



Where Manufacturing Technology and Talent Matter

The National Advanced Materials Manufacturing Innovation Institute

Introduction and Overview

LIFT is operated by the American Lightweight Materials Manufacturing Innovation Institute (ALMMII), a Detroit-based nonprofit public-private partnership



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What is LIFT?



Driving American Advanced Manufacturing Into the Future Through Technology and Talent Development

LIFT is an accelerator convening and connecting government, industry and academia in the fields of **advanced materials, manufacturing processes, systems engineering and talent development** to enhance America's manufacturing competitiveness, national economy and national security.



Nonprofit 501(c)3 | Public-Private Partnership | Member Based

The LIFT Advantage



Trusted Advisor: With experts in-house and an ecosystem across industries, LIFT is the trusted advisor for small and medium-sized manufacturers to help them transition toward the future.



Technology Accelerator: LIFT helps organizations move emerging technologies from advanced concepts to commercialization so they can be adopted by industry and the warfighter faster.



Technology Showcase and Sandbox: Bringing the “art of the possible” to reality, the LIFT Technology Showcase and Sandbox is where manufacturers see the benefits of connecting materials, processes, systems and talent.



Connector: As a public-private-partnership between government, industry and academia, LIFT connects needs, ideas and people, to the organizations that can move the needle.



Convener: With a national network of the Department of Defense, government, academia and industry, LIFT convenes experts in advanced manufacturing.



Talent Developer: Developing new venues, tools and teaching techniques, LIFT’s competency-based, technology-infused talent development program is redefining manufacturing education.



Government Partner: LIFT’s partnerships across the federal government eliminate barriers of entry for your organization and ensure rapid and efficient contracting combined with expert program management.

Materials Are of National Importance

“An improved Materials Innovation Infrastructure would deliver between **\$123 billion** and **\$270 billion** in value annually.”

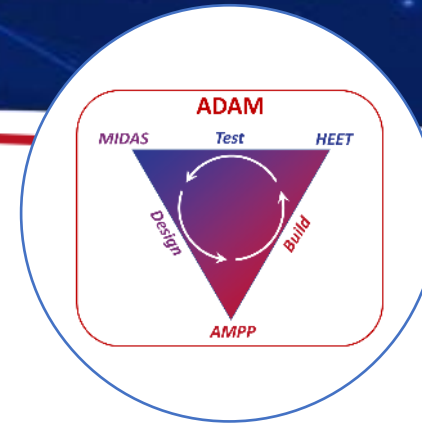
Economic Analysis of National Needs for Technology Infrastructure to Support the Materials Genome Initiative, 2018

“Advanced materials explore **innovative new materials** and **novel manufacturing techniques** that can dramatically improve many of the Department's capabilities. Materials that **have higher strength, lighter weight, higher efficiency**, and can handle more **extreme temperatures** will have the potential to better protect our service members and enhance their ability to accomplish their missions.”

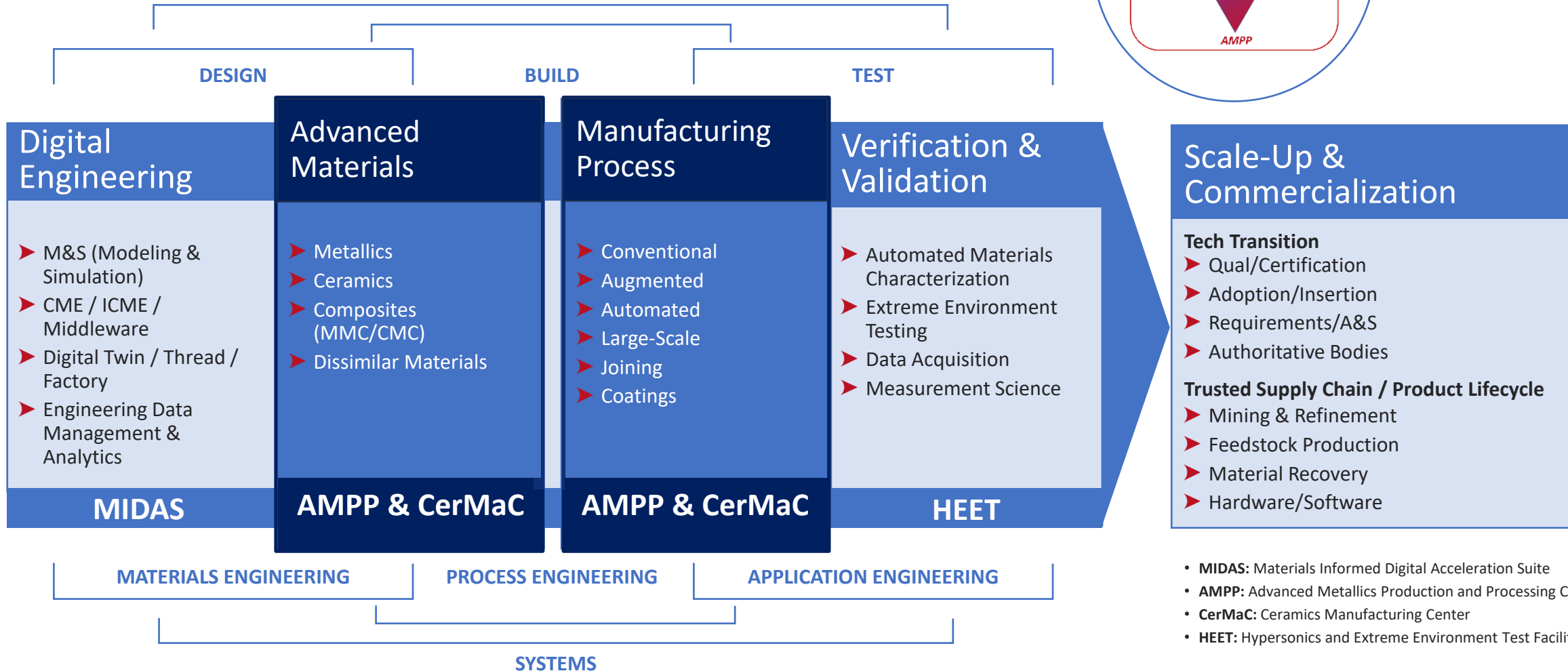
Office of the Under Secretary of Defense, Research & Engineering (OUSD(R&E))
Strategic Vision & Critical Technology Areas, 2022



Leading Innovations for Tomorrow



ACCELERATED DEVELOPMENT OF ADVANCED MATERIALS (ADAM)



- **MIDAS:** Materials Informed Digital Acceleration Suite
- **AMPP:** Advanced Metallics Production and Processing Center
- **CerMaC:** Ceramics Manufacturing Center
- **HEET:** Hypersonics and Extreme Environment Test Facility

Preparing Tomorrow's Advanced Manufacturing Workforce



A 3-year foundational high school curriculum to develop the “multi-skilled technician” needed in today’s workplace

- ▶ Year 1: Materials Science and Introduction to Manufacturing
- ▶ Year 2: Advanced Manufacturing Systems 1
- ▶ Year 3: Advanced Manufacturing Systems 2



An innovative credentialing program for active-duty servicemembers, veterans, National Guard and Reservists, spouses and civilians, in nationally portable, industry-recognized and high-demand manufacturing fields.

- ▶ CNC Machining
- ▶ Welding
- ▶ Robotics
- ▶ Industrial Technology Maintenance



A state-of-the-art interactive learning facility, located in the LIFT Detroit facility, the LIFT Learning Lab features six unique labs to prepare students for the most in-demand manufacturing careers.

- ▶ Smart Factory Twin Lab
- ▶ Fundamental Skills Development Lab
- ▶ LIFT Virtual Learning Lab
- ▶ Materials Science & Project Fabrication Lab
- ▶ Welding Technician Training Center
- ▶ CNC Operations Training Center

The LIFT Program

The National Advanced Materials Manufacturing Innovation Institute

- ▶ 100K sq.-foot headquarters in Detroit – The heart of American Manufacturing
 - ▶ \$50M+ in state-of-the-art advanced manufacturing equipment
 - ▶ 7,500+ visitors annually
- ▶ 5M sq.-feet of active and available industrial commons across the country
- ▶ 30+ active technology projects involving large OEMs & small manufacturers employing 1,000s nationwide
- ▶ Talent operations active in 25 states and territories
- ▶ 4,000+ people engaged in LIFT STEM and Career Technical Education (CTE) programs
- ▶ Meeting our national mandate via satellite operations in Puerto Rico and Florida
- ▶ ROI to taxpayers greater than x100





Thank You

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LIFT



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