

# LIFT – Lightweight Innovations For Tomorrow



**M**etalworking has existed for thousands of years. However, there is plenty of room to innovate in one of the most mature materials in manufacturing ... including making it lighter.

That is why LIFT – Lightweight Innovations For Tomorrow was established – to revolutionize lightweight metals manufacturing through innovation and education.

One of the founding members of Manufacturing USA, a federal initiative to re-establish the United States as the world leader in advanced manufacturing, LIFT was set up in Detroit in 2014. Operated by the American Lightweight Materials Manufacturing Innovation Institute (ALMMII), LIFT is a public-private partnership designed to develop and deploy advanced lightweight materials manufacturing technologies and implement education and training programs to prepare the workforce.

Its 100,000-square-foot facility, which LIFT shares with IACMI – The Composites Institute, opened in late 2017 and boasts an 87,000-square-foot high bay. The facility also includes nearly

\$50 million worth of full-scale equipment for research and development in both metals and composite materials.

LIFT has set its sights on being best-in-class at its Detroit facility in thermomechanical and power processing, as well as agile forming and Integrated Computational Materials Engineering (ICME) across the aerospace, automotive, shipbuilding and defense industries. Its thermomechanical processing R&D work is performed in Detroit with the support of an extrusion press, hydroforming press and stamping/forming presses.

LIFT will also house a one-of-a-kind linear friction welder. Currently being built by MTI in South Bend, Ind., the machine will be one of the only linear friction welders available for R&D work. Coming online in 2018, the welder has immediate applicability in the aerospace and automotive industries. LIFT is looking forward to exploring how it can support other industries as well.

LIFT's network of academic and industry experts around the country will help it in other areas, such as joining and assembly; coatings and melt processing; life-cycle analysis; validation/certification; and cost modeling. LIFT provides the ability for its members to conduct proprietary R&D work at its facility and across the network and also government and industry-funded collaborative work. It also helps support small and medium-sized manufacturers with services like design and prototyping, engineering and technology assessments.

This new IHEA member is building a unique national asset to focus on building the talent pipeline of advanced manufacturing technicians. The LIFT Learning Lab will provide resources for the entire continuum of talent development, including:

- Students, teachers and faculty from K-12
- Community and technical colleges
- University and graduate degree programs
- Incumbent workers in small, medium and global enterprises

*Visit [www.lift.technology](http://www.lift.technology) for more information on LIFT and how you can become a member or work with us on your metalworking problems.*

