

# BUILDING 21ST CENTURY MANUFACTURING TALENT

## Upskilling Incumbent Workers: Professional Certification in Lightweight Additive Manufacturing

An Education & Workforce Development Initiative for  
LIFT...Lightweight Innovations for Tomorrow



### THE PROBLEM

Ohio is ranked sixth in the nation for manufacturing employment concentration and the state's manufacturing industry contributes \$80.7 billion to the national economy. With over 700,000 workers employed in the field, manufacturing is integral to Ohio's success. Despite the strength of the industry, fewer individuals are entering the manufacturing field. In 2015, only 29,816 individuals completed training and degrees relevant to advanced manufacturing jobs while employers posted 83,742 available jobs in the state. Many efforts are underway to increase interest in advanced manufacturing among the future workforce. However, employers need workers to fill positions quickly. One way for manufacturers to get the talent they need for immediate success is to train their current workers in the new skills necessary for production.

### THE SOLUTION

The Siegal Lifelong Learning Program (SLLP) at Case Western Reserve University (CWRU) in Ohio was founded in 2012 with the mission to develop robust educational activities for working professionals. In collaboration with LIFT and other industry partners, SLLP will develop specialized programming for working professionals to increase their knowledge of lightweight metals and other advanced manufacturing technologies. This approach serves an unmet need for many employers and will be a high-quality, university-led program for upskilling incumbent workers to fill job demands.

### PROJECT LEAD

Case Western Reserve University Siegal office of Continuing Professional Studies

### PARTNERS

EWI  
Ohio Aerospace Institute (OAI)  
MAGNET  
The Timken Company  
Parker Hannifin  
Materion

### ABOUT THE PROJECT

SLLP Office of Continuing Professional Studies will create open enrollment courses in technical topics with input from project partners EWI, Ohio Aerospace Institute (OAI), and MAGNET to ensure that course materials align with industry needs across Ohio.

#### EWI

**Develops, tests, and implements advanced manufacturing technologies**

EWI is the leading engineering and technology organization in North America dedicated to developing, testing, and implementing advanced manufacturing technologies for industry.

#### OAI

**Enhances our partners' aerospace competitiveness**

OAI's mission is to enhance our partners' aerospace competitiveness through research and technology development, workforce preparedness, and engagement with global networks for innovation and advocacy.

#### MAGNET

**Supports, educates, and champions Northeast Ohio manufacturing**

MAGNET: The Manufacturing Advocacy and Growth Network is part of the Ohio Manufacturing Extension Partnership (MEP), which supports, educates, and champions Northeast Ohio manufacturing with the goal of transforming the regional economy into a powerful, global player.

### IMPACT



Additional training options for incumbent workers in Ohio



Increased enrollment in CWRU graduate programs related to advanced manufacturing



An increase in the skillset of workers employed by manufacturers in the state

## ALIGNMENT TO LIFT STRATEGIC FOCUS AREAS



Creating enhancements to engineering curriculum using lightweighting technologies



Linking and leveraging resources and related initiatives on the ground today



Attracting students and workers to educational pathways and careers in manufacturing



Ensuring students gain STEM foundational skills for success in manufacturing careers

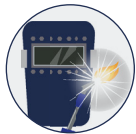
## Program graduates will receive higher education training in:



Advanced materials, including metals



Lightweighting



Welding



Advanced manufacturing techniques identified by employer partners

## The project may offer two unique features for future graduates:



Full-time employment at Parker, Materion, or another regional manufacturer

For additional information about Case Western Reserve Siegal Office of Continuing Professional Studies, please contact Monica Dumitriu at [mx2d@case.edu](mailto:mx2d@case.edu).

For more information, please see [lift.technology](http://lift.technology) or contact LIFT Education & Workforce Director Emily DeRocco at [ederocco@lift.technology](mailto:ederocco@lift.technology).

