

Stimulating Manufacturing in Ohio

An Industry Perspective

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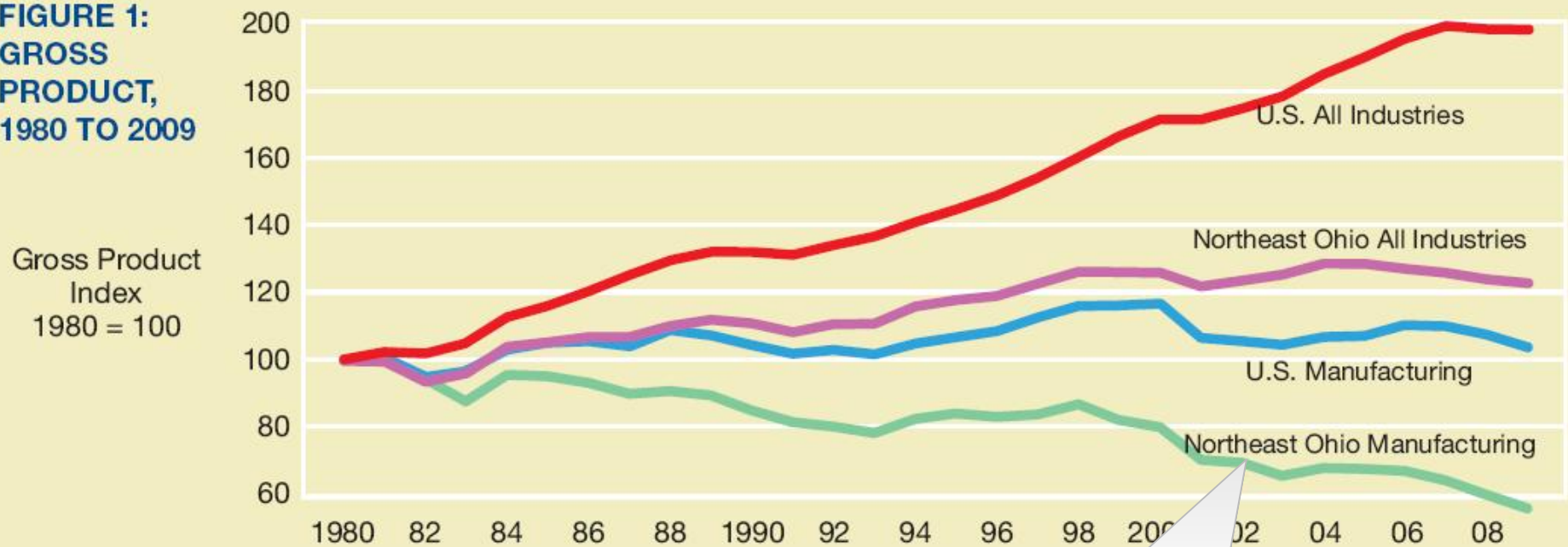
The National Academy of Science • Building Ohio's Innovation Economy

April 25, 2011

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Northeast Ohio Faces a Severe Economic Challenge

**FIGURE 1:
GROSS
PRODUCT,
1980 TO 2009**

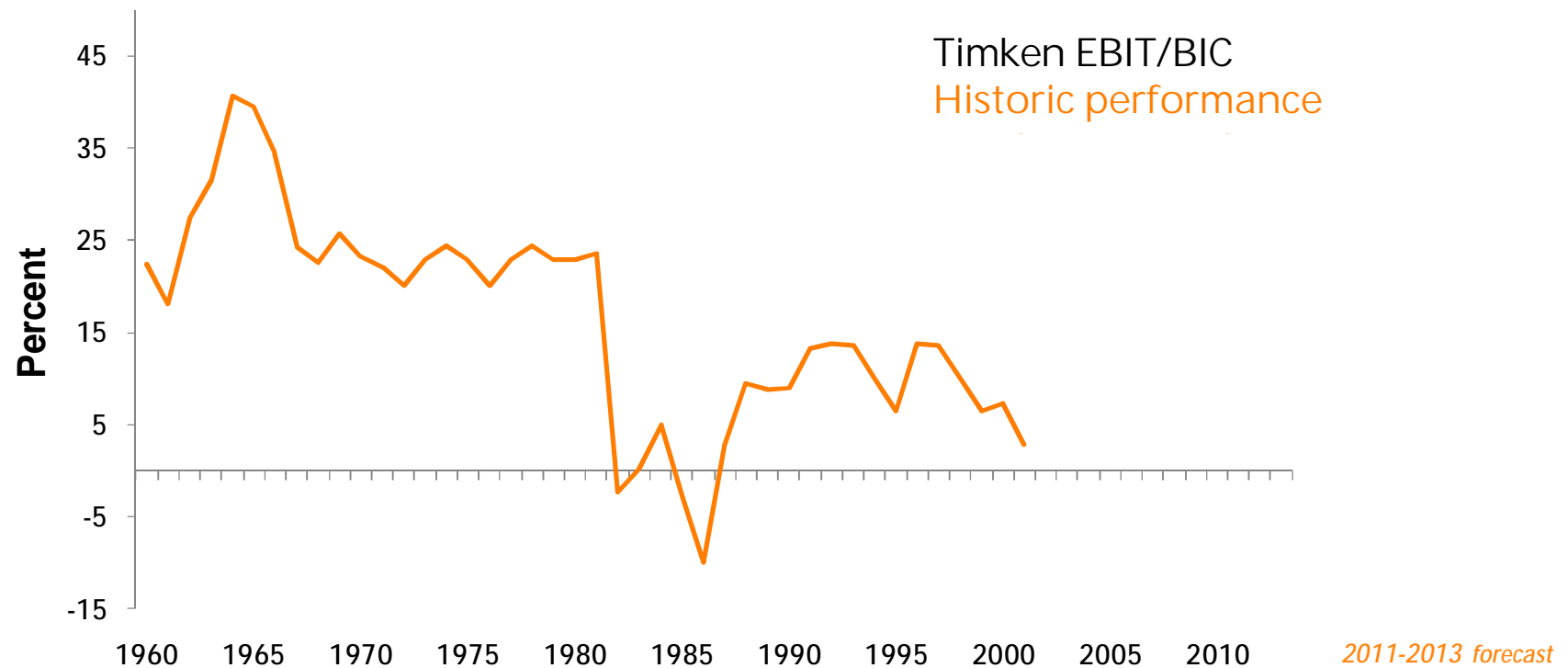


*We can reverse
this trend...*

Source: Cleveland State University Levin College of Urban Affairs update of data contained in
http://urban.csuohio.edu/economicdevelopment/reports/EconomicBrief_2010_Final.pdf

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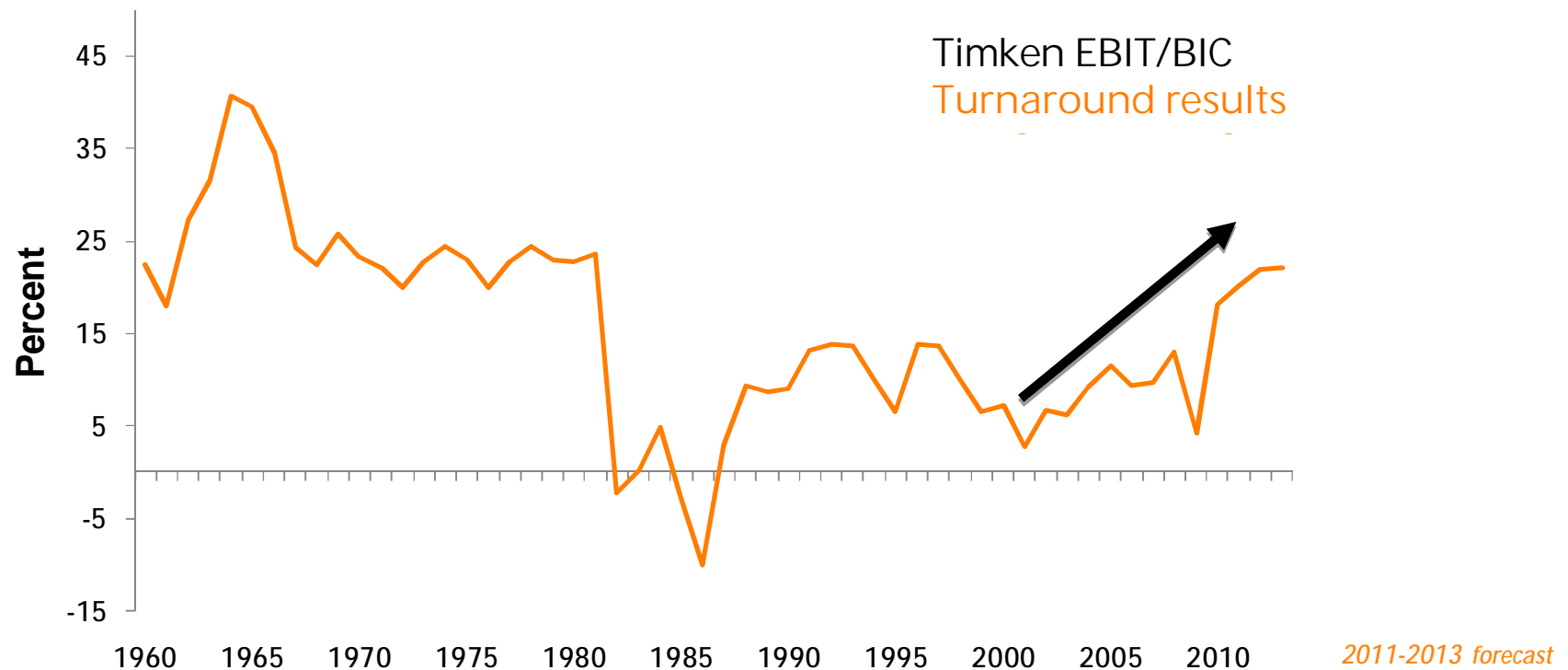
Industry Transformation: A Model for Northeast Ohio



EBIT/BIC: earnings before interest and taxes divided by beginning invested capital.

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Industry Transformation: A Model for Northeast Ohio



EBIT/BIC: earnings before interest and taxes divided by beginning invested capital.

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Timken's Model: Grow and Optimize

- Enhance existing products and services
- Leverage technology to create value
- Capture lifetime of opportunity



- Attractive industrial markets
- Developing geographies
- Channels, services, distribution



New steel products



Spherical roller bearings
(wear-resistant type shown)



Aerospace engines



Wind energy & services

Timken's Model: Grow and Optimize

Timken sells needle roller bearing line
7/29/2009



- Structure portfolio for value creation
- Fix/exit under-performing areas



- Advance lean operating model across supply chain
- Improve efficiency and reduce cost structure
- Increase agility
- Deliver greater profitability and build on brand promise

The Transformation Model Works!



Same principles can transform Northeast Ohio economy

NE Ohio: Heritage of High Performance

- Cleveland Medical Library Association: 1894 - collaborative emphasis on development, CWRU

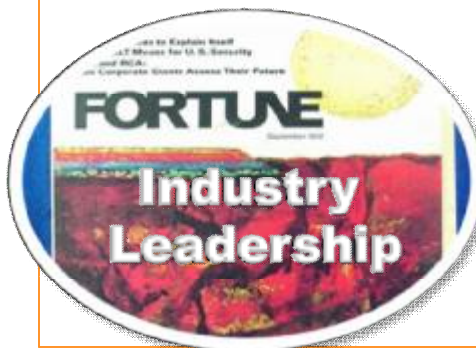


- Rubber (& Plastics) Capital: Akron was the world's rubber capital & America's fastest growing city until early 1970s



- Birthplace of modern flight: Ohio's aerospace industry and NACA, later NASA perfected rockets and propulsion

- Nation's 2nd largest in automotive industry: 2nd only to Detroit



- #2 in Steel: Nation's 2nd largest steel-producing region until the late 1960s

- 1970s: 5% of Fortune 500 Companies had NE Ohio HQs: Once in the top 5 U.S. areas for large corporate HQs with 25 companies

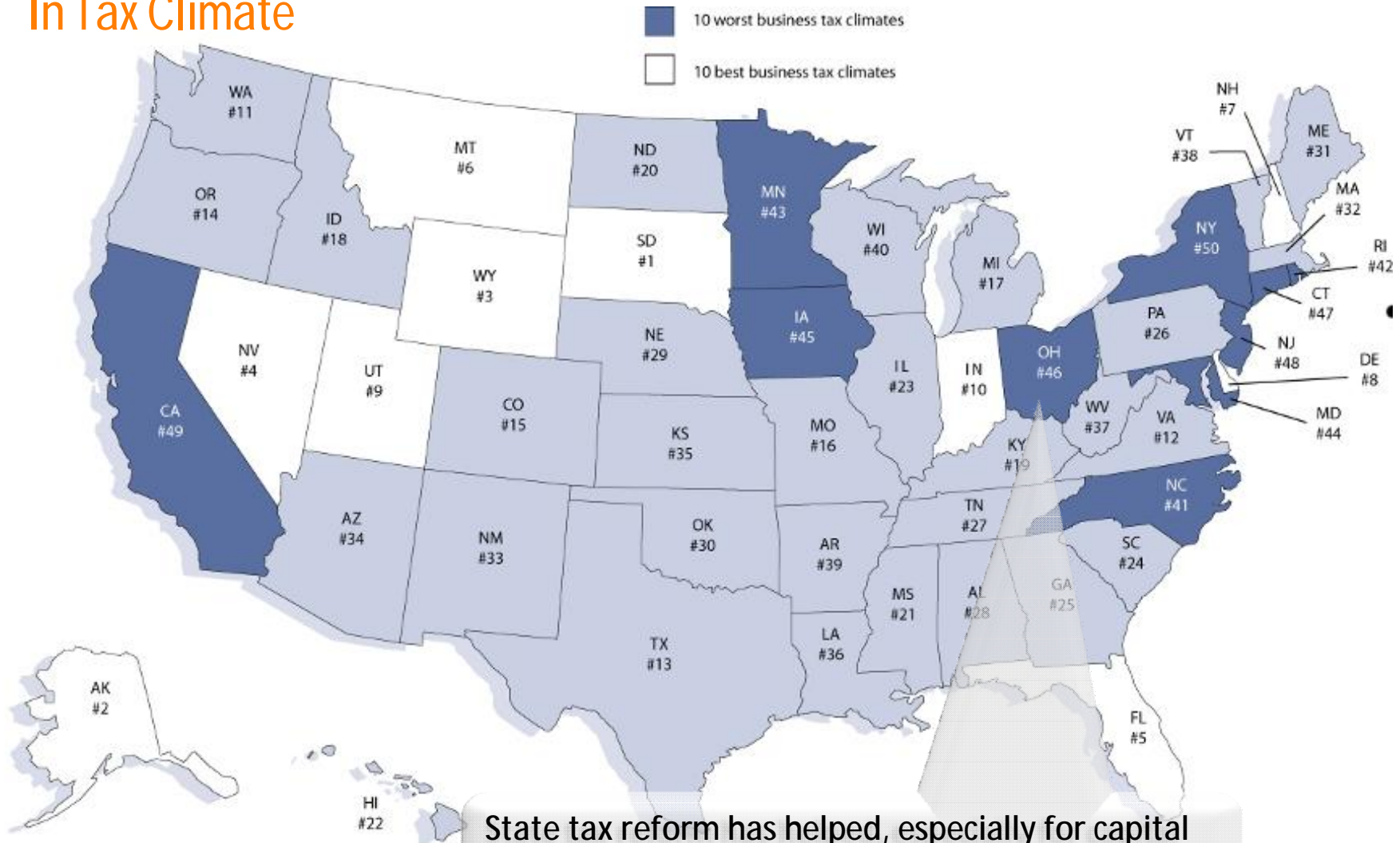


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Our heritage has left us with an infrastructure
that undermines economic growth

Ohio is Non-Competitive

In Tax Climate

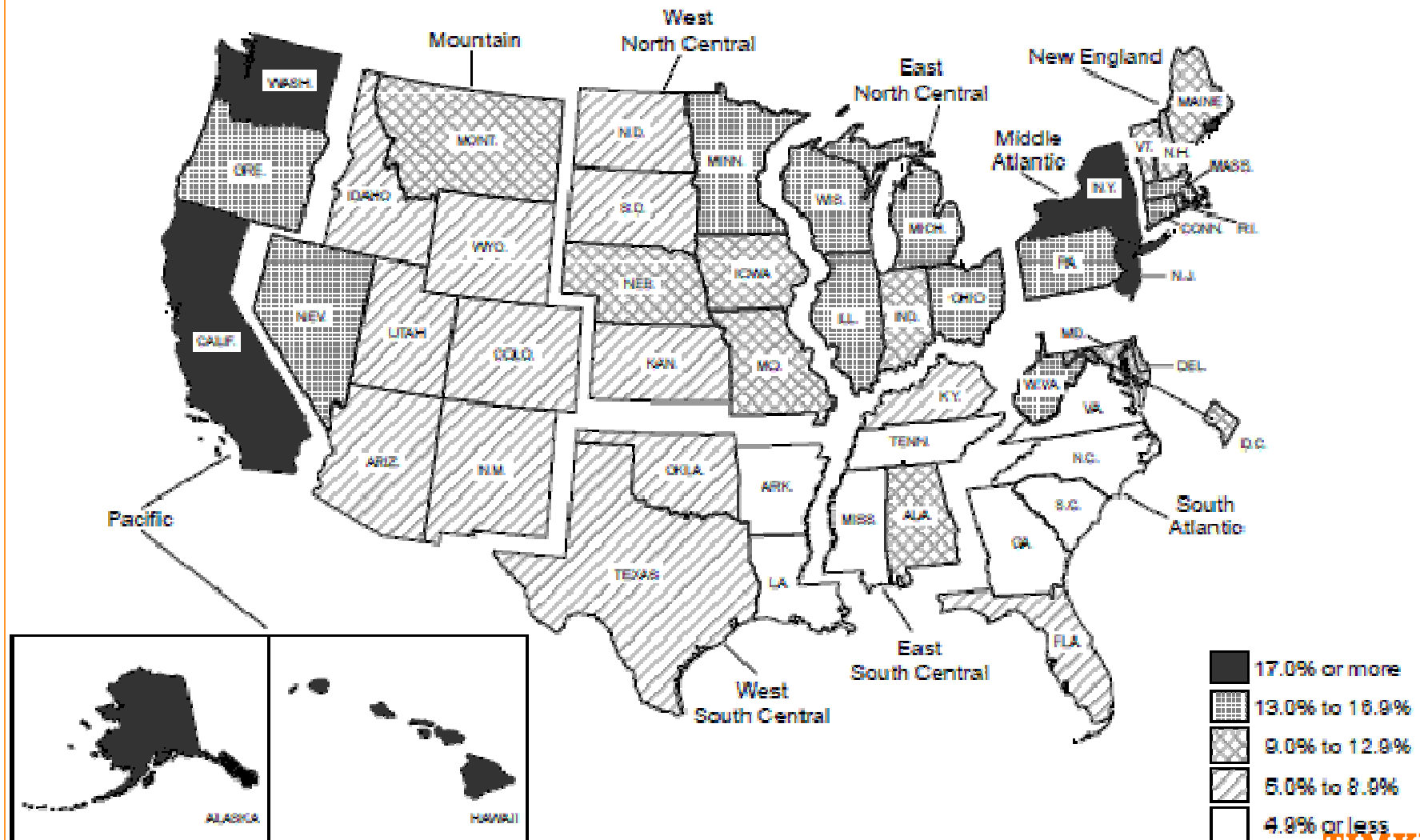


State tax reform has helped, especially for capital investment. But Ohio still isn't competitive when the state & local tax burden is combined

Ohio is Non-Competitive

In Union Participation

Ohio in 2010: 13.7% (1989 peak: 21.3%); **U.S. in 2010: 11.9%**



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Northeast Ohio Must “Optimize” Its Infrastructure

- Reinventing government at a state level
- Reinventing government at a local level
- Developing a new-generation workforce

Our heritage has left us with a strong foundation

- Proficient small & medium enterprises
- World-class university network

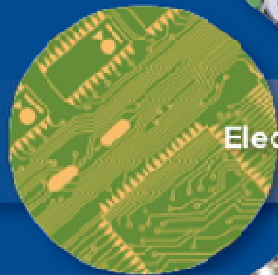
Central to the growth of an innovation economy is
building bridges between them



Plastics



Manufacturing Equipment



Electronics



Chemicals



Metal Processing & Fabrication

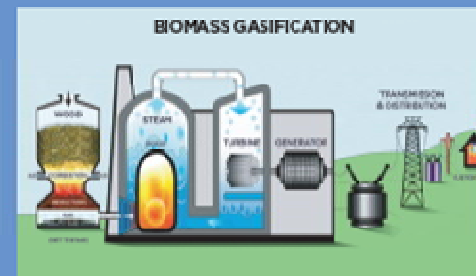


MAGNET
Manufacturing Advocacy & Growth Network



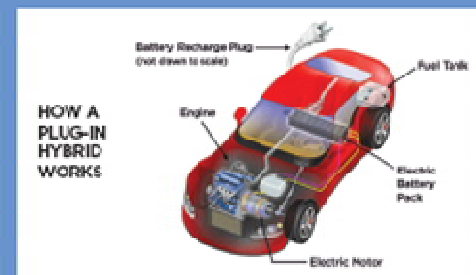
Connecting Manufacturers in Ohio with Opportunities in Emerging Markets

BIOMASS/ WASTE-TO-ENERGY



Conversion of biological materials (wood, crops, agricultural residues, algae, etc.) and other waste streams (municipal solid waste, petroleum based waste, waste heat, etc.) to electricity and fuel.

TRANSPORTATION ELECTRIFICATION



Electric drive vehicles (automobiles, service and off-road vehicles) powered all or in part by electric drives, combined with the infrastructure to support delivery of electricity to these vehicles.

USING THE TOOLS OF INNOVATION...

- ◆ Ideation/Value Proposition Development
- ◆ New Product Development
- ◆ Market Research

...AND REGIONAL INDUSTRY ROADMAPS

- ◆ Identify Key Regional Assets
- ◆ Competitive Assessment
- ◆ Shared Regional Vision and Strategy



MEP • MANUFACTURING
EXTENSION PARTNERSHIP

NIST

National Institute of
Standards and Technology
Technology Advancement
U.S. Department of Commerce

MAGNET Works Toward Solutions

Blending technology & expertise with market skills & networking to expand products and markets

Proven Capabilities

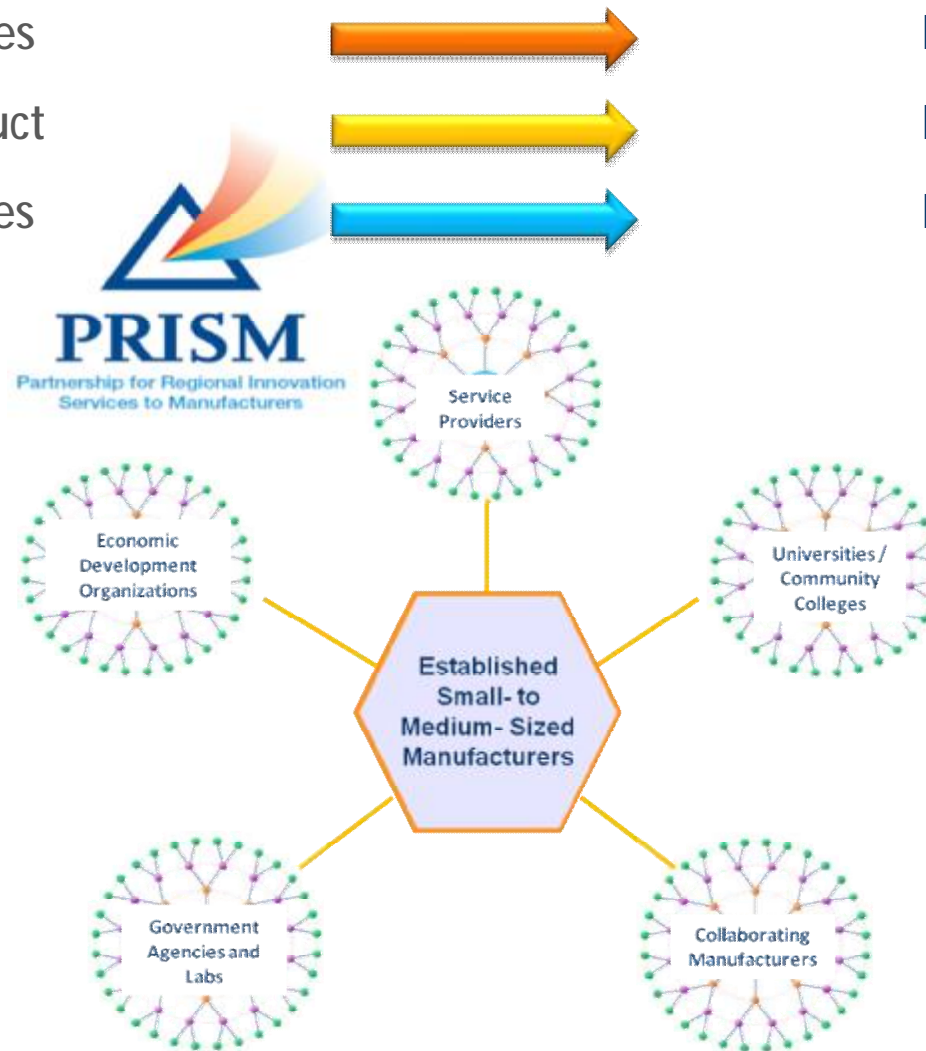
Established Product

Proven Capabilities

New Market

New Growth Market

New End Product



Challenge: Keep it Simple

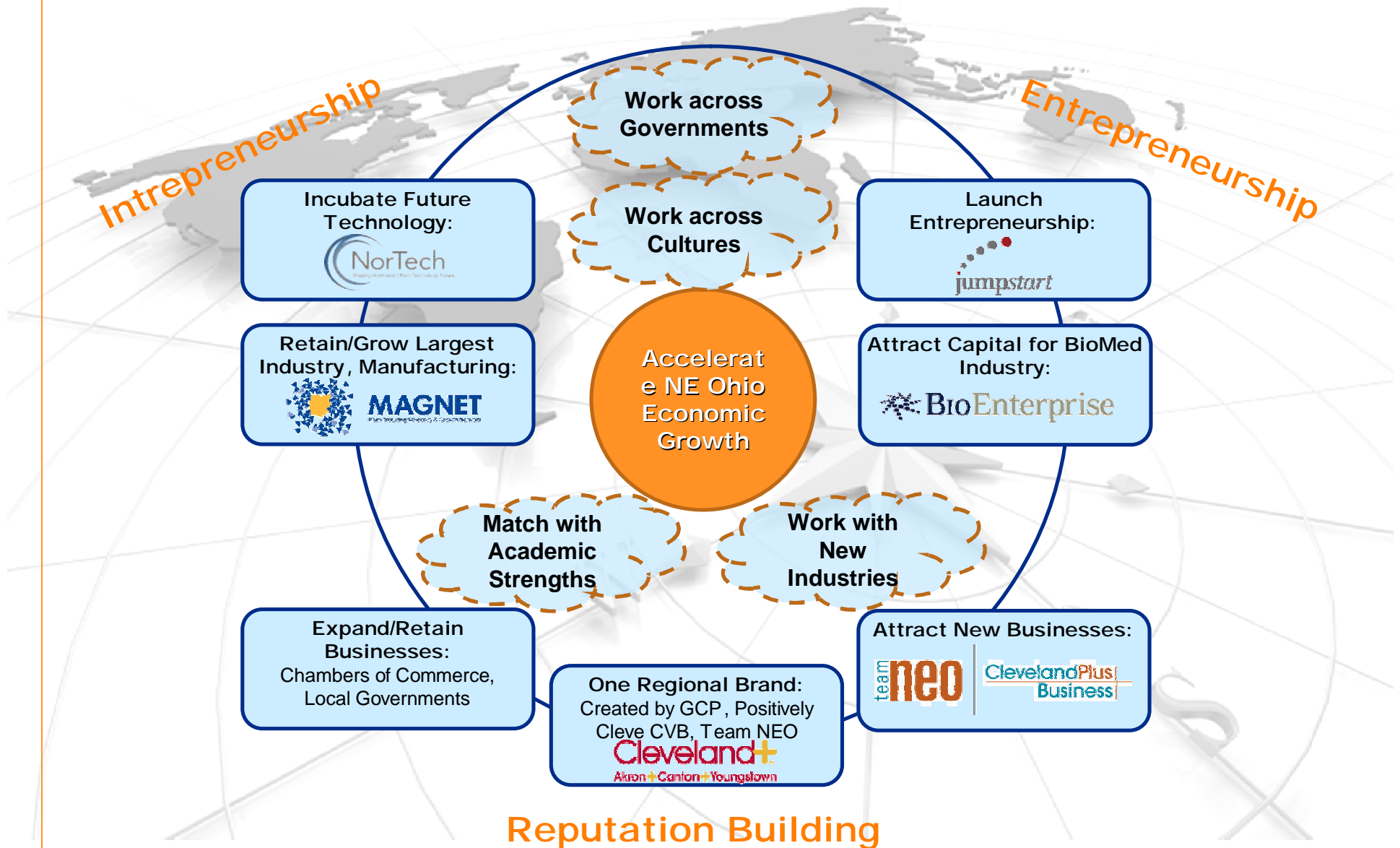


NE Ohio has built a network of regional entities focused on creating the new economy.

Our solution must be to focus efforts *through them*.

Proliferating new organizations creates confusion comparable to today's maze of government entities.

A Regional System



Ohio's Wealth of Development Assets



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