

EWI ADVISORY SERVICES:

HELPING COMPANIES CREATE BLUEPRINTS FOR SUCCESS

CROSS-INDUSTRY CASE STUDIES



EWI[®]

Staying Competitive in the Face of Evolving Challenges

Today's manufacturers are increasingly tasked to find better, faster and more cost-effective ways to bring new and existing products to market. This pressure, combined with a trend towards the adoption of new and advanced materials, driven by increasingly stringent product performance requirements, requires thoughtful **new approaches to design and development**, as well as **innovations in production technology**.

- **Product design teams** are challenged regularly to assess such things as the impact material and process selection and design have on manufacturability and quality.
- **Operations teams** are challenged with uncovering ways to fix, adjust, shift, or change processes to grow their competitive edge, improve efficiency and productivity, and add to the bottom line.

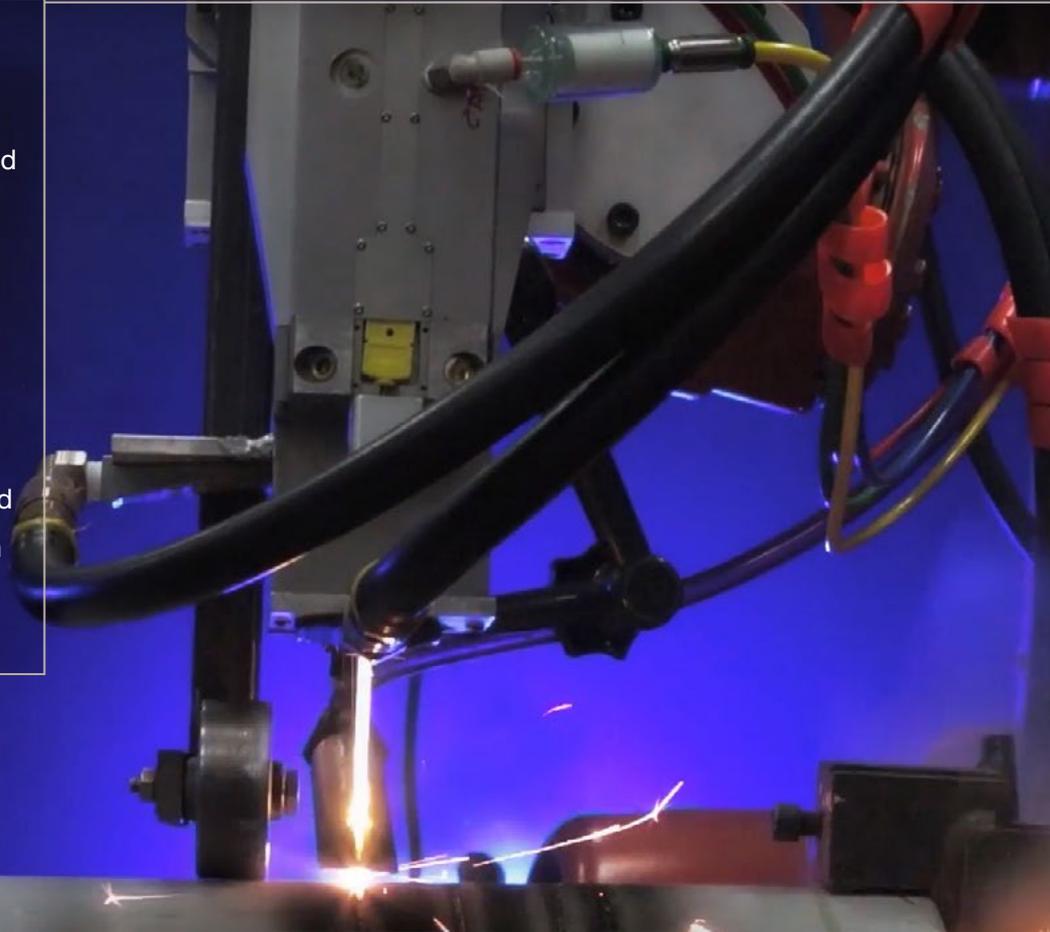
In both cases, the question becomes, *"What changes will this require?"* —A collaborative partner such as EWI is well positioned to provide an answer.



THE ADVANTAGE OF AN EXTERNAL PERSPECTIVE

When considering new approaches to design, development or production, many of today's leading companies are realizing the benefits of working with an advisory provider. Partnering with outside experts expands a business's network, providing access to unique insights, new techniques, and novel processes.

As the leading engineering and technology organization in North America dedicated to developing, testing, and implementing advanced manufacturing technologies, the EWI team provides Advisory Services to manufacturers across a wide spectrum of industries. We bring the materials, design, structural, and technological expertise to help manufacturers find successful solutions to their design and operational challenges.



What's your challenge?

DESIGN

Need to know which materials and processes are best suited for your application?



Ask the cross-disciplinary team at EWI for assistance with your Materials and Process Selection.

Wondering how your prototype will transfer to production in your factory?



Schedule an EWI Design Review and spend a half-day with experts who can advise on design, joining techniques, in-process monitoring, finishing, and more.

Want to do some quick screening of coupon samples to test designs or processes?



Take advantage of EWI's Rapid Feasibility Service to test your samples in a single day.

Dealing with a failed component that needs analysis and redesign to achieve the required reliability?



Let EWI conduct a full Failure Analysis to determine why your part failed and how it can be improved.

OPERATIONS

Trying to incorporate advanced automation so you can bring your manufacturing operation back stateside without losing your competitive advantage?



Let EWI conduct a Gap Assessment to determine the equipment you will need, identify your procurement options, and develop a plan for implementation.

Struggling to optimize your staff and resources as you deal with a worker shortage?



Turn to EWI for an objective analysis of your immediate challenge, and recommendations for both short-term and long-term solutions to the problem.

Needing to significantly enhance your output, but not sure where to start?



Request an EWI Onsite Consultation to review your production facility and provide unbiased recommendations for increasing productivity on your factory floor.

Looking to overhaul or expand your corporate vision to achieve sustainable success in an increasing competitive global marketplace?



Take advantage of EWI's Advanced Manufacturing Implementation Strategy Program, a comprehensive service designed to identify your innovation needs and provide a detailed blueprint for direct implementation.

State-of-the-art Design Saves Time, Money & Labor

CASE STUDIES



IN DESIGN FEASIBILITY

ENERGY:

A start-up energy company needed to develop a system to achieve reliable welds of various dissimilar system components and materials in order to support high-volume production goals.

EWI conducted an onsite assessment which led to weld feasibility studies, assistance in material selection, and design for welding. This help enabled the company to establish processes and transition successfully to production.



TRANSPORTATION:

A leading provider of comprehensive, progressive transportation solutions to the railroad and related industries needed assistance developing a cost-effective, mobile method for fast, high quality, weather-resistant welds.

EWI engineers helped them develop an innovative Head Defect Repair (HDR) process in which a damaged portion of a railhead is removed and a new steel wedge is flash welded into place, with no change in the neutral rail temperature.



Improved Processes Increase Productivity and Quality

CASE STUDIES



IN IMPROVING OPERATIONS

CONSUMER PRODUCTS:

A U.S.-based computer manufacturer needed to incorporate new technologies in a manual assembly workshop to increase efficiencies and enhance operations.

EWI conducted an onsite assessment of existing assets, procedures and goals to identify technological solutions. Several process changes were identified to quickly enhance operations. EWI designed product assembly cells utilizing collaborative robots to work alongside human co-workers.

[Read the full story](#)



ELECTRONICS:

A leading manufacturer of high reliability electrical components urgently needed to increase revenue per full-time equivalent (FTE) to achieve near-term business growth plans.

EWI conducted an onsite examination of the manufacturer's facility and existing capabilities, identifying gaps in equipment, workforce development, and process development in light of the company's goals. Detailed technology recommendations were provided based on a variety of key factors, each factor being scored against "ease of use implementation" and "impact" criteria to drive prioritization of technology solutions. Results supported the development of an automated cell solution that will increase quality and consistency for one manufacturing line.

[Read the full story](#)



Improved Processes Increase Productivity and Quality

CASE STUDIES

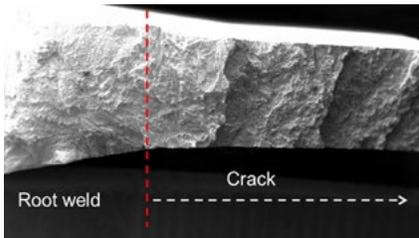


IN PROCESS ADAPTATION

AEROSPACE:

A fabricator of aerospace propellant tanks needed to find the root cause of vessel weld cracks during pressure-proof testing.

Following a design review, EWI ran a comprehensive failure analysis on samples using a thorough battery of testing methods. Contaminants in the cleaning solution used prior to welding were discovered, and the company was able to adjust its cleaning process to avoid further failure, which save both time and money.



AUTOMOTIVE:

A manufacturer of metal products needed to quickly assess the costs, risks, and potential ROI for using a thick alloy developed for the aerospace industry to make its new line of automotive products.

EWI applied computer modeling to simulate the forming process on the material, used the data to demonstrate viability, identified hardware requirements, and quickly assessed costs and potential profitability. Based on EWI's work, the company was able to modify its equipment and production processes without a lengthy, expensive period of trial-and-error testing.



Client Feedback



“**Great communication**, accommodating, professional test reports and quick turnaround.”

—Joe Strickland, Naval Air War Center

“**The approach** that we have undertaken has not only been validated, but will also be seamlessly integrated into our operations. Manufacturers will need to advance their previous thoughts on how to operate in this environment, and the team at EWI are perfectly positioned to help.”

—Clayton Spaeth, General Manager, REM-tronics

“**The people.** Their problem solving and tenacity to complete the tasks were excellent and made the project successful.”

—Art Kracke, Coogee Chemicals Pty Ltd.

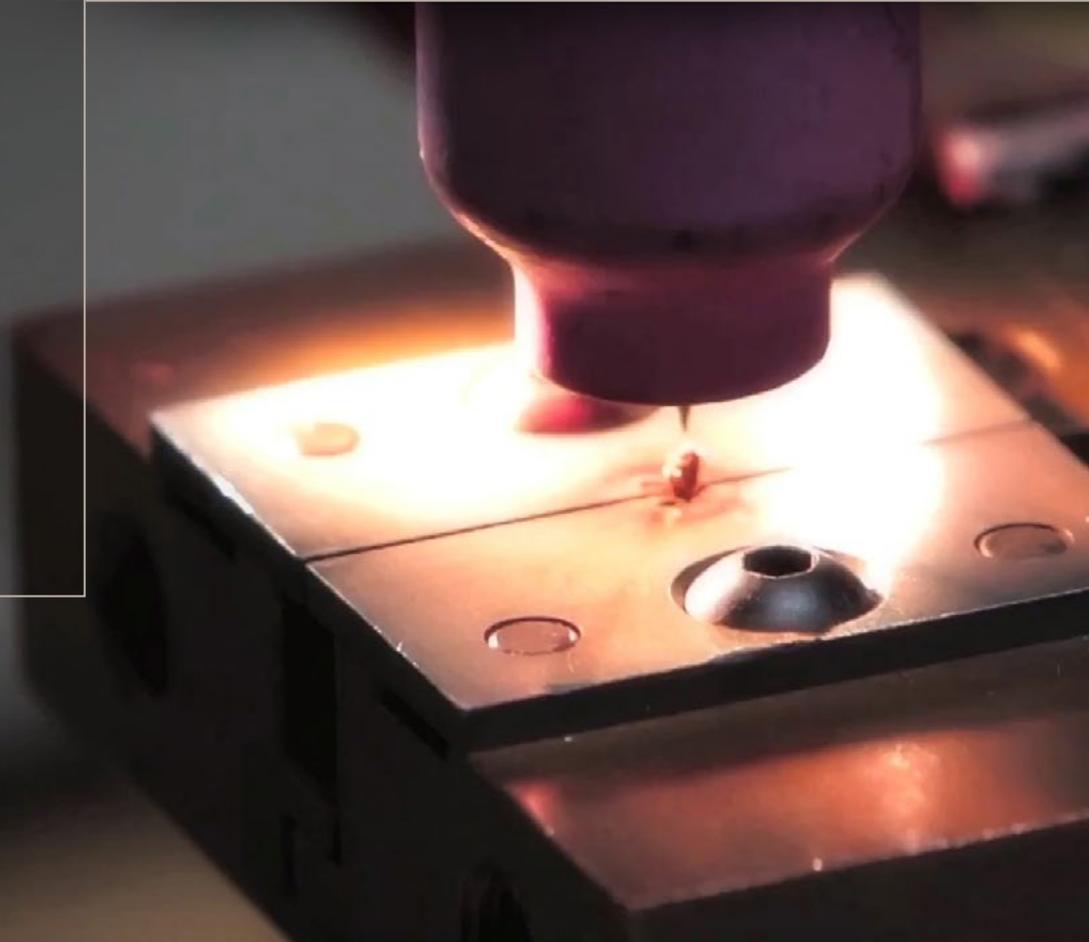


“**Following on the success** of the first exploratory project, EWI and Bak USA are now working on a full-scale program towards the socially conscious implementation of automation into our manufacturing process. The industry leadership and technical expertise demonstrated by the EWI team has been critical.”

—Christian Bak, Vice President, Bak USA Technologies Corp.

LOOK TO EWI FOR

- Assessments of existing capabilities and goals
- Design reviews and feasibility studies
- Detailed plans and out of the box solutions to achieve any manufacturing goal
- Onsite support to guide the successful integration of new technologies and operations procedures



About EWI



EWI is a world leader in developing and deploying new technologies that help companies overcome their manufacturing challenges. We design solutions to bridge the gap between R&D and manufacturing implementation, creating out-of-the-box options that deliver long-term competitive advantages. By partnering with EWI early in the design or development process, you benefit from:

- A depth and breadth of joining/forming processes with objectivity and no bias toward products or processes.
- A multi-disciplinary approach backed by deep expertise, agility and responsiveness.
- Hand-in-hand collaboration with your team.

Whether you are trying to join new or dissimilar materials; implement a novel technology, process, or material; or simply need an outside expert to provide unbiased advice for manufacturing applications, EWI can help. We have the expertise, knowledge base, and objectivity to help you identify the optimal design and production approaches to achieve your goals, and to connect you with the resources you need to succeed.

To learn more about EWI's advisory services, contact, Jon Jennings at **614.688.5000** or **jjennings@ewi.org**.

