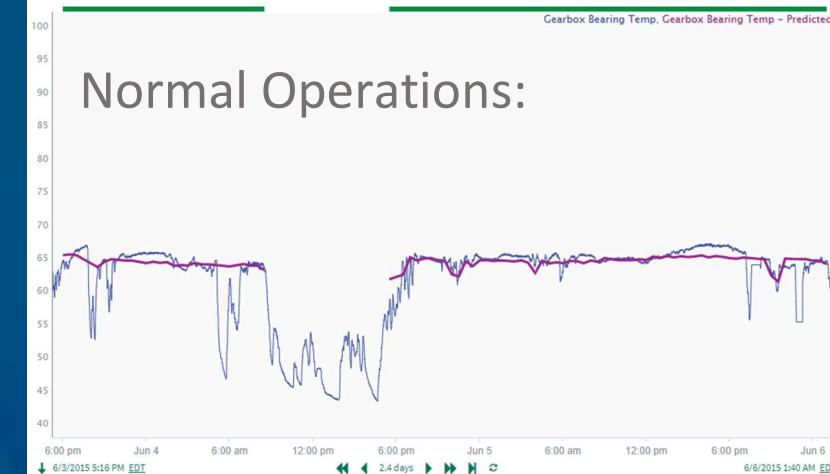
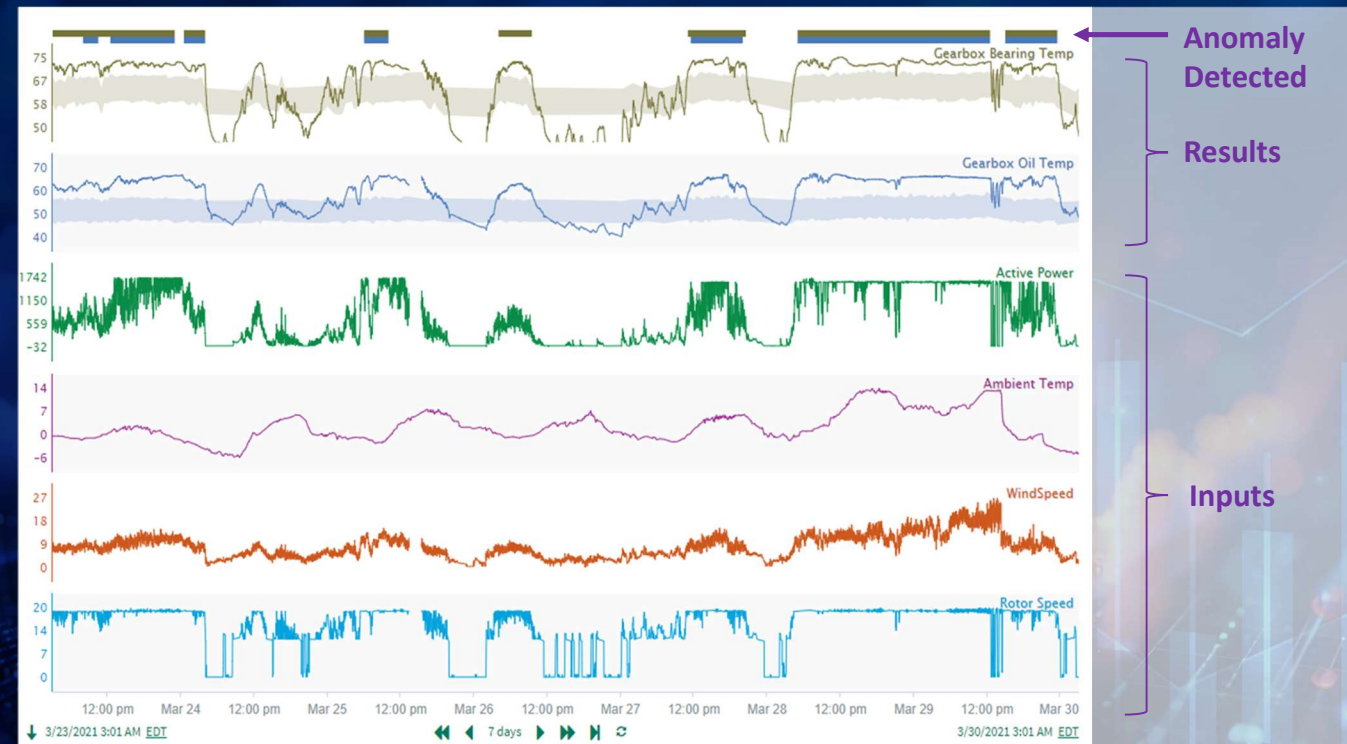
Methods

1. Brought together **three** data sources in **one place**
 - Vibration
 - Temperature
 - Oil Particle Count
2. Trained models on **entire life** of each turbine to establish **baseline**
3. Monitor incoming data for continuous **anomaly detection**
4. Wholistic **health** monitoring integrated into **case management** system

Results

- Successful indication of **9 out of 10** historical failures
- Early flag to inspect turbine prevented **catastrophic failure**

Detecting signs of impending failure give an operator the capability to inspect and make repairs on their own timeline.



Aligning **anomalies** across systems allows for corroboration and **early detection** of component breakdown.