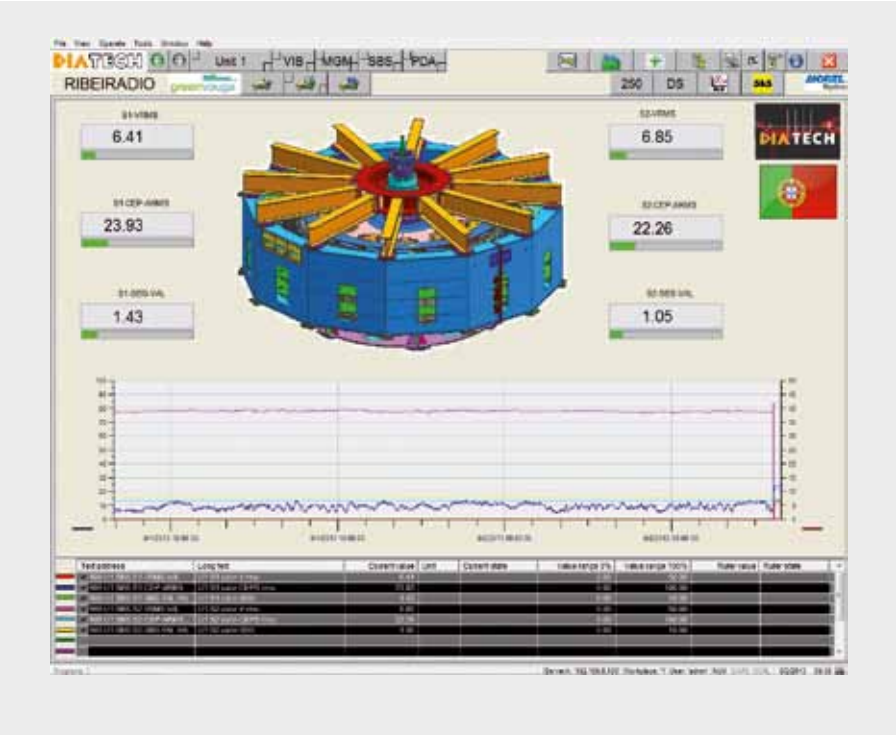
DIA TECH

25 years of monitoring and diagnosis

The year 1990 marked the kick-off of the implementation of a globally unique idea: utilising software and computing power for the early diagnosis of possible problems in hydropower equipment.

Creating a proper diagnostic system required fast, freely programmable data collecting and processing systems, which were written and performance optimised by ANDRITZ HYDRO's software development specialists. Under the name "GEMO" was a state-of-the-art monitoring system built, which already included the initial stages of a smart "Vibration Diagnosis Module", a "Structure-Borne Sound Diagnosis Module", and a "Torsional Vibration Diagnosis Module". As the system turned out to be rather costly, the development of a new, Windows PC-based monitoring system under the name "DIA TECH" began.



▲ New DIA TECH GUI based on SCALA 250 allows indication of a diversity of diagnosis information

The Data Management program is an essential component within the ANDRITZ HYDRO monitoring concept. It allows managing incoming (measured) and outgoing (calculated) data and distributing them to knowledge modules, database and visualisation software. The ability to integrate third-party systems and their measured data for central data administration makes ANDRITZ HYDRO a global pioneer in this area.

▼ Monitoring and diagnosis team in Weiz, Austria

Overall, the DIA TECH portfolio comprises an extensive range of products but ANDRITZ HYDRO has also the capacity to develop any required additional functions in-house as the need arises. For example, for HPP Goldisthal in Germany a completely new module for the air gap monitoring called "DIA TECH MGM" was developed, becoming a favourite to ANDRITZ HYDRO's customers. The monitoring product philosophy of ANDRITZ HYDRO allows to meet virtually any customer requirement.

The DIA TECH monitoring and diagnosis solution has been on the market for more than 15 years and is continuously being further developed. For instance, the popular DIA TECH SBS-Module (Structure-Borne Sound) was enhanced by incorporating the "CEPSTRUM" method. Three years ago, ANDRITZ HYDRO also initiated a complete reorganization of the data management program and the switchover to the in-house software product 250 SCALA has been completed.

Being able to diagnose emerging problems early on allows plant operators to take appropriate countermeasures, avoid severe damage, schedule repair downtimes for periods of 'low loss' and reduce waiting times for spare parts. All this translates into a considerable savings potential.

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NUMBER OF REFERENCES SINCE 1994:
Hydropower plants: 91
Units: 253