

NDE 4.0 - Unleashing the Digital Potential of Ultrasonic Flaw Detectors

Anandamurugan Subramanian¹

¹Waygate Technologies, Baker Hughes, India

Ultrasonic Testing for industrial applications has grown a long way in the past 75+ years from the evolution of bigger analog devices to modern digital electronics based ultra-portable flaw detectors. Portable flaw detectors made the ultrasonic inspections lot easier by carrying it to the remote and confined location for inspection data recording and further decision making. Now with the evolution of the digital era and due to pandemic, the industries are investing on the digitization, digitalization, and digital transformation to accelerate the growth of industry 4.0 and hence the NDE 4.0. NDT industry is facing the challenge of data integrity, challenges in data storage and sharing, prolonged process of report generation and maintaining the historical data in physical format. In this paper we will discuss about how the ultrasonic flaw detectors contributes on NDE 4.0. Cloud connected modern days ultrasonic flaw detectors unleash the digital potential by making the devices to talk to each other on a centralized cloud platform to store, collaborate and share ultrasonic dataset for numerous benefits. Digitally connected ultrasonic flaw detectors can provide the wholistic data-driven approach for industrial ultrasonic inspection; Increase inspection productivity; reduce human error and rework; efficient inspection fleet management; ensures the data integrity and advanced reporting.