Reduce YOUR wind fleet O&M costs through an ROI based Asset Life Extension predictive maintenance program

# DigitalClone® for Wind Operations and Maintenance (DC-OM)

Calculating Wind Turbine Health and Remaining Useful Life (RUL)

Sentient Science provides DigitalClone® for Wind Operations and Maintenance. (DC-OM) is a field-validated SaaS solution for wind turbine Asset Management, Operations, Performance Engineering and OEMs for a holistic view of the health and remaining useful life (RUL) predictions of an assets critical system(s) and component(s).

DigitalClone® optimizes our customers' predictive maintenance programs and their available technology stack through the customized models visualized on an interactive technical dashboard. DC-OM is optimized to:

1) autonomously **detect actionable damage** in assumed healthy assets through advanced anomaly detection and,

2) tracking of **damage progression** with robust uncertainty quantification.

The DC-OM insights to inference are powered by a proprietary fusion framework of physics informed machine learning fueled models using a unique cross source data unification architecture.

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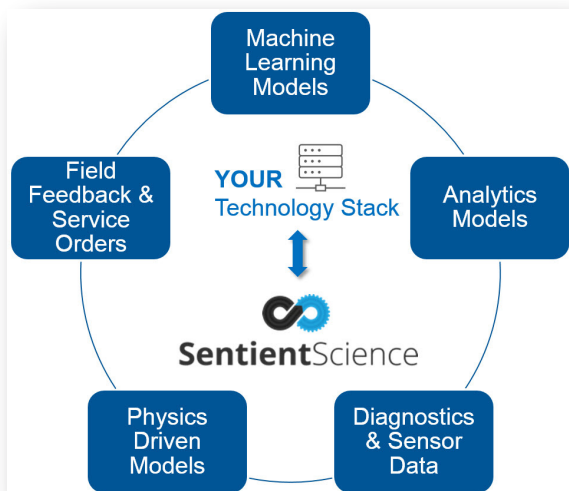
DC-OM is a component life estimation digital twin, based on the current "as maintained" configuration of a wind turbine in operation, hosted on Amazon Web Services (AWS). This is accomplished through the orchestration of the available data, running machine learning and data science models with a focus on a customization strategy per business unit to reduce the cost of Engineering, Asset Management and Operations. Our customizable models are applied to specific problem statements, deployed and monitored for performance.

## MODELS THAT MATCH YOUR APPLICATION
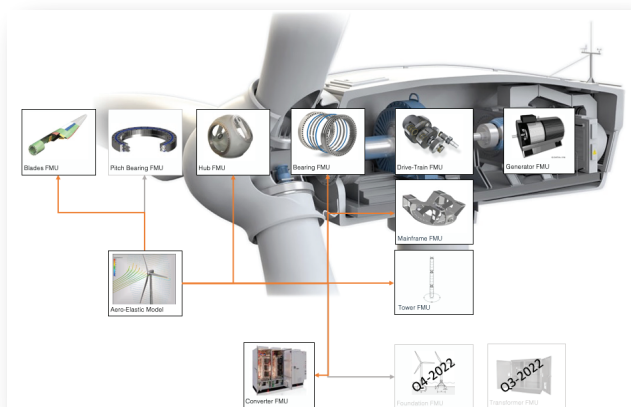
Start with standard models, **customizable to YOUR business unit**.

Use **'Turbine Storyteller'** to discover the narrative behind each turbine using Physics, Machine Learning and Data Science Models.

Centralized platform to monitor turbine performance and **component health state**.

Predictive maintenance planning using '**Remaining Useful Life**' multi-model health state estimations.

MORE THAN A WATCHLIST OF ASSETS
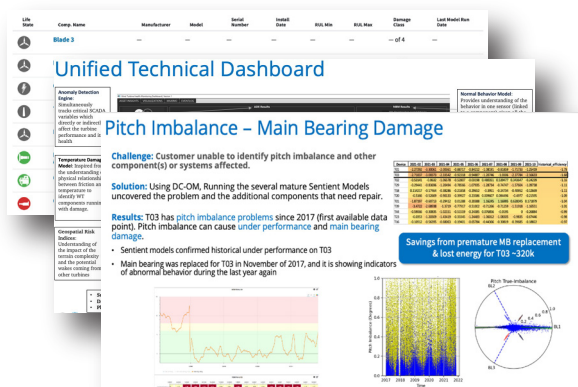
Asset Health State converted into Action:
Underperformance is monitored closely and considered a health state measurement integrated into our machine learning model(s) as seen in our **Pitch Imbalance - Main Bearing Damage** use case.

The Result: Repeat failure of the Main Bearing and historic underperformance due to aero imbalance loading of the main shaft assembly from the rotor.

CONTACT US TODAY FOR A FREE DEMO!

contact@sentientscience.com
P: +1-716-209-3122

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