



# DoD Manufacturing USA Institutes

Presentation to Advanced Manufacturing Office  
Technical Resources Network Forum  
June 15, 2017

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# DoD Institutes Introduction

## Overview



### WHY

The U.S. is not doing well in the Global Economy, and needs a reinvigorated Manufacturing Sector that includes a strong Defense Industrial Base.

### HOW

Transform manufacturing in the U.S. through innovative, coordinated:

- ***Technology Development***
- ***Technology Transition and Dissemination***
- ***Workforce & Educational Outreach***



### WHAT

Increase the yield of innovative products and increased domestic manufacturing competitiveness.

**Collaborate ~ Innovate**

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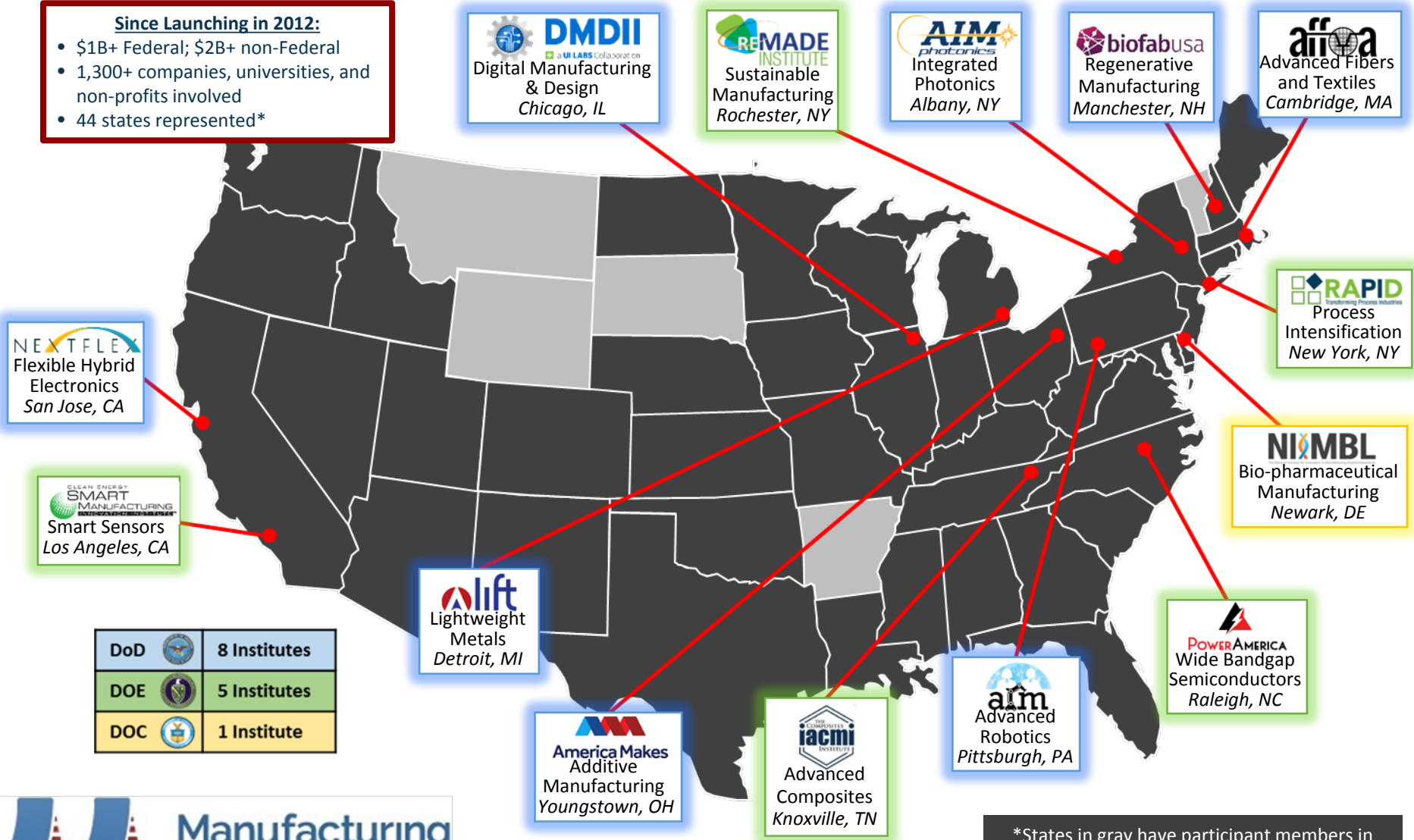


# DoD Institutes Introduction

## All Current Manufacturing USA Institutes

**Since Launching in 2012:**

- \$1B+ Federal; \$2B+ non-Federal
- 1,300+ companies, universities, and non-profits involved
- 44 states represented\*



|     |  |              |
|-----|--|--------------|
| DoD |  | 8 Institutes |
| DOE |  | 5 Institutes |
| DOC |  | 1 Institute  |

\*States in gray have participant members in Manufacturing USA Institutes





# DoD Institutes Introduction

## Current DoD Institutes



### America Makes: The National Additive Manufacturing Innovation Institute

Est. AUG 2012 (Youngstown, OH)



### Digital Manufacturing and Design Innovation Institute (DMDII)

Est. FEB 2014 (Chicago, IL)



### LIFT - Lightweight Innovations For Tomorrow

Est. FEB 2014 (Detroit, MI)



### AIM Photonics (photonic integrated circuits)

Est. JUL 2015 (Albany, NY)



### NextFlex (flexible hybrid electronics)

Est. AUG 2015 (San Jose, CA)



### Advanced Functional Fabrics of America (AFFOA) – (revolutionary fibers and textiles)

Est. APR 2016 (Cambridge, MA)



### Advanced Regenerative Manufacturing Institute (ARMI) (advanced tissue biofabrication)

Est. DEC 2016 (Manchester, NH)



### Advanced Robotics for Manufacturing (ARM)

Est. JAN 2017 (Pittsburgh, PA)

This presentation does not contain any proprietary, confidential, or otherwise restricted information. DMDII Facility in Chicago, Illinois

- DoD MILs part of Manufacturing USA: whole-of-government effort, in partnership with industry & academia
- Strategically aligning resources to address targeted technology spaces
- Creating ‘industrial commons’ for manufacturing R&D, workforce education and development
- Catalyzing defense and broader industrial ‘innovation ecosystems’ across the nation
- Accelerating trust in supply chain development with diversified risks





# DoD Institutes Introduction

## DoD Institutes Design Tenets



- Industry driven, public-private partnerships
- Regional hubs of manufacturing excellence
- Investments in applied research and industrially-relevant manufacturing technologies
- Required focus on education and workforce development needs

**Tenets meet key DoD ManTech requirements and are aligned with Manufacturing USA**



# DoD Institutes Success

## Technology Innovations & Ecosystem Growth



### Fast Facts:

- 27** Total technology R&D projects completed to date
- 171** Total number members/partners who participated in those projects
- 162** Total number of technology R&D projects ongoing
- 903** Total number of members/partners who are participating in those projects
- 55** Total number of technology R&D projects approved by the institute for execution but have not yet been started



# DoD Institutes Success

## Education and Workforce Development



### Fast Facts:

**39,503** Number of students who have completed training or education programs through the DoD Institutes

**45** Total number of apprenticeships completed







# Manufacturing USA Success

## Organizational Relationships

### Deloitte Report Extract:

**9,424**

Relationships between organizations

**1,174**

Organizations involved with the program

**753**

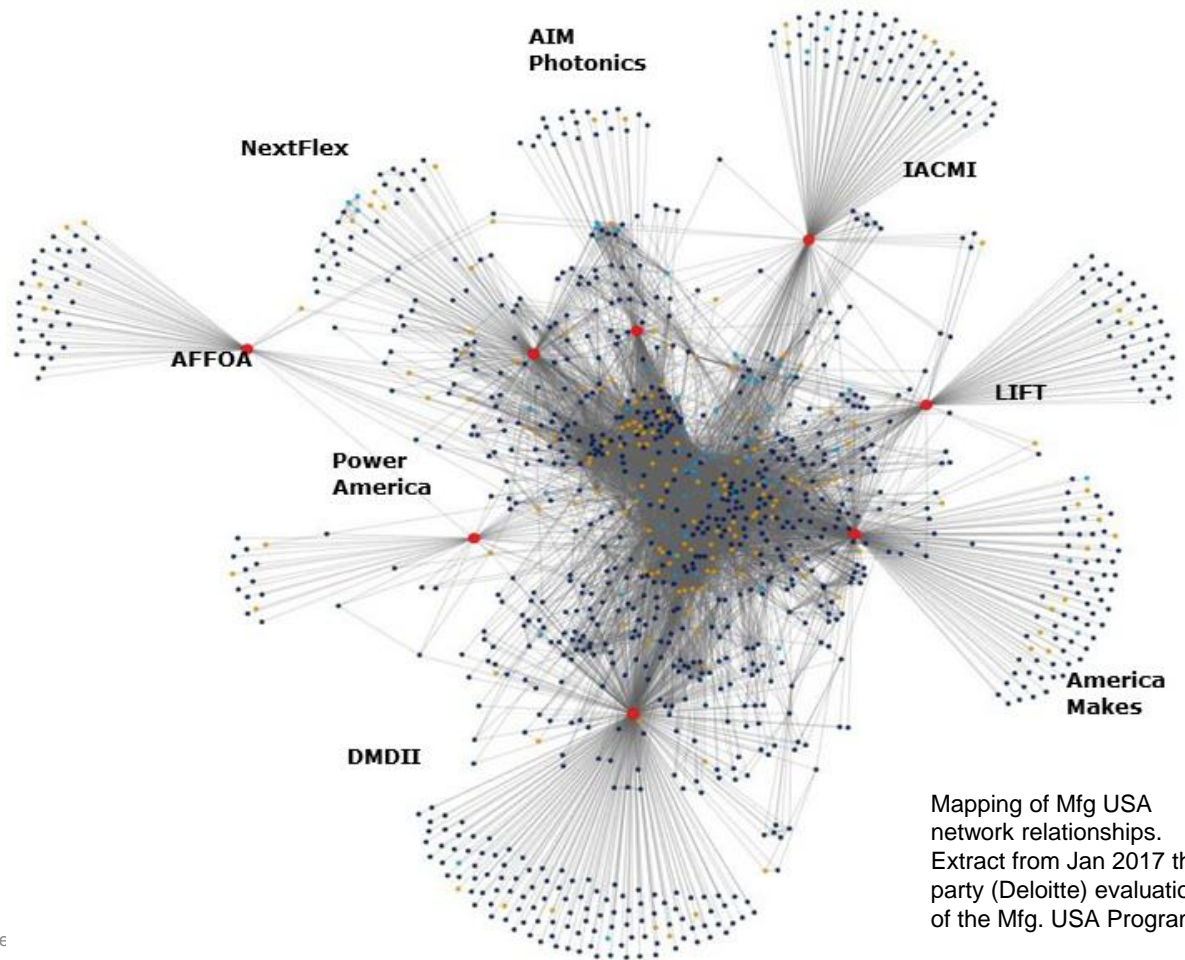
Organizations with formal membership

**203**

Organizations have relationships with multiple institutes

**120**

Organizations are members of more than one institute



Mapping of Mfg USA network relationships. Extract from Jan 2017 third party (Deloitte) evaluation of the Mfg. USA Program.

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Together, the Institutes' convene **nearly 1,200 organizations** in an inter-industry network comprised of **9,000+ organization relationships**



This information does not contain any proprietary, confidential, or otherwise restricted information.





# Manufacturing USA Success

## Summary



- ✓ Helping to bridge the gap between basic research and product development/fielding
- ✓ Providing DoD with access to key, domestic enabling technologies
- ✓ Advancing manufacturing innovation for specific, focused technology areas
- ✓ Ensuring a strong ecosystem of companies and organizations
- ✓ Maintaining close manufacturing partnering relationships
- ✓ Providing shared assets among MII member organizations; key benefit for small and medium enterprises
- ✓ Creating an environment to develop the skills and educate/train the workforce

**Collaborate ~ Innovate**



# Manufacturing USA Engagement Opportunities



- ✓ Project Funding
- ✓ Vast Networks
- ✓ Workforce Readiness
- ✓ Technology Transition



**DoD's Manufacturing USA Institutes spur innovation, performance, and competitiveness for businesses across the U.S. industrial base.**



# Manufacturing USA Engagement

Membership Value for Small Businesses



## Each institute offers exclusive membership benefits including:

- Participation in project reviews
- Access to institute technical information and reports
- Access to education and workforce development programs
- Access to a Technical Help Desk
- Invitations to institute networking events
- Access to “Member’s Only” website and shared space
- Access to manufacturing equipment



# Questions?



**For more information on the DoD Manufacturing USA Institutes:**

<http://www.businessdefense.gov/Programs/Manufacturing-USA-Institutes/>

**For more information on the Manufacturing USA Program:**

<https://www.manufacturingusa.com/>