



Materials + Process + Systems & Talent Development.

Materials: A key piece of our work since our inception is materials R&D. To understand advanced manufacturing of the future, you must understand the materials from which components will be made. From metals to composites and structures to hypersonics, our ecosystem is engaged with them all.

Process: Where materials R&D meets the manufacturing plant. Throughput, product variation, cycle time and quality all need to be understood before a new design or material can be deemed feasible. From extrusion to welding and robotics to additive, we can test and prototype any manufacturing process.

Systems: New materials and new components ultimately need to work in complex manufacturing systems. Through the use of state-of-the-art computer modeling tools, "digital twins" of components, processes and systems, we can help determine feasibility and system interactions long before the first die is cast or machine is purchased. LIFT can help industry partners with the digital tools and modelling capabilities to ensure that new materials and designs will work flawlessly the first time.

Talent: The critical piece in any industry. Our LIFT Learning Lab and online curriculae is preparing students and workers for the future of advanced manufacturing.

**LIFT is solving the
manufacturing equation!**



Living Detroit's Manufacturing Innovation Legacy Every Day

For over a century, Detroit has led the nation in advanced manufacturing innovation - from the assembly line to the "Arsenal of Democracy" during WWII to today's autonomous and electrified vehicles, and more.

We are proud to carry on that legacy in support of the U.S. manufacturing industry, our economy and our national security.

In the heart of American Manufacturing



LIFT



@NewsFromLIFT

1400 Rosa Parks Blvd,
Detroit, Michigan 48216
www.lift.technology
313-309-9003
communications@almmii.org



Driving American Manufacturing Into the Future Through Technology and Talent Development



Where Technology and Talent Matter!

LIFT is the national manufacturing innovation institute that is driving American manufacturing into the future through technology and talent development.

A public-private partnership between the Department of Defense, industry and academia, LIFT is a membership organization, linking Fortune 500 companies to small and medium-sized enterprises to advance American manufacturing technology and unlock its talent.

Future Manufacturing Technology

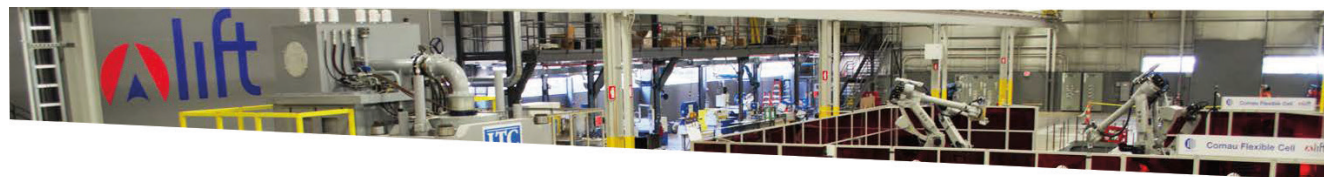
From robotics to artificial intelligence/machine learning to the digital twin, the next global industrial and economic powerhouse will be the region that masters smarter manufacturing first.

LIFT is the "trusted advisor" guiding U.S. manufacturers toward a Smarter Manufacturing future to support our nation's economy and enhance our national security.

Future Manufacturing Talent

As we develop new smarter manufacturing technologies, we are ensuring the next generation of advanced manufacturing talent is prepared for success.

Our LIFT Learning Lab is a unique, immersive learning facility with seven unique labs, powered by our IGNITE curriculum to prepare students for the most in-demand manufacturing careers.



LEADING Innovations For Tomorrow

Integrated Computational Materials Engineering (ICME) and Computational Engineering

- › ICME/Lab Materials Characterization
- › ICME Material Model Development & Licensing
- › ICME Education
- › CAD/CAE/CAM Industry Projects

Agile and Smarter Manufacturing

- › Wire Arc Additive Manufacturing (WAAM)
- › Cold Spray Additive Manufacturing
- › Direct Metal Laser Sintering (DMLS) Additive Manufacturing
- › Incremental Sheetforming (Robotic Blacksmithing)
- › Quality & ND Inspection of Additive Parts
- › Factory Automation Demo & Education
- › Digital Thread & Digital Twin Demo & Education
- › Orphan & Obsolete Parts

Advanced Alloy and Process Development

- › Lightweight Armor Development
- › Rare Earth Materials Process Optimization
- › Hypersonic Materials Development
- › Agile Tooling
- › Supply Base Development

Multi-Material Joining

- › Advanced Metallic Welding Process Development (GMAW, Friction-Stir, Linear Friction)
- › Metallic/Non-Metallic Joining
- › Quality and Inspection
- › Advanced Joining Education

LEARNING Innovations For Tomorrow

LIFT Learning Lab

The LIFT Learning Lab features seven unique labs equipped to prepare students for the most in demand manufacturing careers.

- › Smart Factory Digital Twin Lab
- › Fundamental Skills Development Lab
- › Flexible Learning Space
- › LIFT Virtual Learning Lab
- › ASM Materials Science & Project Fabrication Lab
- › CNC Operations Training Center
- › Welding Training Center

IGNITE: Mastering Manufacturing Curriculum

A three-year foundational competency model for the "multi skilled technician" needed in today's workplace.

- › Year 1: Materials Science & Intro to Manufacturing
- › Year 2: Advanced Manufacturing Systems 1
- › Year 3: Advanced Manufacturing Systems 2

World-Class Certification Programs

World-class nationally recognized certification programs to help workers gain new abilities or enhance their skills.

- › CNC Operations
- › Welding: Level 1 SENSE Certification

Operation Next

Enabling active-duty service members the opportunity to earn nationally portable, standards based, industry recognized credentials in high demand manufacturing fields.

- › CNC Machining
- › Industrial Technology Maintenance
- › Welding



Contact us to learn more:

communications@almmii.org • 313-309-9003