

QCML Academic Partners

Western Illinois University
Northern Illinois University
University of North Texas
University of Illinois
Northwestern University
Eastern Iowa Community College
Iowa State University
University of Iowa
Black Hawk College
University of Northern Iowa

Engineering students have the opportunity for paid internships through QCML, where they are exposed to cutting edge materials, manufacturing, automation, and computing technology. The partnership between WIU and QCML creates a facility with a wide range of capabilities including advanced manufacturing and material design, robotics, automation, computational modeling and simulation, and virtual design environments.

QCML Business Partners

Joint Manufacturing & Technology Center
Lockheed Martin
GE Global Research
Caterpillar
Rockwell Collins
Carpenter Technology
Oerlikon Metco
Cristal Metals
Kondex
United Technologies Research Center
Army Corps of Engineers (CERL)
New Tech Ceramics
UI Labs
Illinois Manufacturing Lab
J. M. Waller Associates, Inc.
Innovative Design & Research Inc.

QCML Focus

- Research, development, and fabrication of lightweight metals, metal matrix composites, and other advanced materials
- Offer training and apprenticeship/mentoring programs
- Provide high-tech lab space and machinery for product development
- Introduce cutting-edge technology to local manufacturing base
- Offer localized training through area colleges and universities dealing with manufacturing technology
- Maintain vibrant manufacturing climate to stimulate transfer of knowledge and creativity
- Serve as an anchor facility for entrepreneurs



UAV engine component produced using 3D metal printing technology under a NAVAIR STTR with WIU and IDRC



Quad City Manufacturing Laboratory
1322 Gillespie St. Suite 102
Rock Island, IL 61201
Phone: 309-788-2089
Fax: 309-788-2086
www.qcml.org



***A National Resource and
Center of Excellence in
Advanced Materials and
Manufacturing***



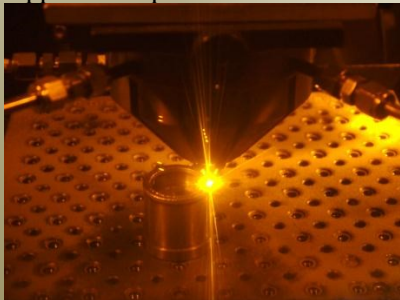
QCML Laboratory Facility
Located on Rock Island Arsenal

*QCML is a member of the
Digital Manufacturing and Design
Innovation Institute (DMDII)*

QCML is a not-for-profit 501 (c) (3) corporation focused on job retention and creation through the introduction of new materials and manufacturing technologies. QCML has over 10,000 square feet of lab space in Bldg. 299 at the Rock Island Arsenal.

Our mission is to:

- provide a national resource for research and development of advanced materials and manufacturing technology
- demonstrate and transition new cutting edge manufacturing technologies to partner organizations so that they may be responsive to emerging opportunities
- encourage and facilitate collaboration between research, manufacturing, and educational institutions within the Illinois/Iowa Quad City region
- conduct pilot production of parts made from advanced materials to aid in application qualification



Deposition of Wear-resistant Material to a Component Using Laser Cladding Technology



Titanium Lattice Structures Produced by 3D Metal Printing

QCML Equipment and Services

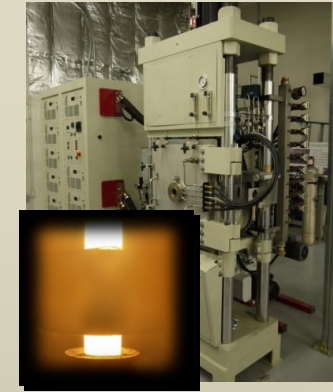
- Laser Additive Manufacturing
 - Powder Bed Fusion
 - Direct Energy Deposition
- Spark Plasma Sintering
- Friction Stir Welding & Processing
- Robotics
- Cold Spray Deposition
- Hot Isostatic Pressing
- Wire Electric Discharge Machining
- Planetary Ball Milling
- Solid Modeling and Design
- 3D Scanning
- Metallography, and Materials Testing and Analysis

QCML has extensive capabilities in both 3D metal printing and laser cladding technology.

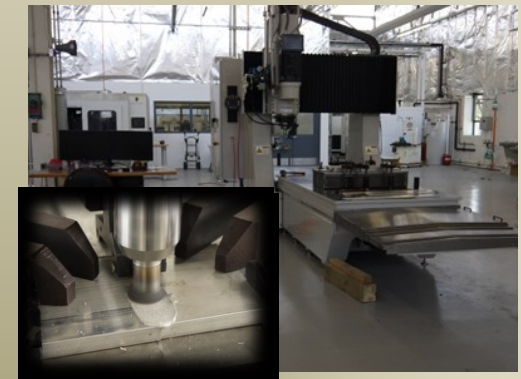
Laser cladding is often used to add wear-resistant material to extend the service life of a component. It can also be used to repair parts.



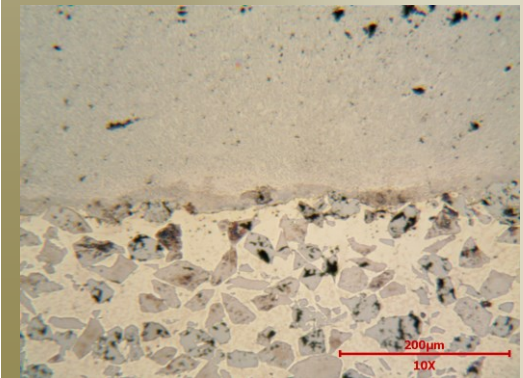
Powder Bed Fusion 3D Metal Printing System and Component Fabricated by 3D Metal Printing



Consolidation of Metal and Ceramic Materials Using a 25 Ton Spark Plasma Sintering System



Solid-State Joining of Materials Using a Friction Stir Welding System



Microstructural Analysis of Materials