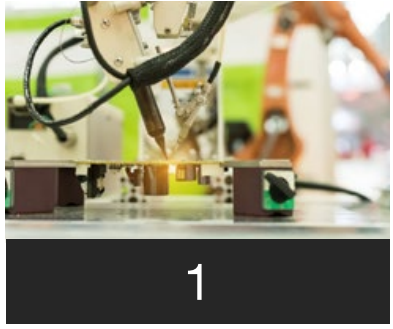


5 Ways to Reduce Manufacturing Costs Using Nondestructive Evaluation



1

Reduce waste of high-value materials by eliminating or minimizing destructive testing.



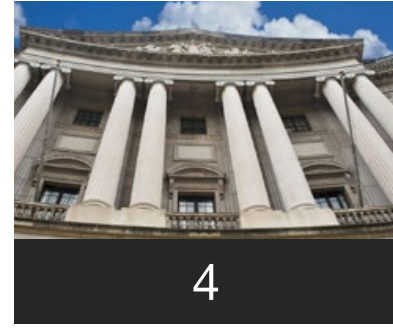
2

Identify quality issues sooner through the implementation of real-time monitoring.



3

Incorporate cost-saving automation of NDE process to reduce scrap, avoid unnecessary repairs, improve inspection reliability and speed, and minimize handling of delicate parts and components.



4

Meet government regulations and reduce liability to regulatory fines as well as safety-related civil lawsuits.



5

Reduce the need for experimental specimens with computer modeling and simulation.

3 Case Studies in Successful Implementation

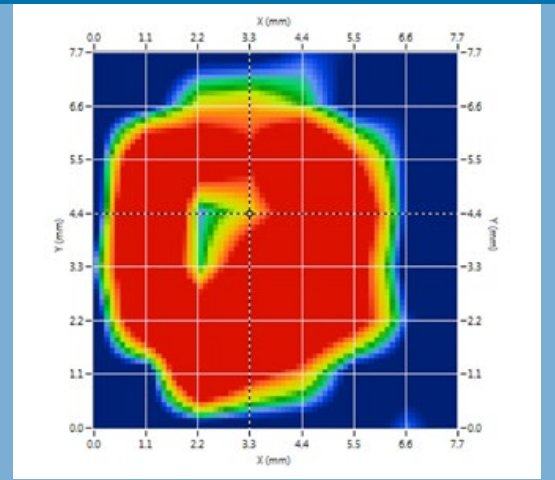
REDUCING MATERIAL WASTE

Challenge:

The destructive testing required to assess weld strength and meet government safety standards produces high rates of waste. In addition, the standard peel-and-chisel technique is unreliable for high-strength steels.

Solution:

EWI developed a non-invasive tool using matrix phased-array ultrasonics to assess the integrity of spot welds nondestructively. The tool, SpotSight™, is now being automated for implementation during line manufacturing.



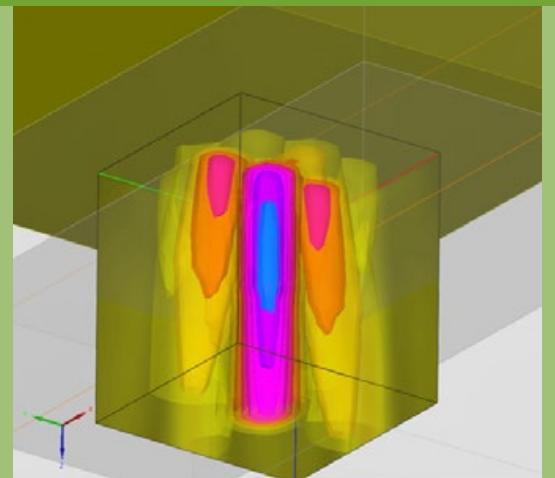
REDUCING DESTRUCTIVE TEST SPECIMENS FOR VALIDATION

Challenge:

Reducing the number of specimens required to validate NDE techniques and minimizing the destructive testing required to ensure product quality.

Solution:

Using computer modeling and simulation techniques, EWI efficiently redesigned and optimized an NDE sensor for in-line evaluation of brazing and laser welding applications to enable a manufacturer to minimize destructive sampling and testing.

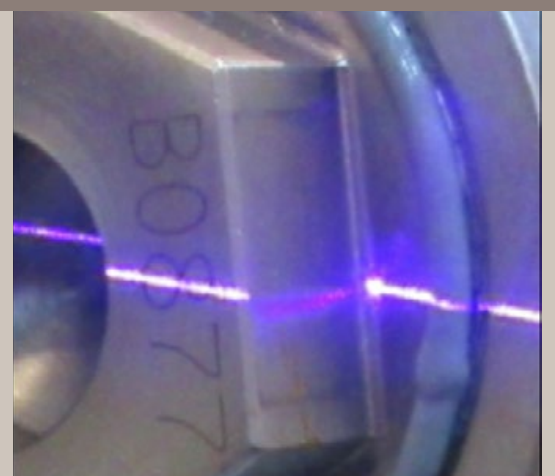
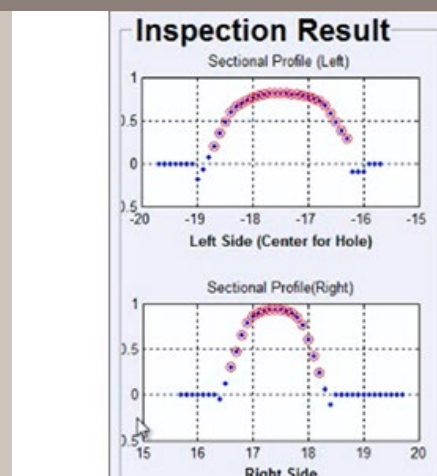


Challenge:

Finding a cost-effective way to improve visual inspection during manufacturing using NDE.

Solution:

Using a robotic system equipped with machine vision and laser profilometry, EWI helped an aviation company automate in-line inspection and significantly enhance the quality of its measurement and data analysis.



EWI develops innovative NDE solutions like these at our three technology centers in Loveland, CO, Columbus, OH and Buffalo, NY. To learn how your organization can use NDE to make your operations more efficient and productive, contact Evgueni Todorov, NDE Technology Leader at etodorov@ewi.org.

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