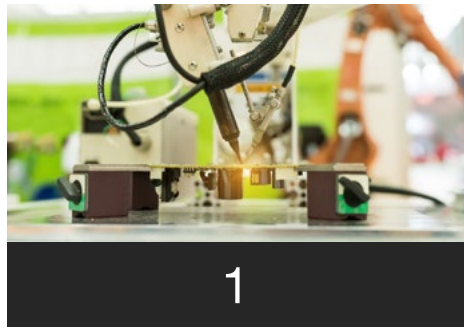


5 Ways to Reduce Manufacturing Costs Through Advanced Quality Systems



1

Reduce waste of high-value materials

by eliminating or minimizing destructive testing.



2

Identify quality issues sooner

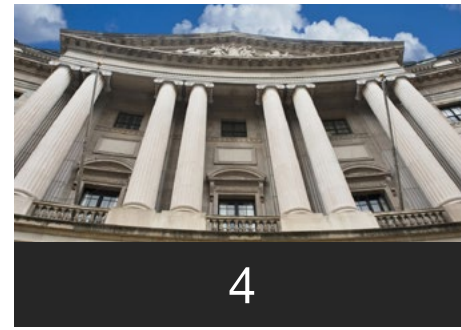
through the implementation of real-time monitoring.



3

Automate inspection processes

to reduce scrap, avoid unnecessary rework, and improve manufacturing yields.



4

Meet regulatory requirements

and reduce the risk of product liability lawsuits.



5

Design quality systems during product development

using computer modeling and simulation.

3 Case Studies in Successful Implementation

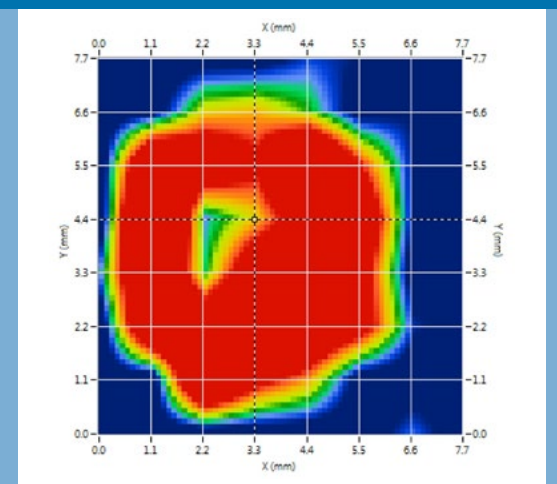
REDUCING MATERIAL WASTE

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.



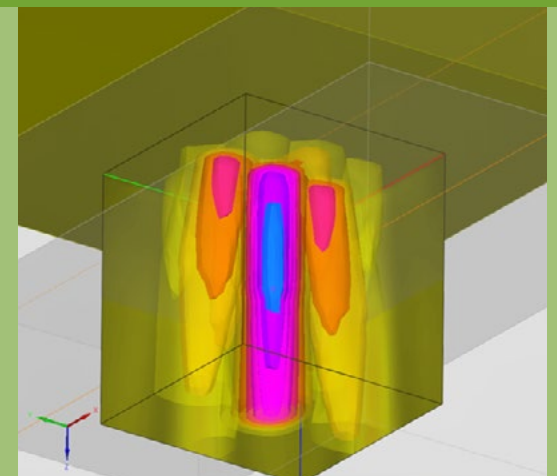
REDUCING DESTRUCTIVE TEST SPECIMENS FOR VALIDATION

Challenge:

Reducing the number of specimens required to validate nondestructive evaluation (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.



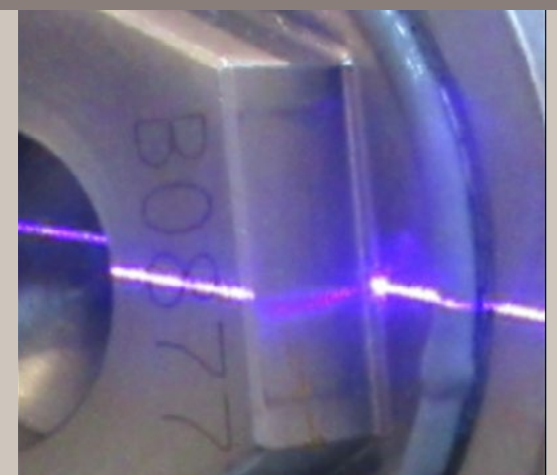
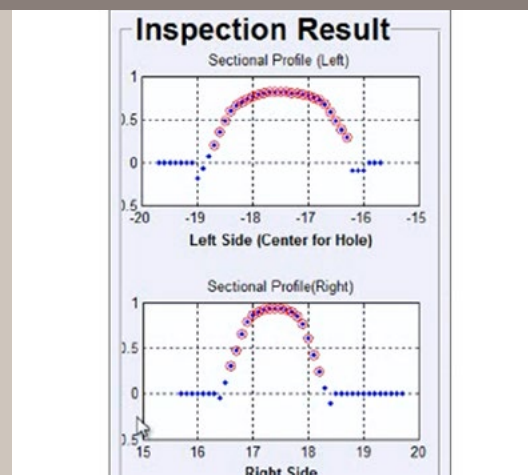
AUTOMATING FOR GREATER RELIABILITY AND COST-SAVINGS

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 aerospace company automate in-line inspection and significantly enhance the quality of its measurement and data analysis.



EWI develops innovative solutions like these at our three technology centers in Loveland, CO, Columbus, OH, and Buffalo, NY. To learn how your organization can use advanced quality systems to make your operations more efficient and productive, contact Shaun Freed at sfreed@ewi.org.

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