# ADVANCED MANUFACTURING INITIATIVE RESULTS

ESD Designated Regional
and Statewide MEP Centers


NEW YORK
Manufacturing
Extension Partnership

# Advanced Manufacturing Initiatives Program

## Advanced Materials

New regulations targeting waste reduction and toxic material use are creating challenges for NY manufacturers and startups. These include a lack of understanding of the regulations, lack of awareness of material replacement options, and an inability to implement changes in materials and processes to comply with these regulations.

The Advanced Materials Technical Assistance Program has been designed to provide education, technical assessments, and funding opportunities for NY MEP Centers to assist manufacturers who are looking to replace materials in their products with more sustainable options.

FUZEHUB

Learn more here:
**fuzehub.com**

## Cybersecurity

Whether it's due to industry standards, government requirements, an eye towards growth, or a desire to keep your business and client's information protected, cybersecurity should be on the forefront of the priorities of every manufacturer.

The NYS Cybersecurity Manufacturing Initiatives Grant is designed to help manufacturers tackle common cybersecurity challenges in a practical and understandable way. It offers in-person assessments by professionals who specialize in working with small and medium-sized manufacturers. Additionally, the grant provides funding assistance for both assessments and implementation projects.

aim Advanced Institute for Manufacturing

Learn more here:
**aim-mep.org**

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## Industry 4.0

In today's manufacturing landscape, enterprises are confronted with a multitude of challenges, ranging from workforce shortages and supply chain disruptions to unyielding global competition. As technology continues to advance at a rapid pace, manufacturers find themselves in a race to adopt and leverage these innovations, or risk falling behind.

Our Industry 4.0 Advanced Manufacturing Initiative is here to provide a guiding light, offering funding opportunities for technology projects that address the pressing issues faced by manufacturers. Additionally, we can assist you in demystifying the complexities of Industry 4.0, ensuring that you can harness these innovations effectively.

AMT Alliance for Manufacturing and Technology

Learn more here:
**amt-mep.org**

## Supply Chain

For a manufacturer, their supply chain is vital to their operations, profit, cash flow, and reputation. Managing suppliers, capacity, and inventory to meet anticipated needs while containing costs allows for a predictable production process and profitability.

The NYS Supply Chain Manufacturing Initiatives Grant is designed to help manufacturers assess their management of suppliers, planning, purchasing, logistics, and inventory against established best practices and prioritize opportunities for improvement.

TDO TRAIN DEVELOP OPTIMIZE

Learn more here:
**tdo.org**

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# 2024 Advanced Materials Results

**9 Projects**
have been awarded

**Over $120K**
has been distributed

A small manufacturer of medical manikin needs assistance changing from petroleum-based plastics to plant-based, which are more sustainable, less expensive, and allow for faster customization, but require the development of additional safety handling processes.

A company that uses sand molds to cast valve parts is interested in replacing silica sand (hazardous) with ceramic sand (non-hazardous and can be reclaimed), and switching to a greener binder/catalyst in molding process.

A medical device company developed a filter used in lab settings that was intentionally made to be a single-use consumable to reduce the risk of cross-contamination. Based on user feedback that indicated a strong interest in a more sustainable option, alternative materials are being investigated that would still meet the same performance requirements.

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# Cornell Webinars

The Cornell webinars were intended to provide foundational knowledge on the advanced materials for the AMI initiative by providing both context and knowledge using Cornell experts.

**Keynote 1** was the history of AMs and how AMs shape everyday life.

**Keynote 2** delved into the processes for developing new AMs and how they fit into a variety of supply chains.

**Keynote 3** provided an in-depth use case for AMs, specifically in microelectronics.

**Keynote #1**

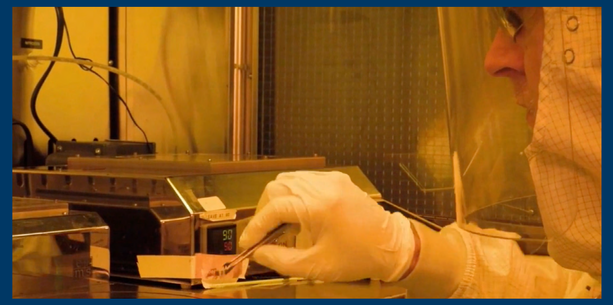
## Advanced Materials:
Transforming Every Aspect of Life

**603 views**

**Keynote #2**

## Use-Inspired Design:
Advanced Materials for Supply Chain Optimization

**163 views**



**Keynote #3**

## The Materials of Microelectronics

**719 views**

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# 2024 Cohort 1

## Cohort 1 Highlights

- 15 advanced material companies participated in the 10-module manufacturing accelerator curriculum.
- Each company was assigned a mentor to assist with documentation development and ecosystem connections.

## Key Accomplishments

- Companies developed Product Requirement Documents (PRDs) and Manufacturing Readiness Level (MRL) Roadmaps.
- Participants toured valuable facilities:
    - Cornell Center for Material Research
    - RIT Center of Excellence in Manufacturing
    - Three contract manufacturers in the Rochester area

## MRL Assessments

- All companies received MRL self-assessment templates.
- Six companies were awarded professional MRL assessments from the RIT Center of Excellence.
- Five assessments were completed by the end of June.
- Follow-up evaluations planned for companies reaching key project milestones.

## Roadmap Submissions and Project Development

- All companies had the opportunity to submit roadmaps to RIT.
- Four teams engaged in follow-up discussions with RIT.
- Two teams are currently defining Scope of Work for projects with the RIT Center of Excellence.

This initiative has successfully guided advanced material companies through crucial stages of manufacturing readiness, fostering connections within the ecosystem and providing valuable resources for production advancement.

# 2024 Cohort 2

### Cohort 2 Progress

- 12 advanced material companies participated in the 10-module program.
- To date, 7 modules have been successfully delivered.

### Facility Tour

- Participants toured valuable facilities:
    - Cornell Center for Material Research
    - Cornell University's machine shop
    - RIT Center of Excellence in Manufacturing
    - Three contract manufacturers in the Rochester area

### Upcoming Opportunities

- Companies will have the opportunity to submit their roadmap projects to RIT.
- RIT will consider these projects for potential COE (Center of Excellence) and P2I (Prototype to Industry) collaborations.

**This cohort builds on the success of the previous year's program, continuing to provide valuable resources and connections for advanced materials companies in New York State's manufacturing sector.**

# 2024 Cybersecurity Results

**55**

companies awarded grants

The grant awards were distributed to centers in all 10 New York State regions, with the majority of the awards going to manufacturers in the DoD supply chain.

**$330K**

award funds distributed

3 completed LIVE events in various locations: Long Island (September 2023), Mohawk Valley (February 2024), and the Southern Tier (May 2024). These events hosted 158 total attendees.

# 2024 Industry 4.0 Results

**18**
companies awarded mini-grants across NYS

**$274,145**
in awarded funds

**5 Projects**
completed in 2024, the balance finishing in 2025

Created a database of proven technology providers that NY MEPs can use to support manufacturers to implement technology improvements.

Designed and launched case study videos on cobot machine tending and sensor-integrated production software, highlighting gains in safety, efficiency, and productivity. **Check it out here.**

Delivered training on current technology options in Augmented Reality, Artificial Intelligence, Automation, Smart Devices and Digital Technology.

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# 2024 Supply Chain Results

**523**

supplier scouting requests

Of these requests, there were 176 matches and are 24 in process.

51 supplier scouting requests were completed from New York State startups or manufacturers since January 2024. Of these, 41 matches were made and 8 are in process.

**36**

assessments completed since January 2024

From January 2024 to February 2025, the industry with the most assessments was machinery, followed by metal fab, electrical equipment, food, printing, chemicals, apparel, transportation equipment, and other, respectively.

**25**

post-assessment engagements completed

Post-assessment engagements included supplier scouting [6], frieght cost reduction [3], tools (inventory management, scheduling, budget) [3], sales & operations planning [3], gross margin analysis [2], sales growth [2], trade [2], supplier management [2], and other [2].

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& connect with your local MEP Center.

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