

The Leader in Eddy Current Testing Performance



*Developer of the revolutionary
MWM-Array Eddy Current Technology*

JENTEK® Sensors

JENTEK'S INNOVATIVE PRODUCTS

Eddy Current Testing (ET) Instruments

Supports MWM, MWM-Array Sensors and IDED Sensors¹

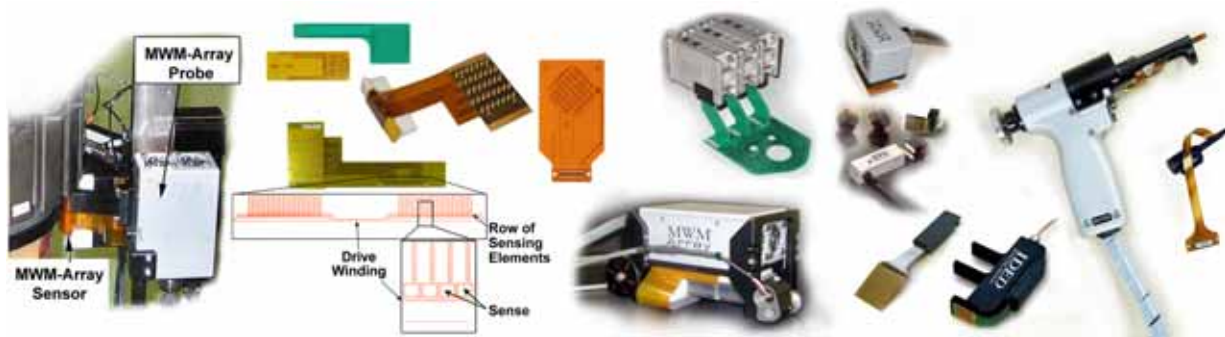
The GS-Durable and GS-HandHeld are light weight (10 lbs and 5 lbs, respectively), extremely high quality impedance instruments. Each runs the GridStation[®] Software with a fully functional computer running the Microsoft Windows™ Operating System. The GS-D is currently offered in 7- and 39-channel parallel architecture versions, and the GS-HH is available in a 7-channel version with a touch screen.



Sensors and Probe Electronics

Inductive/Eddy Current Testing (MWM & MWM-Array) and Capacitive (IDEDs)

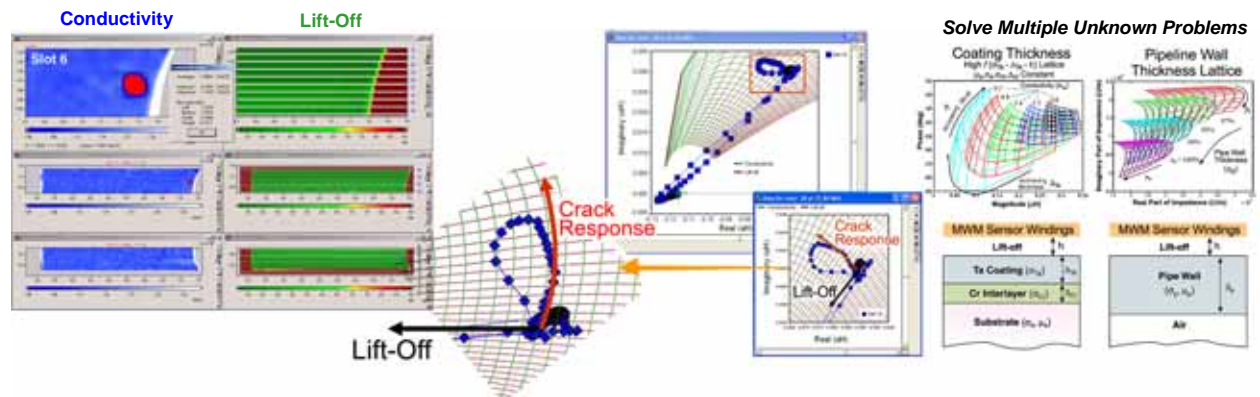
The first priority in design of JENTEK's quasistatic sensors is the predictability of the sensor response using physics-based, rapid models. This predictable response is essential to enable use of Grids, Lattices and Hyperlattices for defect detection and material condition assessment.



GridStation[®] Software

Measurement Grids, Lattices & Hyperlattices (for Multivariate Inverse Methods)

The GridStation[®] Software uses Measurement Grids, Lattices & Hyperlattices to convert impedance measurements into electrical properties and layer thicknesses, generating images used to detect defects and assess condition. Grids, Lattices and Hyperlattices are 2, 3 and 4 or higher dimension precomputed databases, respectively. These databases are generated off-line using physics-based models of the sensor and multilayered material under test, and stored for use by the GridStation software.



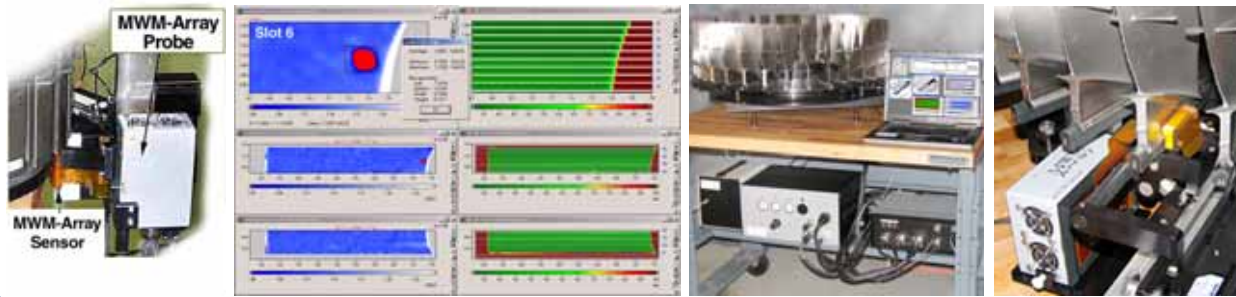
¹ The historical meaning of the MWM acronym is Meandering Winding Magnetometer; however MWMs and MWM-Arrays no longer use meandering drives. IDED still stands for Interdigitated Electrode Dielectrometer, and IDEDs still use interdigitated constructs.

Crack Detection (Scanning)

Capabilities: Surface and buried cracks, cracks under coatings, crack sizing, cracks at edges.

Applications: Aircraft engines, structures, and landing gear; land-based turbines; bolt holes; and pipeline/tubing.

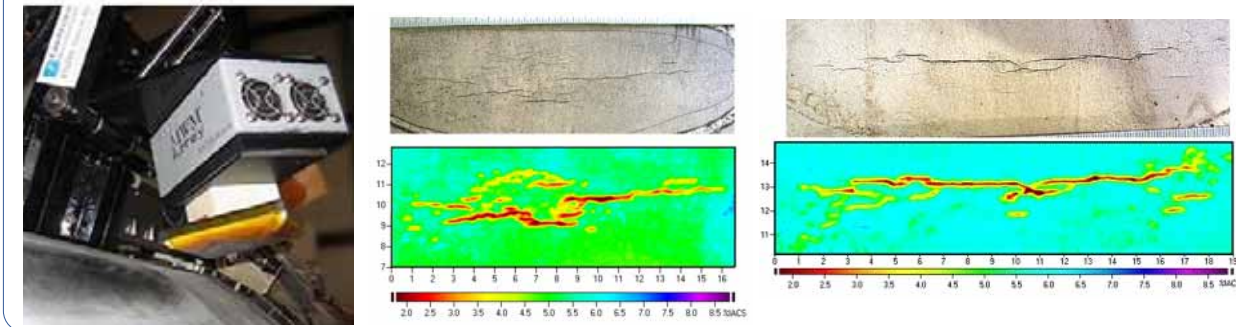
Engine Component Inspection with Low False Indication Rates



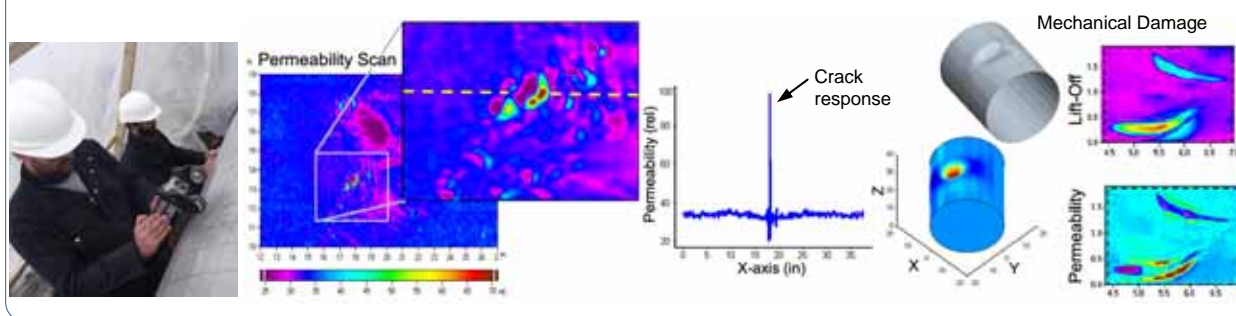
Inspection of Bolt Holes with and without Installed Bushings



Stress Corrosion Crack Imaging in Pipelines with and without Coating Removal



Pipeline Crack Detection at Mechanical Damage Sites and "Magnetic Profilometry"



Corrosion Imaging (Scanning)

Capabilities:

- Corrosion imaging (internal and external wall loss) through coatings and thick insulation
- Fast throughput, portability, minimal scanner complexity, extremely reproducible results
- Digital data, inherent self diagnostics, automated decision support and reporting

Applications: Pipelines (internal and external), aircraft, composite/metal joints, pressure vessels, and power plants.

Corrosion Imaging for Pipelines and Pressure Vessels

Pipeline Wall Thickness Lattice

Multiple Ultrasonic Thickness Scan

PIG-IT™ an In-Line Inspection tool being developed by JENTEK

MWM-Array

0.02 in. metallic weather jacket
2.0 in. Neoprene insulation
Steel pipe specimen 0.28 in. wall thickness; 6.625 in. OD

Lift-off
Defect
Permeability

Aircraft Corrosion Imaging

Wall thickness image

Pitting corrosion imaging

Reference Corroded coupon 3 Corroded

Rapid lapjoint internal corrosion imaging

1st Layer Thickness A_1

2nd Layer Thickness A_2

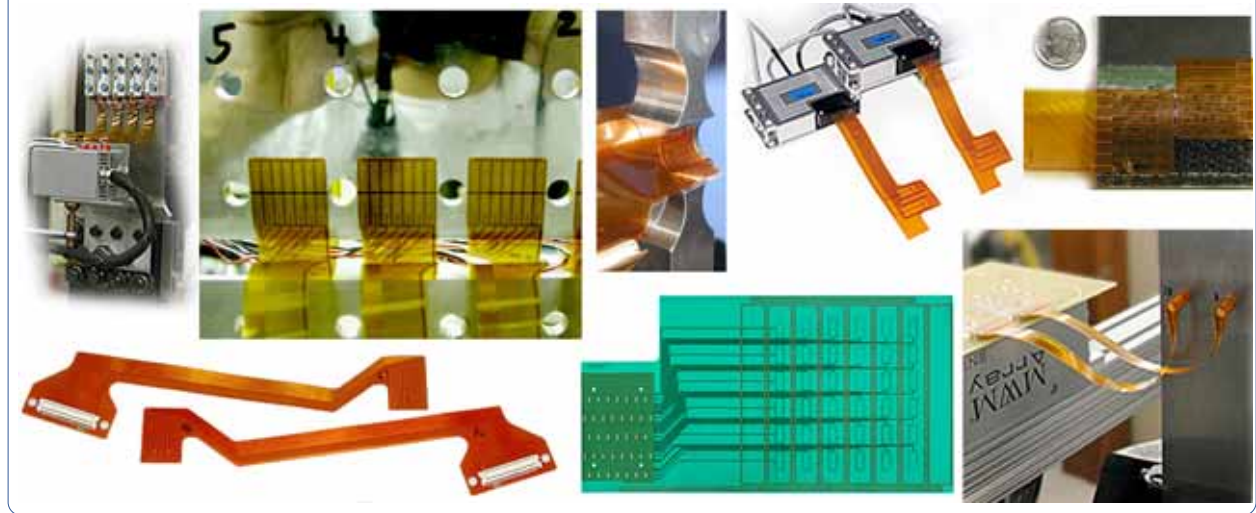
variable gap

Discrimination between first and second layer corrosion, gaps between layers and near surface corrosion

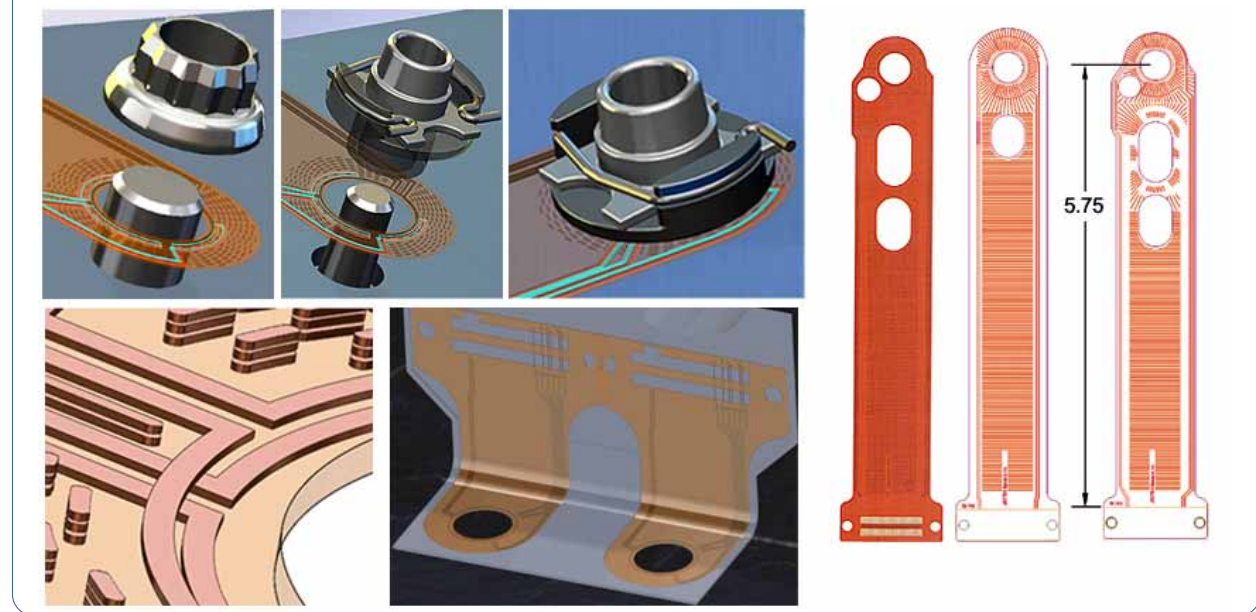
Embedded Sensor Networks for Corrosion & Fatigue

Capabilities: Surface-mounted and embedded fatigue & corrosion sensors, for surface and buried damage.
Applications: Aircraft, rotorcraft, pipelines, refineries, bridges, other high-value assets.

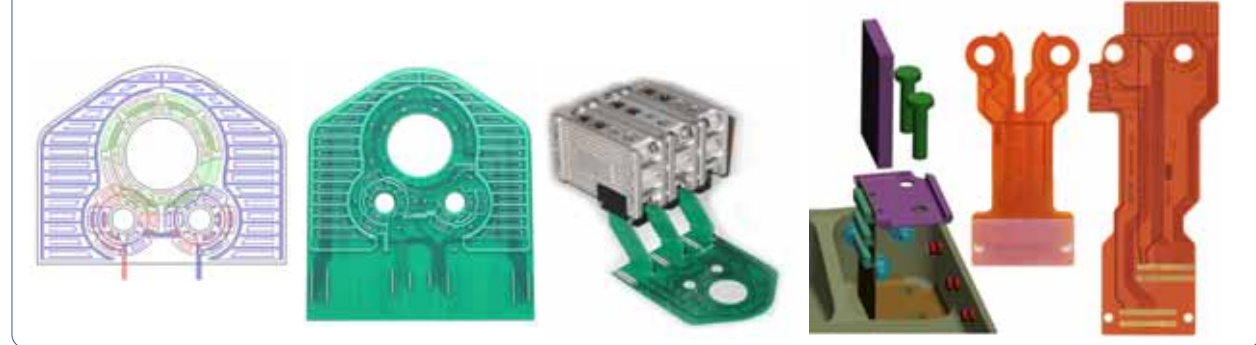
Linear Arrays (Surface Mounted and Embedded Between Layers)



MWM-Rosettes for Surface and Buried Crack Detection at Bolt Holes



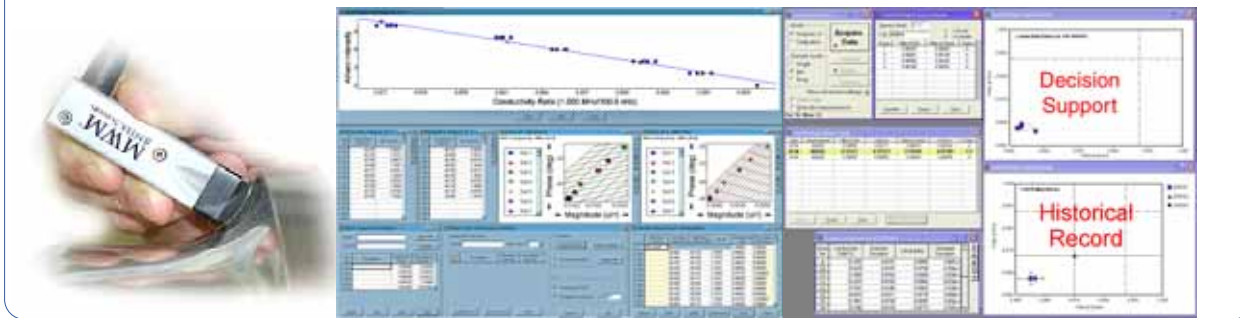
Integrated Sensors for Corrosion & Fatigue



Quality Assessment

Capabilities: Cold work quality assessment (burnishing, shot peening, LPB, LSP); Rapid wide area NDT/inspection; coating characterization; other process quality assessment (welding, case depth, heat treatment, etc.).
 Applications: Production, repair/rework, in-service aging/degradation.

Cold Work Quality Assessment (burnishing, shot peening, LPB, LSP)

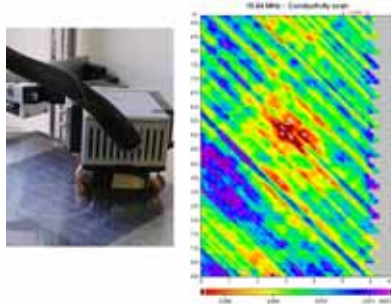


Composite Quality Assessment using Linear Drive MWM-Arrays

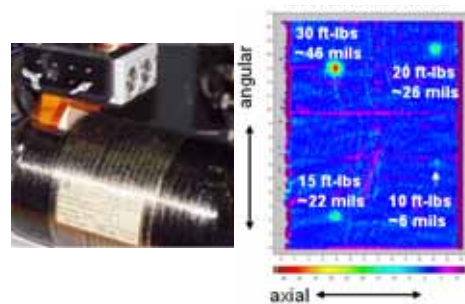
Reinforced Carbon-Carbon Composite (RCC) Space Shuttle Leading edge



Impact damage for composite aircraft skins

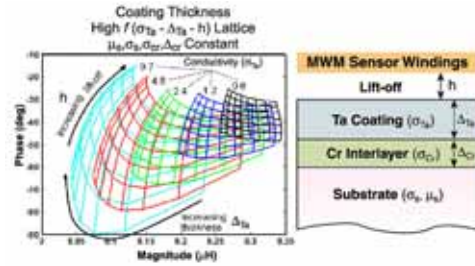


Composite Overwrapped Pressure Vessel (COPV) NDT for impact damage

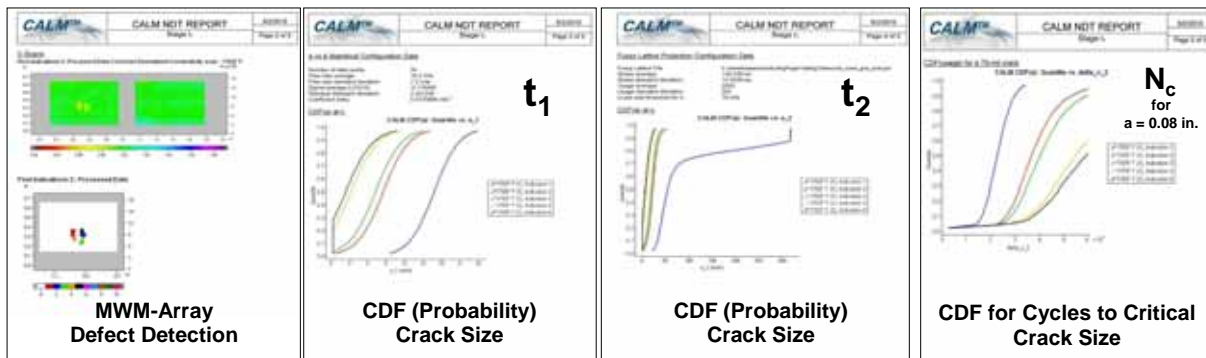


Coating Characterization

(for complex components such as turbine blades, pipelines, and gun barrels)



Current Condition Assessment and Remaining Life Prediction Using the Component Adaptive Life Management (CALM™) Software



About JENTEK Sensors, Inc.

JENTEK Sensors, Inc. was founded in 1992 to address the need for enhanced life management of high-value assets (pipelines, refineries, aircraft, rotorcraft, spacecraft, ships, power plants) and for quality assessment and control of high value-added processes (coating, welding, heat treatment, shot peening).

JENTEK's GridStation® products, together with our MWM®-Array eddy-current sensors are now U.S. military and commercial OEM standard practice for inspection of engine and other critical components. This includes FAA approval for the technical aspects of a recent commercial engine application and successful implementations for demanding applications such as the Space Shuttle leading edge composite and military aircraft engine disk slots. Our patented technologies and products offer unique, cost-effective solutions to address critical and challenging customer needs. Application focus areas include:

Nondestructive Testing (NDT) for

- Oil & Gas Infrastructure
- Aircraft Engines and Land-based Turbines
- Composites and Metal Structures

Surface Mounted and Embedded Sensors and Sensor Networks for

- Fatigue Crack Detection and Growth Monitoring
- Stress Corrosion Crack Detection and Growth Monitoring
- Corrosion (internal and external wall loss) Detection and Monitoring
- Magnetic Torque and Stress Sensors (including non-contact torque/bending load sensing for rotating shafts)

JENTEK is now a growing commercial enterprise with competitive and proven products. We have delivered numerous fully-integrated systems and solutions to the aerospace, defense, energy, manufacturing, and consumer products industries.

Customers who have purchased our systems include Fortune 500 companies, the U.S. Air Force, Navy, Army, NASA and FAA, as well as first-tier prime contractors, several foreign military services, and international systems integrators. Our customers' use of these systems has generated savings of hundreds of millions of dollars. We continue to provide practical solutions to difficult problems that could not be addressed adequately by conventional eddy current testing (ET) methods. Now, we also offer superior solutions to common applications such as bolt-hole inspection, at competitive prices.

JENTEK's products—comprised of our leading edge sensor technologies, our breakthrough GridStation decision support software and our high-performance parallel architecture instrumentation—are portable and user-friendly. Our focus is on solutions that deliver substantial near-term cost savings, significant long-term return on investment, readiness/yield enhancement, and functional performance improvements.

JENTEK is built around a core of dedicated engineers, many of whom earned Ph.D.s from the Massachusetts Institute of Technology's Laboratory for Electromagnetics and Electronic Systems (LEES). Our team brings together cutting edge engineering practice and scientific understanding (that we call Engineering-Science) and a passion for solving real world problems to create the unique JENTEK line of products. But our efforts don't end with outstanding products. Instead, we work with each customer to make sure the JENTEK solutions meet their needs. The result is innovative, practical, cost-effective solutions, each one backed by dedicated individuals and a growing organization committed to customer success.

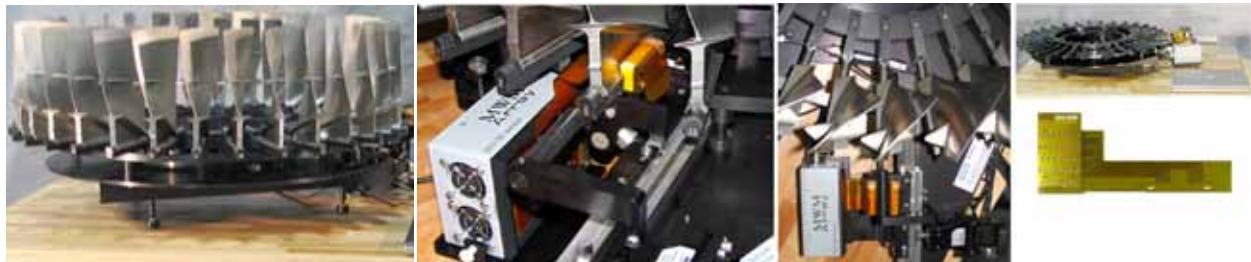
Our products and approach have been recognized with high-profile awards. JENTEK received the Navy's Outstanding Phase III Transition Award after successful delivery of several high Return-on-Investment solutions to U.S. Navy Depots, the FAA/Air Transport Association "Better Way" Award for engine component inspection technology and the National Tibbetts Award in recognition of outstanding contributions to the Small Business Innovation and Research program. We also received the ASNT "Best Paper Award" for our innovative surface mounted/embedded fatigue sensors.

We look forward to solving your most challenging—as well as your every day—NDT problems with solutions that not only save you and your customers money, but also improve the reliability, yield and readiness of your products/processes and fleets.



JENTEK® Sensors

JENTEK solutions offer high Return on Investment (ROI) to owners and operators of high-value assets and high value-added processes.



JENTEK[®] Sensors, Inc.

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JENTEK Issued patents include U.S. Patent #s 7,994,781, 7,876,094, 7,812,601, 7,696,748, 7,589,526, 5,533,575, 7,528,598, 7,526,964, 7,518,360, 7,467,057, 7,451,657, 7,451,639, 7,411,390, 7,385,392, 7,348,771, 7,289,913, 7,280,940, 7,230,421, 7,188,532, 7,183,764, 7,161,351, 7,161,350, 7,106,055, 7,095,224, 7,049,811, 6,995,557, 6,992,482, 6,952,095, 6,798,198, 6,784,662, 6,781,387, 6,727,691, 6,657,429, 6,486,673, 6,433,542, 6,420,867, 6,380,747, 6,377,039, 6,351,120, 6,198,279, 6,188,218, 6,144,206, 5,966,011, 5,793,206, 5,629,621, 5,990,677 and RE39,206 (other patents pending).