

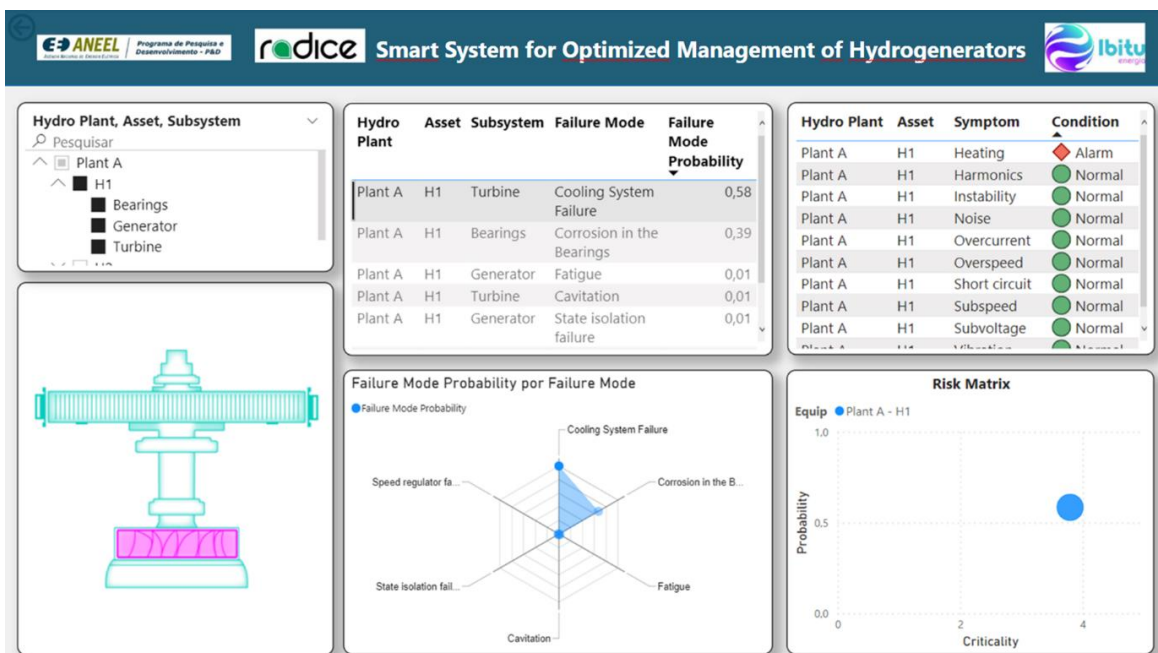
**Question 2.2:** Application of data science and machine learning is becoming more widespread. In principle, these methods should enable machine owners and end users to plan maintenance more effectively with positive consequences for generator and reliability. Can the authors, or others who are involved in the development of automated diagnostics and prognostics, please comment on how user-friendly these tools are? In other words, can the outputs be easily understood and acted on by maintenance staff that are non-specialists in these areas of technology?

The AI tools and methods developed for diagnosing rotating machines were embedded in an experimental software developed on the Sigma EAM asset management software development platform. The development platform acts as a concentrator of data currently dispersed in various systems, such as sensors, online monitoring software, legacy maintenance management systems, ERP's, mobile applications, Smart Software and others.

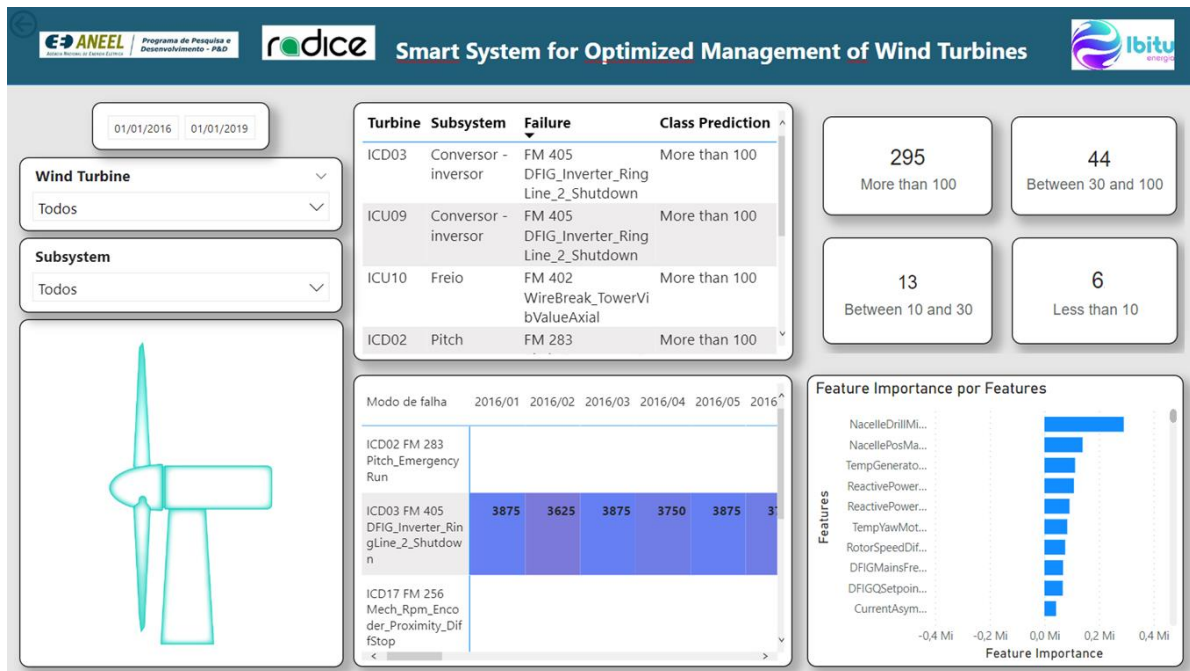


The Software has easy-to-use dashboard interfaces, customizable for each asset and each diagnostic type, as shown in examples below. The information shown is intuitive for experts on each asset type, so knowledge on data science, ML and other technologies used to create the algorithms is not necessary.

Example - dashboard for Hydrogenerators:



## Example - dashboard for Wind turbines:



Furthermore, the Asset Management platform (Sigma EAM<sup>®</sup>) where the algorithms have been programmed is able to automatically create tickets (technical notes) based on the diagnostics/prognostics generated by AI tools in order to alert maintenance teams on pending issues, prompt the creation of Service Orders and other actions.

Treetech - EAM Configuration Register Maintenance Operação Reports Analytics Search menus (C)

### Technical Note

#### Listing of Technical Notes

Filter search

	Technic Note No.	Technical Note Type	Maintenance Type	Title	Object	Responsible section	Work Order No.	OS Status	NT Canceled
<input type="checkbox"/>	61	Defect	Corrective Maintenance	SIGOAH - Hydrogenerator Failure Diagnosis	SCL01 - 595-00007 - Hidrelétrica Santa Clara - Unidade Geradora 01	Hydro Maintenance			
<input type="checkbox"/>	62	Defect	Corrective Maintenance	SIGOAH - Hydrogenerator Failure Diagnosis	QQX03 - 595-00000 - Hidrelétrica Quebra-Queixo - Unidade Geradora 03	Hydro Maintenance			
<input type="checkbox"/>	63	Defect	Corrective Maintenance	SIGOAH - Wind Turbine Failure Diagnosis	ICU01 - 590-00000 - Complexo Icarai I - Aerogerador 01	Wind Maintenance			

Mostrando o(s) registro(s) 1 até 3 de um total de 3

Primeiro ← Anterior 1 Próximo → Último

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