

# Welcome to

# **EWI**<sup>®</sup>

## **COLORADO**



EWI Colorado, a state-of-the-art laboratory and facility for advanced manufacturing innovation, opened in November 2016. This newest EWI center of technology excellence focuses on advanced process monitoring and quality measurement for product development, during manufacturing, or for in-service applications. Working with EWI Colorado gives companies unparalleled access to the entire EWI network of lab facilities and engineering experts.

Our specialized services in Colorado include:

- Real time manufacturing process monitoring and analysis
- Advanced nondestructive evaluation (NDE)
- Computed modeling and simulation for NDE
- Computer vision and automated inspection
- Non-contact surface metrology and property measurement
- Inspection performance quantification
- Structural health monitoring
- Strategic planning
- Product development
- Design for "x" (e.g., manufacturing, reliability, safety, quality, cost, etc...)
- Applied research expertise in design and manufacturing
- Technology and manufacturing implementation

### **ABOUT EWI**

EWI engages with manufacturers and product development companies across the state and throughout North America to help them achieve their goals. We show companies how to gain a sustainable, competitive advantage by developing and implementing cutting-edge manufacturing technologies, enhancing productivity, and helping to solve business challenges. Whether you need to lower costs, improve production quality, create new product capabilities, reduce time to market or increase revenues, our network of experts can steer your business toward greater success.

EWI offers in-depth expertise in advanced materials, joining, forming, machining, automation, design, and modeling. Our labs enable full-scale testing and prototyping. With a host of advisory, development, and implementation services, EWI can assist you at all stages of the production process. Our technology capabilities include:



### **Nondestructive Evaluation**

- Phased array ultrasonics (PAUT and FMC/TFM)
- Array eddy current (AEC)
- Computed tomography (CT)
- Pulsed thermography
- Computer modeling and simulation for PAUT, AEC, and CT
- Microwave
- Quantification of NDE performance
- Dimensional metrology
- Optical surface characterization

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*We Manufacture Innovation*

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## Additive Manufacturing

- Powder-bed fusion (laser, electron beam)
- Directed energy deposition (arc, laser, electron beam)
- Sheet lamination (ultrasonic, friction stir)
- Vat photopolymerization
- Material jetting
- Binder jetting
- Material extrusion

## Advanced Automation

- Automation and controls
- Robotics
- Simulation
- Integrated vision systems

## Joining Processes

- Arc welding
- Laser welding
- Resistance & solid-state welding
- Friction stir welding
- Microjoining
- Brazing & soldering
- Ultrasonics joining
- Adhesives joining
- Plastics joining

## Forming Processes

- Cold/hot forming
- Formability analysis
- Tribology (friction, lubrication and wear)
- Forming process design and simulation
- Forming test and process demonstration

## Design & Integrity

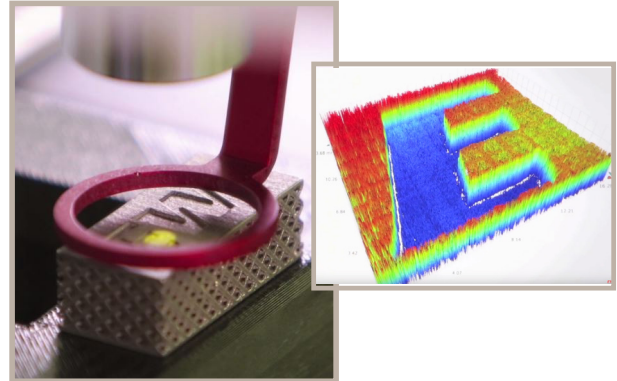
- Codes and specifications
- Design reviews
- Distortion control
- Fatigue design
- Fracture mechanics
- Fitness for service

## Fully-Integrated Modeling Capability

- Integrated weld modeling
- Microstructure modeling
- Finite element analysis of designs
- Residual stress management
- Structural integrity assessment
- Weld pool modeling

## Full Service Testing Capabilities

- Metallurgical
- Mechanical
- Weld qualification
- Surface characterization



## MEMBERSHIP BENEFITS

In addition to the services and products available to customers on a per-project basis, EWI offers membership in our organization to help companies get the most from working with us. With direct access to our technical staff, facilities, and library research services, members are able to solve their toughest problems, deliver higher quality products faster, and gain the competitive edge in a rapidly changing manufacturing environment.

Membership benefits include:

- **Technical Inquiry Service:** Members may phone, email, or fax us with unlimited technical inquiries and design review needs.
- **Library Services:** Use our library staff to access technical documents and information by performing literature searches and article retrievals.
- **Design Reviews:** Bring us your design problem, weld problem, technical, or general questions and we'll match your team up with staff members to help.
- **Access to EWI Member Central Web Site:** Submit library requests, send technical inquiries, view detailed reports, obtain Cooperative Research Program results, and more.

Since 1984, EWI has offered applied research, manufacturing support, and strategic services to leaders in the aerospace, automotive, consumer electronic, medical, energy, government and defense, and heavy manufacturing sectors. By matching our expertise to the needs of forward-thinking manufacturers, our team serves as a valuable extension of our clients' innovation and R&D teams to provide premium, game-changing solutions and help your organization reach its full potential.



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