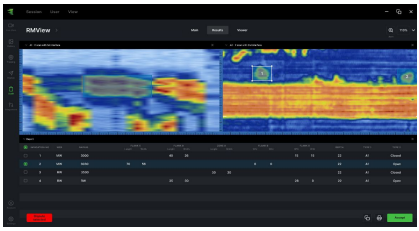
RELIMETRICS

No Code Industrial Grade Automation with AI

DIGITIZED PHASED ARRAY ULTRASONIC INSPECTION

Relimetrics' Non-Destructive Testing (NDT) Module, RELI-NDT, digitizes visual inspections of defects in phased array ultrasonic testing (PAUT) as well as x-ray and infrared thermography inspections. Customers can define their specific requirements and train algorithms with well defined deep learning recipes without writing a single line of code.



Relimetrics HMI - PAUT data analysis

Challenge

There is a plethora of possibilities for things to go wrong in logistics operations and supply chains across industries. Take, for example, the wind energy industry. According to National Renewable Energy Laboratory, blade failure is one of the most common failure events in wind turbines, resulting in costly repairs and lost revenue.

The blades of a wind turbine must be able to withstand high winds in the field. As a result, the inspection of each blade, before getting installed on the field is a delicate process that requires the utmost precision. This inspection produces an enormous amount of data that needs to be evaluated to detect defects.

Today, the inspection of PAUT data is carried out by visual inspection, which is a time consuming and labor-intensive process prone to error due to fatigue.

Solution

Relimetrics' AI accelerated NDT module, RELI-NDT, is designed to overcome the drawbacks of human visual inspection in PAUT, x-ray and infrared thermography inspections.

With RELI-NDT, customers can rapidly implement well defined AI algorithms to digitize visual inspection of PAUT data to inspect blade defects and their size. RELI-NDT can be configured to meet the specific requirements of ultrasonic inspection of any customer. A good example is renewable energy leader Siemens Gamesa, which engaged with Relimetrics to inspect its wind turbine blades with RELI-NDT.

Depending on the inspection requirements, RELI-NDT can perform inspection of adhesive joints on a single wind-turbine blade in 45 min. This is a major reduction in inspection time considering that the manual inspection consumes an average of 7 hours to complete a full blade inspection and requires 100% of the attention of the inspector during the shift.

Why Relimetrics?

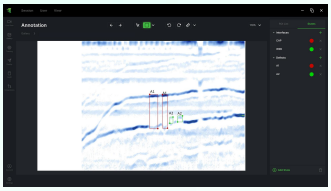
Designed for high production variability manufacturing environments with a wide variety of configurations, RELI-NDT takes inspections of NDT data to a new level, providing a greater degree of accuracy than humans performing the tedious work.

RELI-NDT outperforms conventional inspection products relying on rule-based algorithms with its proprietary AI stack. Inspection algorithms can be re-trained quickly to adapt to new circumstances and tolerance levels.

RELI-NDT provides well defined deep learning recipes, enabling anyone to train deep learning models without any AI or coding expertise.

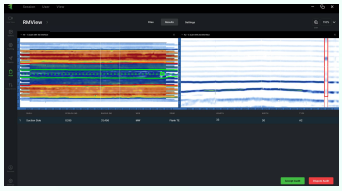
RELI-NDT is also rapidly scalable within a manufacturer's ecosystem: trained models and configurations can be managed with a centralized data management interface and shared across plants in the cloud.

Annotate



Train

Audit



At least 90% reduction in inspection time GUARANTEED with respect to visual inspections.

Fully digitized AI accelerated analysis of PAUT data.

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