



Where Manufacturing Technology and Talent Matter

A Public-Private-Partnership:  
Department of Defense – Industry – Academia



# LIFT Ecosystem Accelerator Program (LEAP 2022) Project Call

# LIFT Ecosystem Accelerator Program 2022

## Instructions

- ▲ Complete the attached forms to submit your project
- ▲ Include proposed budget (Maximum \$100,000 from LIFT ) and timeline (6 months )
- ▲ Projects will be evaluated on:
  - ▲ Technological Merit
  - ▲ Technology MRL level
  - ▲ Program Timing
  - ▲ Funding Requirement
  - ▲ LIFT Member Engagement
  - ▲ Planned use of LIFT's High-Bay Equipment.
  - ▲ Cost Share Commitment
- ▲ Submit completed forms to <https://lift.technology/project-calls/>

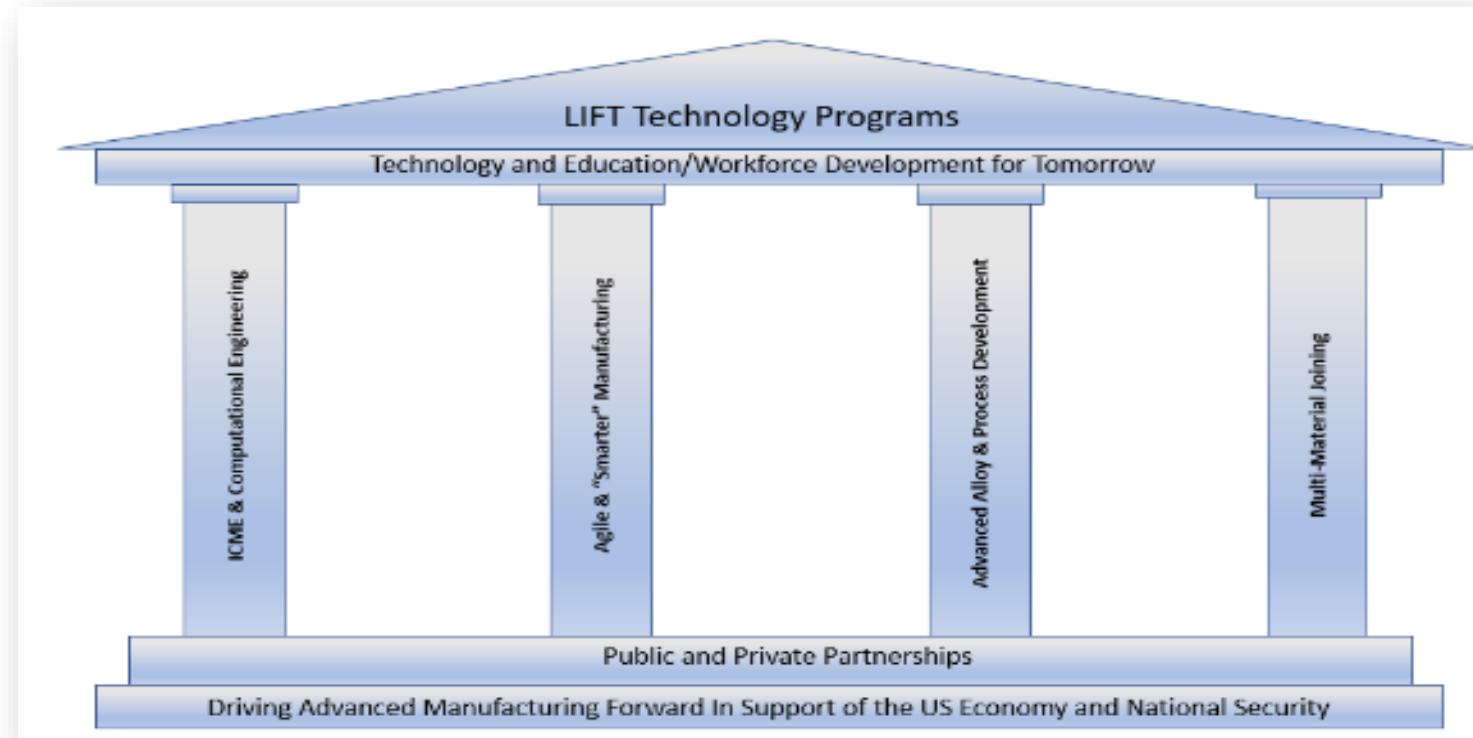
### Click to register for LIFT's Q&A Sessions:

- [April 13 at 1 p.m. ET](#)
- [April 21 at 11 a.m. ET](#)

# LEAP 2022

## Project Summary

- ▲ Open to all LIFT members
  - ▲ Awardee must be a LIFT Silver member or higher tier
  - ▲ All project consortium members must be a LIFT member in good standing for award
  - ▲ Non-members and/or lower tier members may submit proposals but ***must join membership or upgrade to minimum Silver tier if awarded***
- ▲ Subject(s) must be aligned with the four LIFT Technology Pillars
- ▲ Subject(s) defined by five (5) topics



# LEAP 2022

## LIFT Technology Pillars

### ICME & Computational Engineering

- ▲ ICME/Laboratory 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 Additive Manufacturing (DMLS)
- ▲ Incremental Sheet-forming (Robotic Blacksmithing)
- ▲ Quality & ND Inspection of Additive Parts
- ▲ Factory Automation Demonstration and Education
- ▲ Digital Thread & Digital Twin Demonstration and Education
- ▲ Orphan & Obsolete parts

### Advanced Alloy & Process Development

- ▲ Lightweight Armor Development
- ▲ Rare Earth Materials Process Optimization
- ▲ Hypersonic Materials Development
- ▲ Agile Tooling
- ▲ Supply base development to accelerate manufacturing readiness (MRL)

### Multi-Material Joining

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

# LEAP 2022

## Project Timing

- ▲ Proposal Deadline: May 13, 2022
- ▲ Project Announcements: June 2022
- ▲ Subawards contracting: Starting June after announcements
- ▲ Projects must be completed by March 31, 2023
  - ▲ Max six (6) month project duration
  - ▲ Final report due April 30, 2023
- ▲ Debrief to non-awardees: June 2022
  - ▲ Including discussion regarding further developing project ideas into “white papers” for submission in future proposals

# LEAP 2022

## Project Funding

- ▲ Max \$100,000 LIFT contribution per project
  - ▲ Minimum industry cost-share 20% of Total Project Value
  - ▲ Cost-share (recommended at 1:1) is strongly considered in project selection
  
- ▲ Award will be cost reimbursable – no fee
  - ▲ Not to Exceed amount of LIFT award
  - ▲ To be billed on a monthly basis as costs are incurred
  
- ▲ Fully burdened cost proposal required at submission deadline

# LEAP 2022

## Decision Criteria

- ▲ Technological Merit
  - ▲ Aligned with project topics
  - ▲ Aligned with LIFT pillars
  
- ▲ Technology MRL
  - ▲ MRL 4-7 Only (below 4 and above 7 disqualified)
  - ▲ Moves the TRL/MRL by 1 or 2 points
  
- ▲ Funding requirement
  
- ▲ Cost share commitment
  - ▲ Including services, materials etc.
  
- ▲ LIFT member engagement
  - ▲ Lift Silver member or higher
  - ▲ LIFT Ecosystem involvement
  
- ▲ Use of LIFT High-Bay and Equipment
  - ▲ <https://lift.technology/facilities/>

# LEAP 2022

## Topics for LEAP 2022 Project Call

- ▲ Simulation and manufacturing of hybrid materials (MMCs, CMCs)
  - ▲ Relevant to extreme environments (barrel liners, rotating bands, ballistics, armor, hypersonics, ...)
  - ▲ Interest in the application of cold spray, welding, direct current sintering, ...
  
- ▲ High-throughput characterization for rapid qualification of materials, processes, and/or parts.
  - ▲ A new and a critical interest area as well as our advancing programs and technical direction.
  
- ▲ Simulation and manufacturing of functionally graded materials
  - ▲ Laminar and/or continuously-graded
  - ▲ Interest in the application of additive manufacturing, direct current sintering, cold spray ...
  
- ▲ Solid-state joining of significantly dissimilar materials (e.g. glass/sapphire to metal, MMCs to CMCs, ceramic to metal, ...)
  - ▲ Simulation to predict processing parameters and results
  - ▲ Manufacturing (e.g. LFW, FSSW, rotary friction, ...)
  
- ▲ Advanced diagnostics for process adjustments and predictive maintenance
  - ▲ Opportunities for Augmented Reality, separating the operator and the process
  - ▲ Considerations of wireless connectivity, mobile devices, 5G





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# LIFT Ecosystem Accelerator Program (LEAP 2022) Project Submission Form





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# THANK YOU!



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LIFT:  
(313) 309-9003  
[communications@almmii.org](mailto:communications@almmii.org)  
[www.lift.technology](http://www.lift.technology)