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# **Strengthening Interagency Collaboration on the Manufacturing USA Program**

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**Highlights from GAO-17-320**

## Research objectives

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- Examined, among other things,
  - The status of establishing the Manufacturing USA network and the extent to which manufacturers and other entities have used the institutes
  - The extent to which performance measures are in place to help Commerce assess progress toward achieving the statutory purposes of the program
  - The extent to which Commerce has taken steps to coordinate the efforts of agencies that contribute to the Manufacturing USA program

## **Institute background prior to the RAMI Act**

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- 2011—The President's Council of Advisors on Science and Technology (PCAST) began issuing a series of reports with recommendations to increase U.S. competitiveness in advanced manufacturing
- 2012—DOD established the first pilot institute and the President set forth a goal of establishing a network of up to 15 institutes
- 2013—The National Science and Technology Council released a report outlining a preliminary design for a national network of institutes
- 2014—DOD and DOE established additional institutes using their existing statutory authorities

## **The Revitalize American Manufacturing and Innovation Act of 2014 (RAMI Act)**

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- Requires the Secretary of Commerce to establish a Network for Manufacturing Innovation program within NIST
- Requires the Secretary of Commerce to establish, within NIST, a national program office to oversee and carry out the program
- Requires the Secretary of Commerce to establish a network of centers for manufacturing innovation
- Requires the Secretary of Commerce to award financial assistance to establish additional centers for manufacturing innovation

## Collaboration under the RAMI Act

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- The RAMI Act contains a number of provisions related to collaboration between Commerce and other agencies
- In addition, several of the functions of the AMNPO under the RAMI Act also pertain to collaboration
  - For example, one function is to establish such procedures, processes, and criteria as may be necessary and appropriate to maximize cooperation and coordinate the activities of the program with programs and activities of other federal departments and agencies whose missions contribute to or are affected by advanced manufacturing

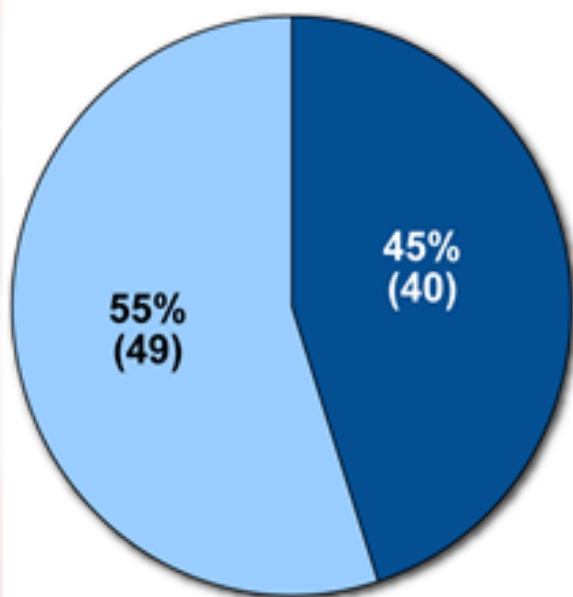
# Status of the Manufacturing USA network

Institute	Technology focus	Year established	Agency sponsor
National Additive Manufacturing Innovation Institute (America Makes)	Additive (3D printing) technologies	2012	DOD
Digital Manufacturing and Design Innovation Institute (DMDII)	Digital design	2014	DOD
Lightweight Innovations for Tomorrow (LIFT)	Lightweight metals technology	2014	DOD
The Next Generation Power Electronics Manufacturing Innovation Institute (PowerAmerica)	Wide bandgap semiconductors	2014	DOE
Institute for Advanced Composites Manufacturing Innovation (IACMI)	Advanced polymer composites	2015	DOE
American Institute for Manufacturing Integrated Photonics (AIM Photonics)	Integrated photonic circuits	2015	DOD
America's Flexible Hybrid Electronics Manufacturing Institute (NextFlex)	Advanced flexible electronics	2015	DOD
Advanced Functional Fabrics of America (AFFOA)	Novel fibers and textiles	2016	DOD
National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL)	Biopharmaceutical technologies and standards	2016	Commerce
Advanced Tissue Biofabrication Manufacturing Innovation Institute (ATB-MII)	Making human tissue and related products	2016	DOD
Clean Energy Smart Manufacturing Innovation Institute (CESMII)	Smart sensors and digital process controls	2016	DOE

Source: GAO analysis of information provided by the February 2016 Manufacturing USA Annual Report, and Department of Commerce (Commerce), Department of Defense (DOD), and Department of Energy (DOE) cooperative agreements and institutes. | GAO-17-320

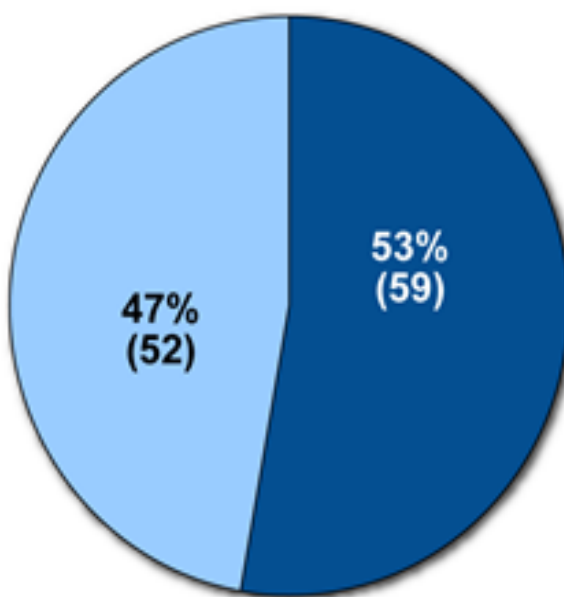
# Institute participation by manufacturers and other entities between May-September 2016

Tier 1 membership level



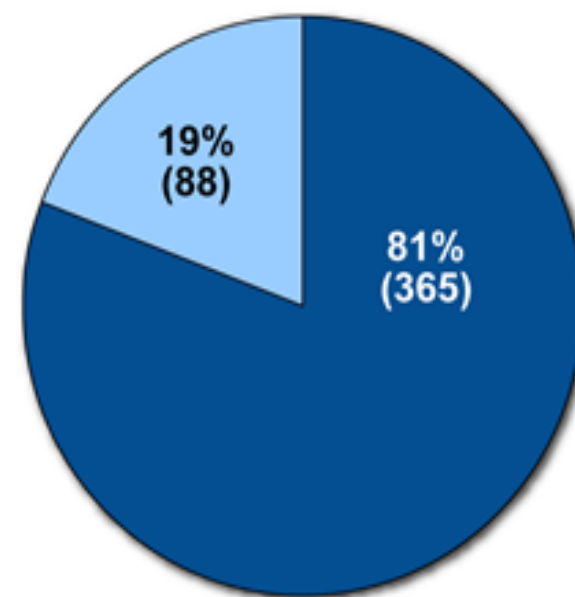
Total members: 89

Tier 2 membership level



Total members: 111

Tier 3 membership level



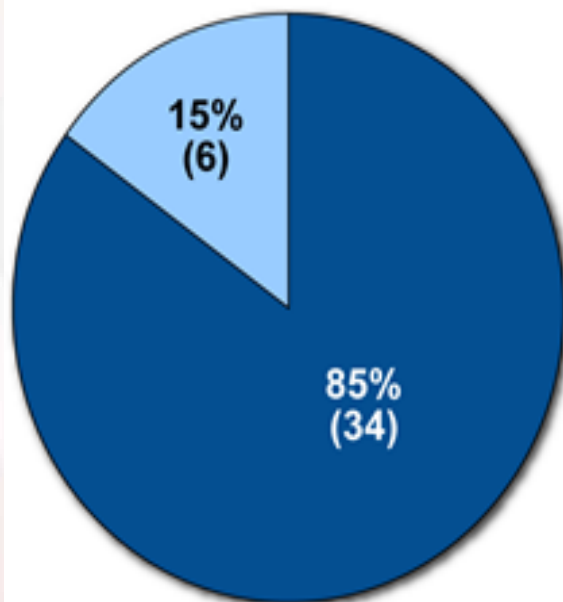
Total members: 453



Source: GAO analysis of Manufacturing USA institute data. | GAO-17-320

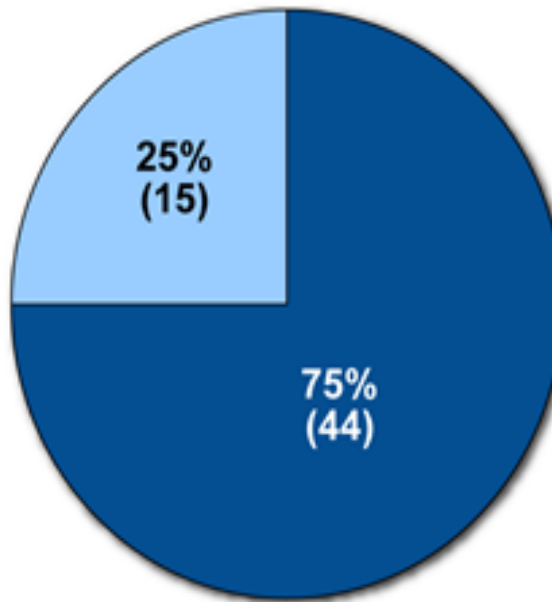
# Institute participation by large and small manufacturers between May-September 2016

Tier 1 membership level



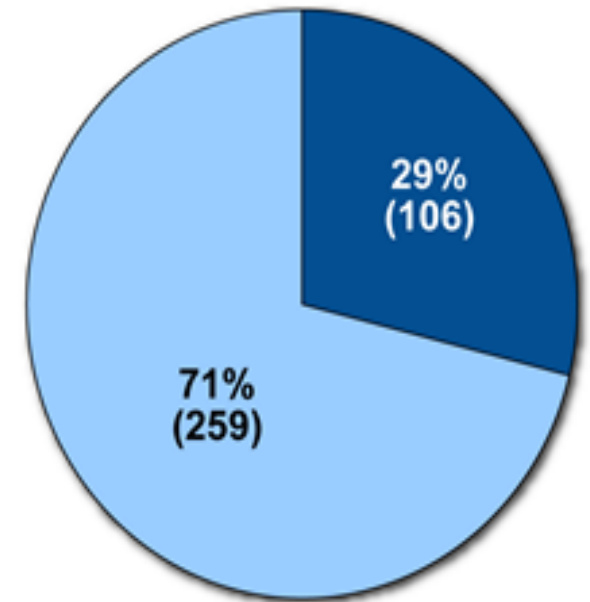
Total manufacturers: 40

Tier 2 membership level

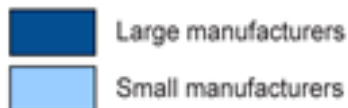


Total manufacturers: 59

Tier 3 membership level



Total manufacturers: 365



Source: GAO analysis of Manufacturing USA institute data. | GAO-17-320



## Measuring performance

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- Commerce, DOD, and DOE developed an initial set of performance measures for the program
- Reporting on institute performance is the responsibility of the sponsoring agency and institutes are only required to report on measures that have been agreed upon with their sponsoring agencies
- The RAMI Act does not including reporting requirements for institutes sponsored by DOD and DOE, but does require the Secretary of Commerce to report annually on the performance of the program

## Potential performance measurement challenges

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- Commerce has taken steps or has identified options to address challenges in measuring program performance
  - Some of the program's statutory purposes (e.g., number of jobs created or preserved) are inherently difficult to measure
  - Timeline for measuring progress may be too short
- Agencies may also face challenges collecting performance information from institutes after their agreements end

## Commerce used a variety of mechanisms to help coordinate the program

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- December 2016 Manufacturing USA network charter
- Manufacturing USA strategic plan
- Meetings and technology tools
- Manufacturing USA governance system
- As GAO's prior work has found (GAO-06-15 and GAO-12-1022), an interagency mechanism for collaboration is any arrangement or application that can facilitate collaboration between agencies
  - These mechanisms incorporate several key practices for enhancing and sustaining interagency collaboration

## **GAO identified an opportunity to strengthen interagency collaboration on the program**

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- The process used to develop the governance system did not ensure that all relevant non-sponsoring agencies were included, or that their roles and responsibilities for contributing to the Manufacturing USA program were fully identified
- To enhance interagency collaboration on the Manufacturing USA program, we recommended working with non-sponsoring agencies whose missions contribute to or are affected by advanced manufacturing to revise the Manufacturing USA governance system to ensure the roles and responsibilities for how these agencies could contribute to the Manufacturing USA program are fully identified



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