



# **Introduction to CoDiS**

**Condition Monitoring System**

**By**

**Stefan Barun**

**Enersol**

---

**Condition Monitoring System**



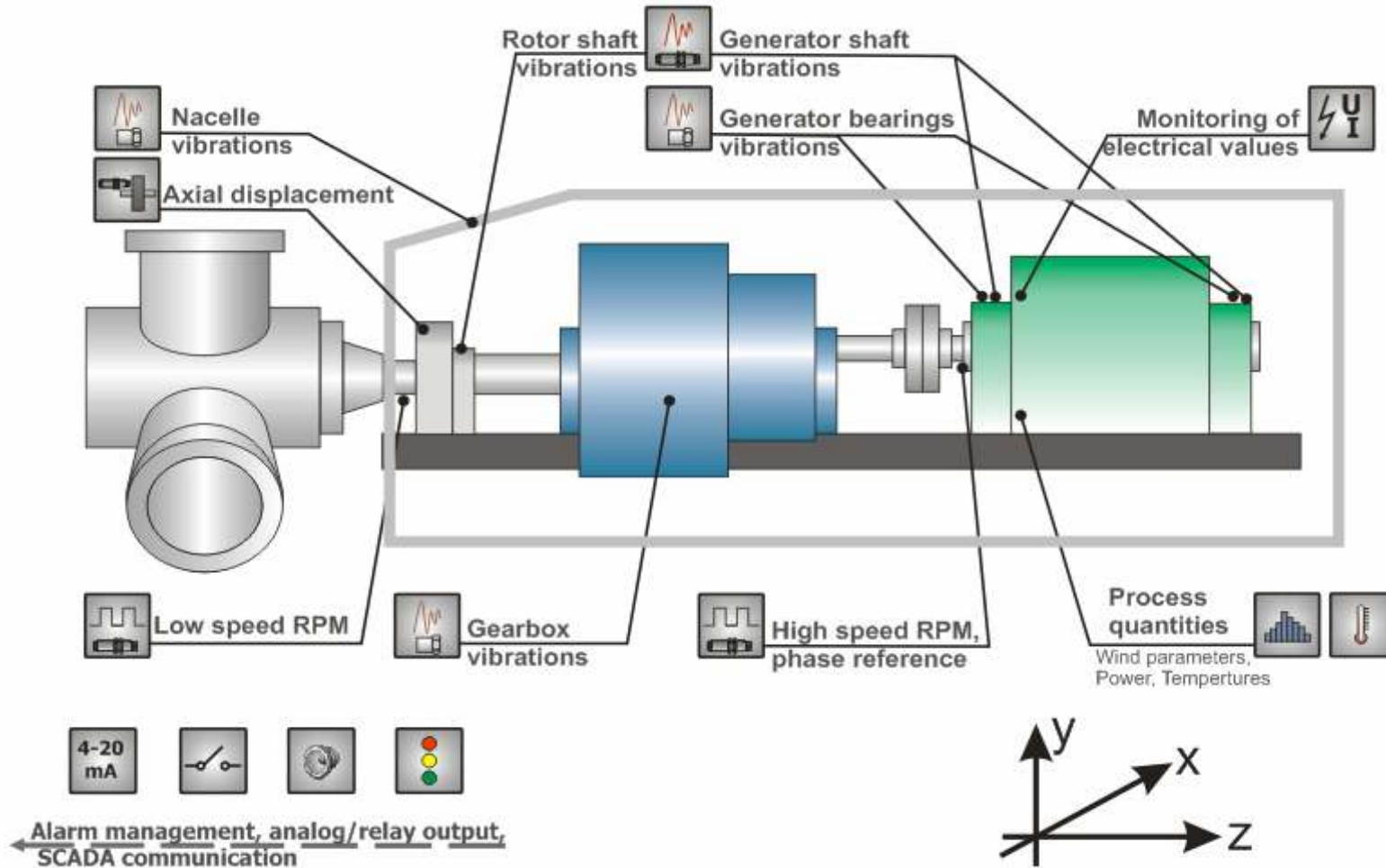
- Established in 2002
  - **What do we do?**
    - Engineering
    - Maintenance & Services
    - Condition Monitoring
  - **Who benefits from our services?**
    - Industry
    - Renewable Energy
    - Utility
-



# CONDITION MONITORING

---

CoDiS is condition monitoring and diagnostics system used for early warning and predictive maintenance by permanent trending of all measured values





# 1

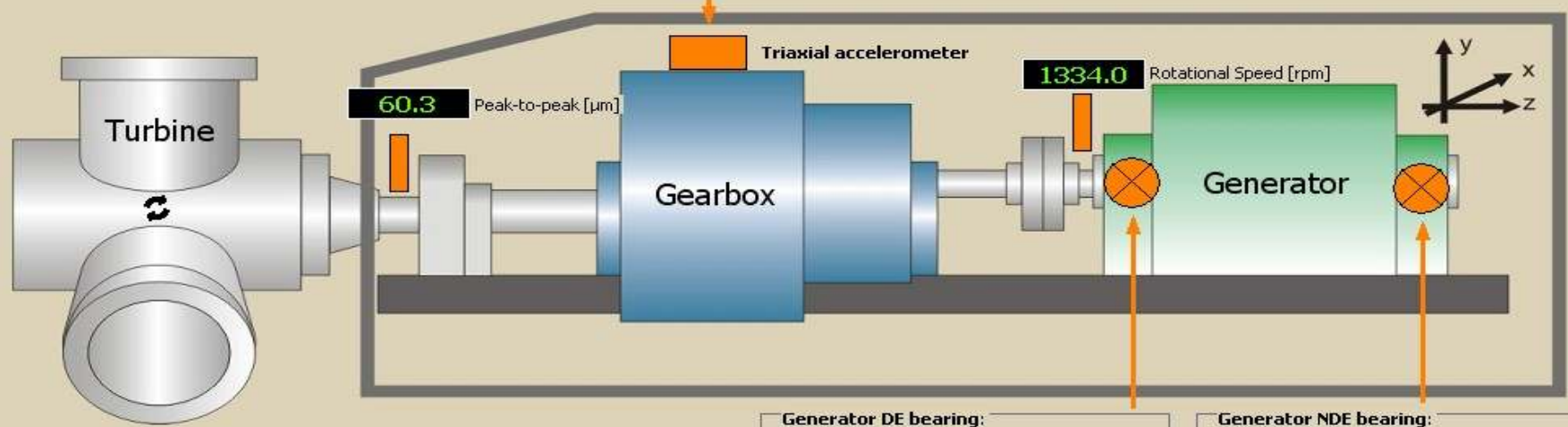
**Gearbox:**

	Direction X:	Direction Y:	Direction Z:
Crest	<b>3.51</b>	<b>3.55</b>	<b>3.80</b>
RMS acc [m/s <sup>2</sup> ]	<b>5.87</b>	<b>4.67</b>	<b>4.66</b>
RMS speed [mm/s]	<b>19.73</b>	<b>10.27</b>	<b>5.17</b>

**Process parameters:**

Wind speed [m/s] **7.50**

Active power [kW] **207.5**



ag1: **ALARM/TRIP**

**RESET ALR/TRIP**

ALARM/TRIP **current** status

ALARM/TRIP (**REM**) status

**Generator DE bearing:**

Crest	<b>4.02</b>
RMS vibr. speed [mm/s]	<b>10.78</b>
RMS vibr. speed LP 5 Hz [mm/s]	<b>10.05</b>
RMS vibr. speed LP 40 Hz [mm/s]	<b>10.69</b>
RMS vibr. speed HP 40 Hz [mm/s]	<b>1.35</b>

**Generator NDE bearing:**

Crest	<b>3.60</b>
RMS vibr. speed [mm/s]	<b>18.50</b>
RMS vibr. speed LP 5 Hz [mm/s]	<b>18.13</b>
RMS vibr. speed LP 40 Hz [mm/s]	<b>18.43</b>
RMS vibr. speed HP 40 Hz [mm/s]	<b>1.05</b>

Description:

11:21:59 07.09.2009



## ***CoDiS WTm***

### **Wind Turbine Monitoring System, Diagnostics and Protection System**

#### **System with diagnostics includes functions of:**

- Historical trending
- Data analysis
- System diagnosis
- Reporting
- Alarming
- Remote administration
- Tailor made

All data is transferred to the diagnostic computer or remote server



Quality assurance based on knowledge and long term experience



## **BENEFITS**

- Maintenance requirements
  - Mechanical
  - Electrical
- Reporting
  - Insurance
  - Banks
- Saves you money! 50-75% less than extended warranty



Quality assurance based on knowledge and long term experience