

Integrity Diagnostics Korea

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major business	Non-destructive testing and predictive diagnostic systems using acoustic emission testing(AET) techniques		

IDK Inc. applies innovative advanced non-destructive testing technology using acoustic emission testing(AET) techniques to provide predictive diagnostic and health analysis solutions for industrial facilities. This is a low-cost, high-efficiency, and high-reliability diagnostic technology that fundamentally prevents safety accidents, prevents unexpected system outages, and can be measured while in operation.

Products



Description When stress is applied to the material, it is deformed or destroyed, and elastic waves, which are deformation energy generated by crack generation, are detected by AE sensors installed on the surface by propagating inside the material, and signal analysis processing technology

Description Sensors(H/W): Resonant sensor and broadband AE sensor using piezoelectric elements
Pre Amplifier(H/W): Analog amplifier providing 40/60dB gain

Description FPGA-based ultra-fast big data processing(10MSPS/channel)
Ultra-fast AE parameter extraction(1000Hits/sec)
17 AE Features(Parameters) provided

Description Development of a real-time AE signal collection and analysis system
Development of customized systems and modules according to defect type and diagnosis target structure
Development of software for controlling AE acquisition hardware

Technical Capacity

» Explosion proof certification(required for oil, chemical plants and hazard zones)

Obtained Korea's only sensor explosion-proof certification, AET system explosion-proof certification(all applicable to hydrogen gas environment)

» Development of high-performance, low-cost embedded solution(world's first)

Supply of CPU-integrated 4-channel standalone type products and solutions that can be applied to various purposes such as single-channel defect inspection equipment(world's first)

» Securing the establishment of empirical cases of AE technology application

Completed track record for POSCO, LG Chem, LG Biotechnology Research Institute, Lotte Fine Chemical, and LS Electronics

» Support for web-based analysis system applying artificial intelligence

Prediction of destruction stage based on probability characteristics of sequentially occurring AET signal generation intervals