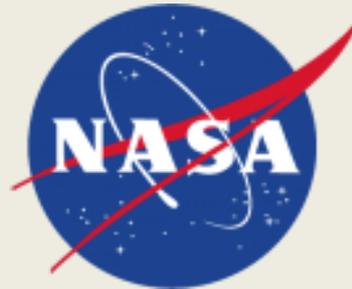


NASA Technology Days



Daniel E. Berry
President & CEO
MAGNET

Cleveland, Ohio
November 29, 2012



6,900

Logos visible in the collage include: BRIDGESTONE, GOODYEAR, GE, NORDSON, FORD, PARKOHIO, TRANSDIGM, MTD, ArcelorMittal, OMNOVA, Parker, LUK, TIMKEN, GM, NESTLE, FERRO, REPUBLICSTEEL, NACCO, PHILIPS, INVACARE, ALCOA, VALTRONIC, SMUCKER'S, LINCOLN ELECTRIC, RPM, SHILOH, POLYONE, GRAFTECH, DELPHI, B&W, A. SCHULMAN, and CIVIC.

- **14.1%** of region's employment
- **19.0%** of GRP
- **23.4%** of region's wages
- **40.5%** of Ohio's manufacturing employment
- **1.5** times more concentrated in mfg than nation

- Non-profit organization with fundamental goal of helping manufacturers become more competitive and grow
- Founded in 1984 as the Cleveland Advanced Manufacturing Program (CAMP)
- Name changed to MAGNET in 2007 to reflect broader mission and geographic scope
- 35 FT employees + 2 PT and 5 interns
- FY13 budget ~ \$7.2M; supported by State, Federal, philanthropic sources plus industrial revenue



Element of economic development system focused on 18-county region of Northeast Ohio



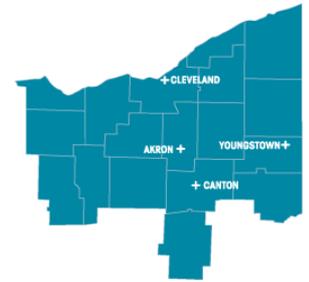
Edison Incubator (one of thirteen in State)



Ohio Edison Technology Center (one of six State centers) with special capabilities in new product development



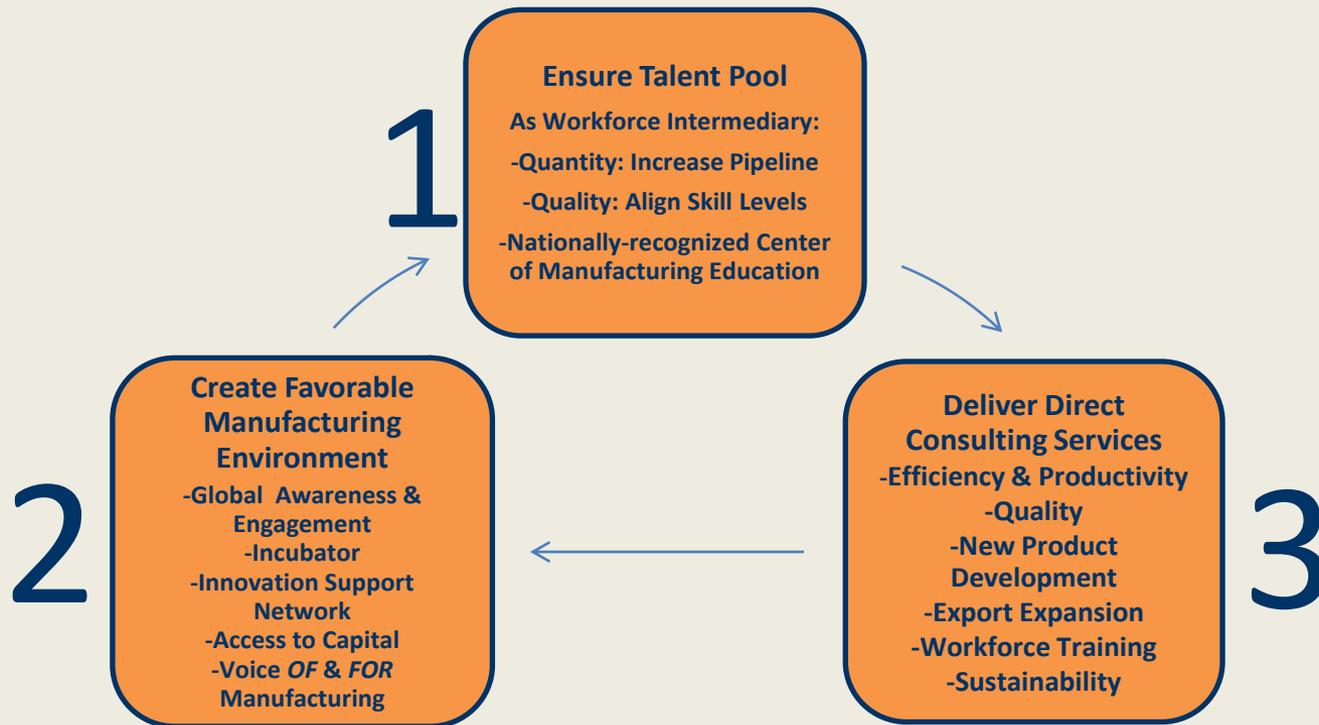
Part of Ohio's federally-supported Manufacturing Extension Partnership program (through National Institute of Standards)



**Manufacturing
Extension Partnership**



Three Interrelated Priorities



Five-Year Economic Impact: \$793M

-Sales: \$540 M

-Savings: \$79 M

-Investment: \$174 M

Jobs Created/Retained: 6,264



The goal of PRISM is to help Small-to-Mid-sized manufacturers realize their growth plans faster, cheaper, and with less risk while creating a continuous flow of innovations from concept thru launch

by

Leveraging MAGNET's capabilities and the region's assets (capital, talent, higher education, government, and other companies) to create sustained manufacturing growth, including a flow of SMM job growth at scale

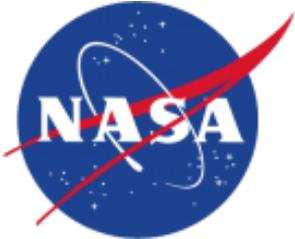
			
<ul style="list-style-type: none"> -Case School of Engineering -Institute for Advanced Materials -Great Lakes Energy Institute -Launch Pad -think[box] -Weatherhead School of Management 	<ul style="list-style-type: none"> -Fenn College of Engineering -Maxine Goodman Levin College of Urban Affairs -Center for Next Generation Economy -Monte Ahuja College of Business Administration -CSU Research Corporation 	<ul style="list-style-type: none"> -Nord Advanced Technologies Center -Fab Lab -Richard Desich SMART Commercialization Center -Great Lakes Innovation and Development Enterprise (GLIDE) 	<ul style="list-style-type: none"> -College of Engineering -Timken Engineered Surfaces Laboratory -College of Polymer Science and Engineering -College of Business Administration, -Univ. of Akron Research Foundation -Austen BioInnovation Institute



- Automotive Technology Expo
 - Aimed at exploring potential of transferring NASA technologies to automotive supply chain



- Adopt-a-City Manufacturing Innovation Project
 - Focused on helping Small-to-Mid-sized Manufacturers (SMM's) with <\$50M annual revenues) solve technology issues impeding commercialization



- SMM's able to access:
 - Up to 40 Hours scientific and technological expertise from NASA
 - Low interest loans (up to \$50K) from Cuyahoga County or City of Cleveland
- Fifty manufacturers applied through MAGNET-managed competitive selection process
- Nine winners selected:

<ul style="list-style-type: none"> -BioInVision -Gotta Groove Records -Morrison Products Inc. -Sensor Development Corp. 	<ul style="list-style-type: none"> -Boundary Systems -MegaJoule -Pile Dynamics Inc. -Vadxx Energy
---	---

 - Zuga Medical Inc.
- Hope to replicate in other parts of region

One: Enable Innovation

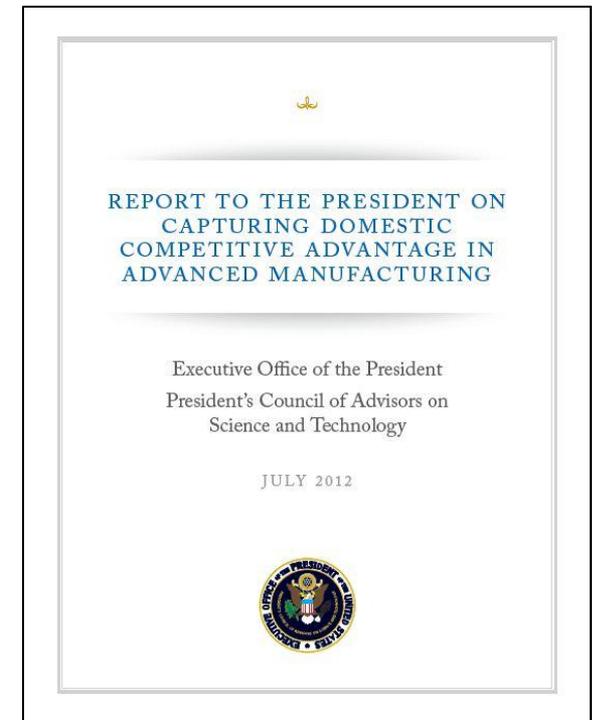
1. Establish a National AM Strategy
2. Increase R&D Funding
3. Establish National Network of AM Innovation Institutes
4. Empower/enhance University Collaboration on AM Research
5. Foster Environment for Technology Commercialization
6. Establish National AM Portal

Two: Secure Talent Pipeline

7. Correct Public Misconceptions about Manufacturing
8. Tap Talent Pool of Returning Veterans
9. Invest in Community College Level Education
10. Skills Certification and Accreditation Partnerships
11. Enhance AM University Programs
12. Launch Manufacturing Fellowships/Internships

Three: Improve Business Climate

13. Enact Tax Reform
14. Streamline Regulatory Policy
15. Improve Trade Policy
16. Update Energy Policy



One: Enable Innovation

1. Establish a National AM Strategy

2. Increase R&D Funding

3. Establish a National Network of AM Innovation Institutes

5. Foster Environment for Technology Commercialization

6. Establish National AM Portal

Two: Secure Talent Pipeline

7. Correct Public Misconceptions about Manufacturing

8.

9.

10.

11.

12.

NATIONAL
NAMII
ADDITIVE MANUFACTURING
INNOVATION INSTITUTE

13. Enact Tax Reform

14. Streamline Regulatory Policy

15. Improve Trade Policy

16. Update Energy Policy

REPORT TO THE PRESIDENT ON
CAPTURING DOMESTIC
COMPETITIVE ADVANTAGE IN
ADVANCED MANUFACTURING

Executive Office of the President
President's Council on
Science and Technology

driven by



NCDMM





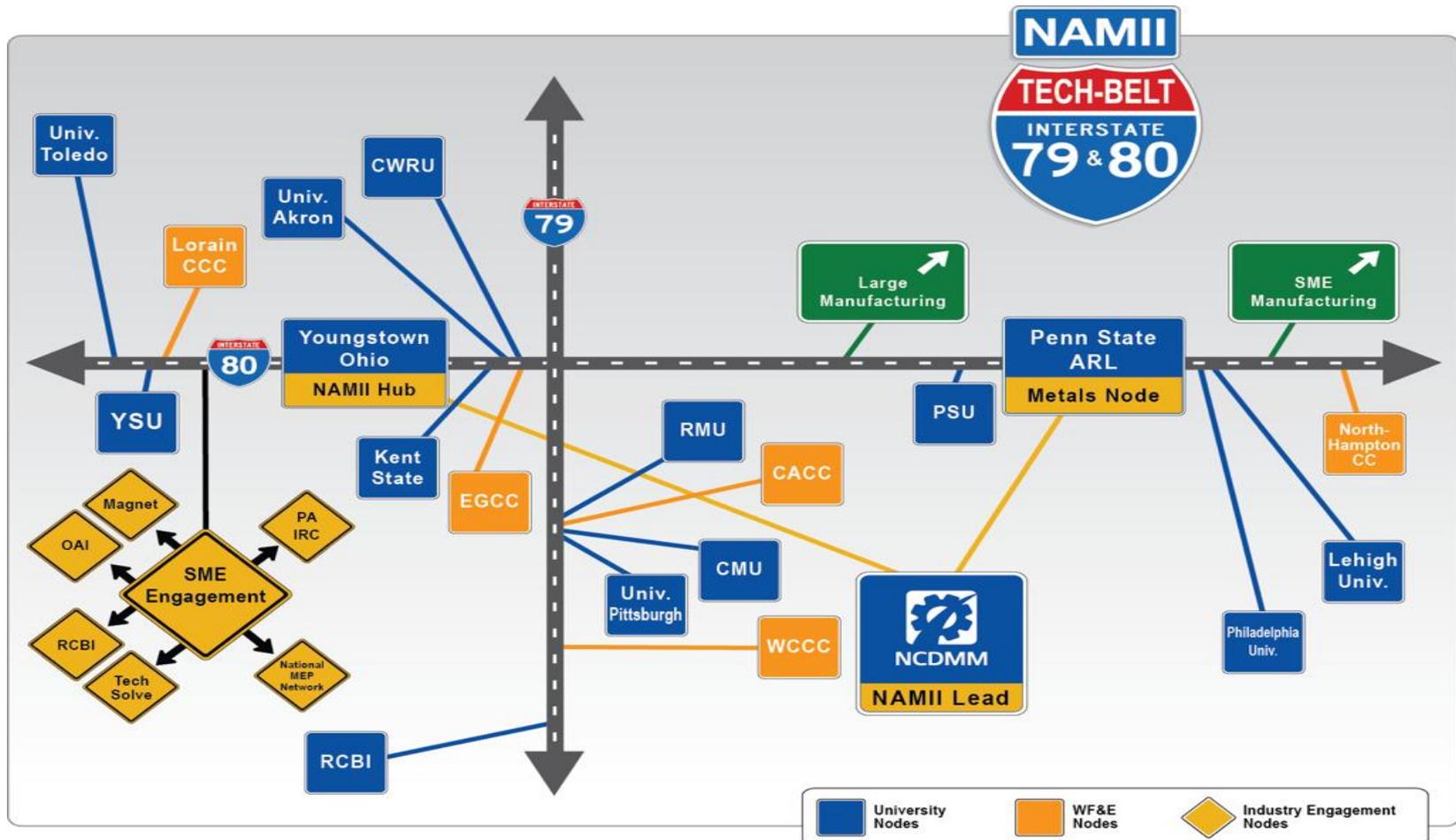
Announcement: Aug 16, 2012

Prime Awardee: National Center for Defense Mfg. & Machining (NCDMM)

- Providing ~\$40M cost share
 - ~ \$20M from industry
 - ~ \$48M available for projects
- Strong leveraging of equipment and existing resources
- Strong business development
- Ties to many organic facilities
- Tiered membership-based model



A REGIONAL Center of Excellence, with a vision for NATIONAL PRESENCE



Northeast Ohio is internationally renowned as a center of excellence in manufacturing education and product innovation



Through a network among higher education institutions, manufacturers, and other partners. . . NEO is:

1. Home to many growing manufacturing companies
2. Emerging as a hotbed of talent
3. Attracting manufacturing companies from elsewhere



FUND FOR OUR ECONOMIC FUTURE

