

An Investment in Advanced Manufacturing.

An Investment in Detroit.

The LIFT Manufacturing Center is a 115,000 square foot applied research and development facility located in the oldest neighborhood in one of America's great manufacturing cities—Detroit.

LIFT offers time to do lightweighting research and manufacturing work on it's state-of-the-art equipment, as well as assistance from it's world-class engineering experts.

The LIFT Advanced Manufacturing Center is bringing new life to U.S. manufacturing and the historic Corktown neighborhood of Detroit.

We are revolutionizing the manufacturing industry through lightweighting technology and education & workforce development.



LIFT is one of the founding members of Manufacturing USA, a network of advanced manufacturing institutes bringing together industry, academia and federal partners within to increase U.S. manufacturing competitiveness and promote a robust and sustainable national manufacturing R&D infrastructure.

A public-private partnership, LIFT is funded in part by the Department of Defense, managed by the Office of Naval Research and supported by the Michigan Economic Development Corporation (MEDC).



The LIFT Advanced Manufacturing Center

The nation's premier lightweighting applied research and development manufacturing facility



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





The High Bay

The LIFT Advanced Manufacturing Center is nearly 115,000-square feet of space dedicated to applied research, development and education around lightweight metals, transitioning those breakthroughs to the market, and educating the workforce.

Offering unique capabilities and one-of-a-kind pieces of equipment, LIFT is home to some of the most innovative technology anywhere.

We are revolutionizing the manufacturing industry through lightweighting technology and education.



Capabilities

LIFT has both in-house professionals as well as a national network of experts from the manufacturing industry and academia to meet all of your lightweight metals needs.

Equipment and Services include:

- ▶ Joining and Assembly
- ▶ Thermo-mechanical Processing
- ▶ Power Processing
- ▶ Coatings
- ▶ Melt Processing
- ▶ Agile Processing
- ▶ Integrated Computational Materials Engineering (ICME)
- ▶ Engineering Services
- ▶ LIFT Industrial Commons / Core Sites: \$180 million in equipment value



LIFT Manufacturing Center Equipment

Extrusion Press

- ▶ Capacity: 12 MN / 1,344 Tons
- ▶ Extrusion Ø: 250mm / 6.18"
- ▶ Extrusion Length: 80' / 90'

Flexible Joining System

- ▶ 40' x 50' cell
- ▶ 16'x40' work zone for tooling
- ▶ Arc and Spot welding
- ▶ Bonding
- ▶ Mechanical joining

Hydroforming Press

- ▶ 1,000 ton clamping actuator
- ▶ 64" FB x 76.5" SS x 36" Daylight
- ▶ 20,000 psi pressure intensifier
- ▶ 20" Shut Height

Stamping/Forming Press

- ▶ Multi-purpose
- ▶ Double Action—300 ton clamp x 230 punch
- ▶ Local and in-die temperature control
- ▶ 35" FB x 35" SS x 324" Daylight

Hot Isostatic Press

- ▶ 30,000 psi of working pressure
- ▶ Interior: 10" diameter x 30" length
- ▶ Hot Zone: 6" diameter x 12" length
- ▶ Rapid Cooling

Plasmatreat Cell

- ▶ Robot: R1000A, 2.23M reach, 80Kg, 6 axis
- ▶ Large Working Area 1'M x 1'M

Metal Injection Molding

- ▶ 110 U.S. ton total clamping force
- ▶ Distance between tie bars 18.5" x 18.5"
- ▶ Injection Unit Horizontal: 25mm screw @ 59cm³ volume

Tilt-Pour Casting

- ▶ 36"x 38" mold size
- ▶ Up to 4,000 lb mold weight
- ▶ Nearly 60,000 lb clamping pressure
- ▶ Robot for loading molten material

Linear Friction Welding

- ▶ Largest flexible unit in North America
- ▶ 35 ton oscillating force
- ▶ 75 ton forge force

AL Heat Treating

- ▶ Mechanical Convection Oven, 4.2 cu. ft.
- ▶ Temp Range: 15° C above ambient to 704° C

CT Scanner (NDT)

- ▶ Equipment Dimensions: 2590mm x 2330mm x 2336mm
- ▶ Detector: 2048 x 2048 pixels, pixel size 200 µm

Robotic Blacksmithing

- ▶ 2 robots: R2000iC, 2.65M reach, 165 Kg, 6 axis

Machine Shop and Materials & Quality Lab

- ▶ Various tools to support manufacturing
- ▶ Making and editing tools
- ▶ Quality inspection
- ▶ Materials Lab



**Contact us to learn more, or to
schedule time on the LIFT Equipment**

www.lift.technology/lift-high-bay • 313-309-9003