Michigan Manufacturing: Driving Impact … *Again*

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a NIST MEP | Network Affiliate

PURE MICHIGAN
Michigan Economic Development Corporation

Michigan's Recovery

Since July 2009 trough:

- 176,500 nonfarm jobs added (8th in US)
- 87,900 mfg jobs added , which is:
  - Half of Michigan's *total* job additions
  - 29% of US mfg job additions
- 29,200 direct auto jobs added (21% of US total)

In other words, manufacturing pulled 3.7 times its weight.

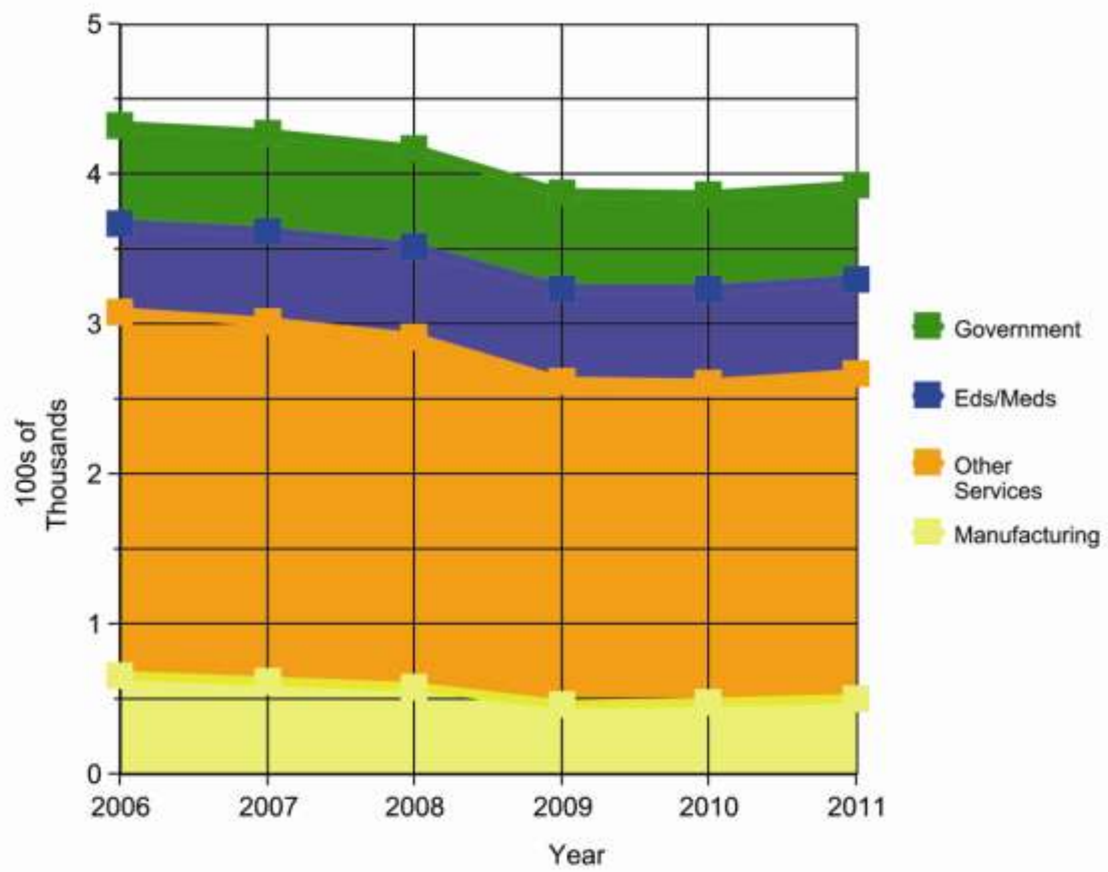
Sector	% of MI Jobs	% of Jobs Added
Manufacturing	13.3%	49.8%
Rest of Economy	86.7%	50.2%

Reference Data (000s of jobs)

Employment	July 2009	July 2012	% Change
US nonfarm	130,164	133,204	2.3%
MI nonfarm	3,828	4,004	4.6%
US manufacturing	11,664	11,970	2.6%
MI manufacturing	444	532	19.8%
US auto mfg	652	788	20.9%
MI auto mfg	105	134	27.9%

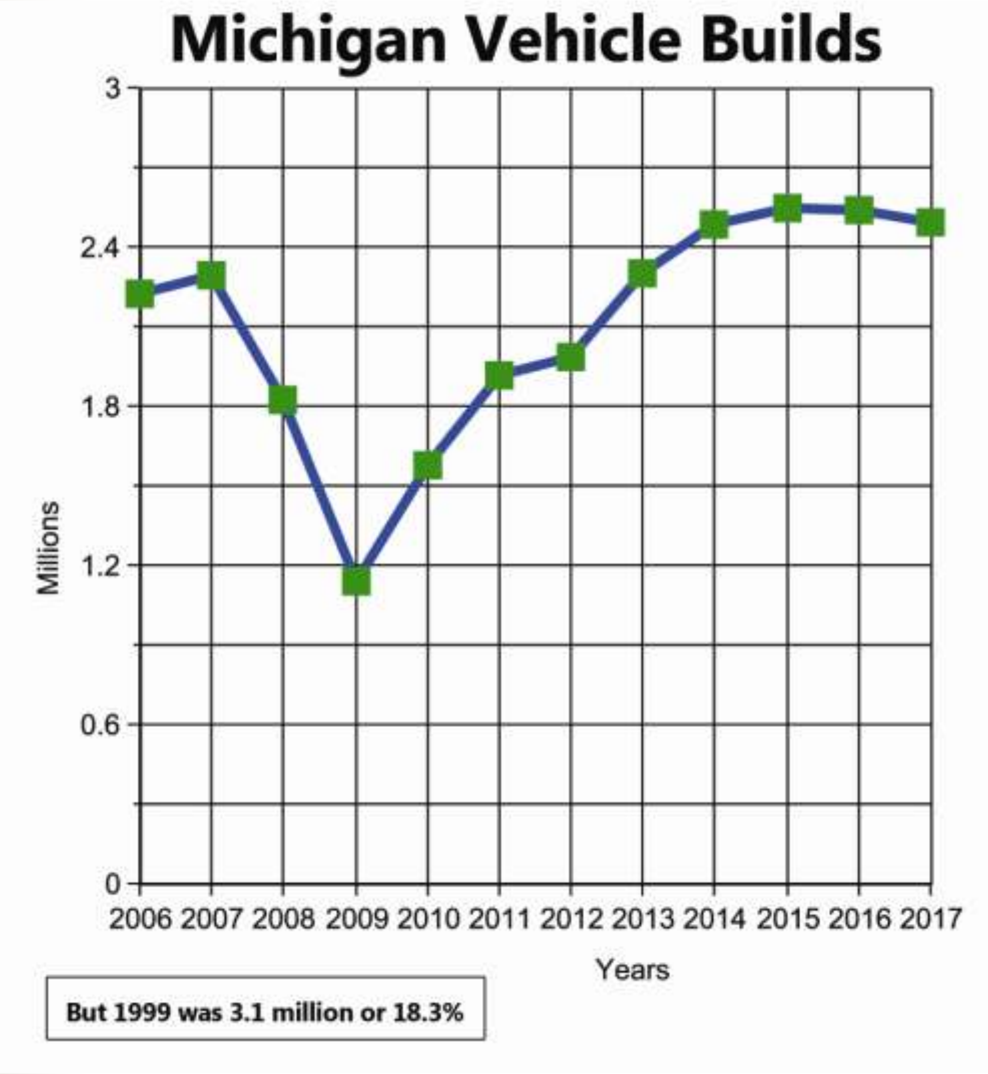
Manufacturing's Fuller Impact

Michigan Employment (2006-2011)



- Though just 13.3% of state employment, manufacturing makes up roughly half of the *traded* economy.
- Most other service employment is in *non-traded* sectors, which do not bring non-Michigan income into the state.

Reshoring *AND* Offshoring



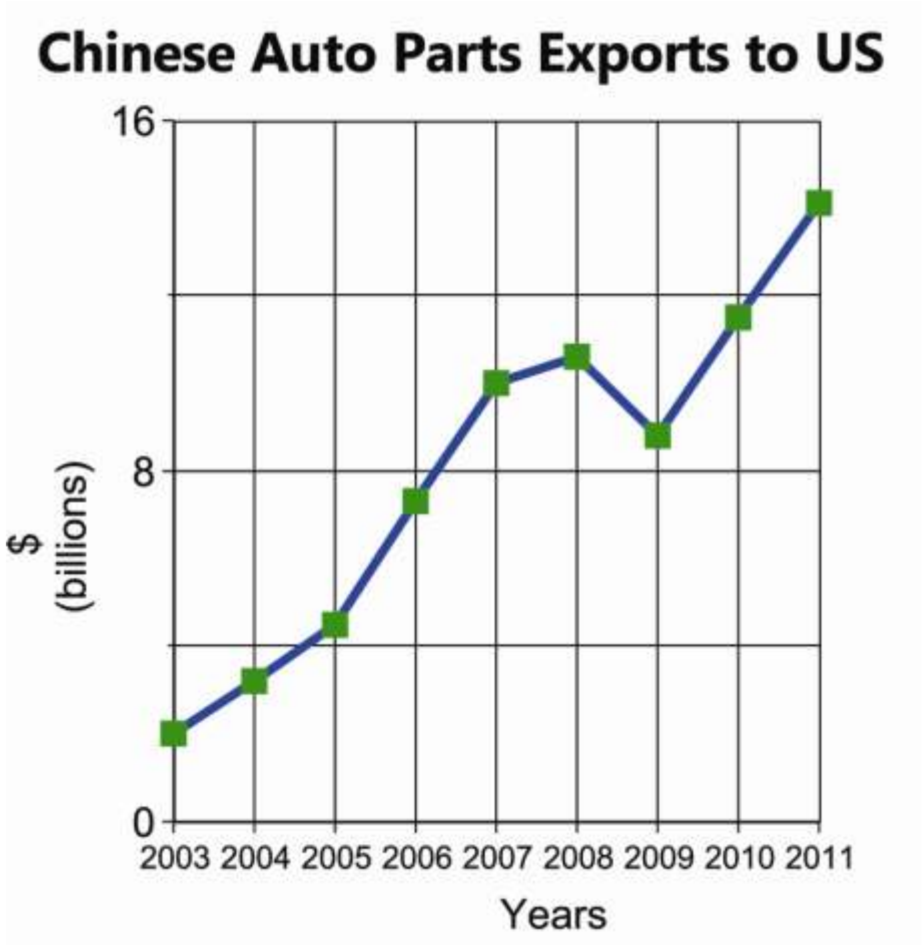
Auto production is growing in Michigan … and in Mexico. As a share of North American builds:

	2010	2014
Michigan	13.3%	16.0%
Mexico	17.3%	19.5%
Other NA	69.4%	64.5%

Threats: Economics & Policy

- Bipartisan fatigue with manufacturing
  - False dichotomy of “factories” versus “knowledge work”
  - Misperception of mfg as “old economy”
- Challenges from globalization / offshoring:
  - Not just less US and Michigan content, but …
  - More vehicle and component design in Europe and Asia, & …
  - Mounting competition from global companies willing to make investments that impatient US capital markets won’t permit
- Legacy of family ownership means too few MI mfrs really going for maximum share and profitability.

Imported Parts Reduce the Multiplier



A smaller multiplier means that manufacturing lifts fewer "boats" elsewhere in the domestic economy.

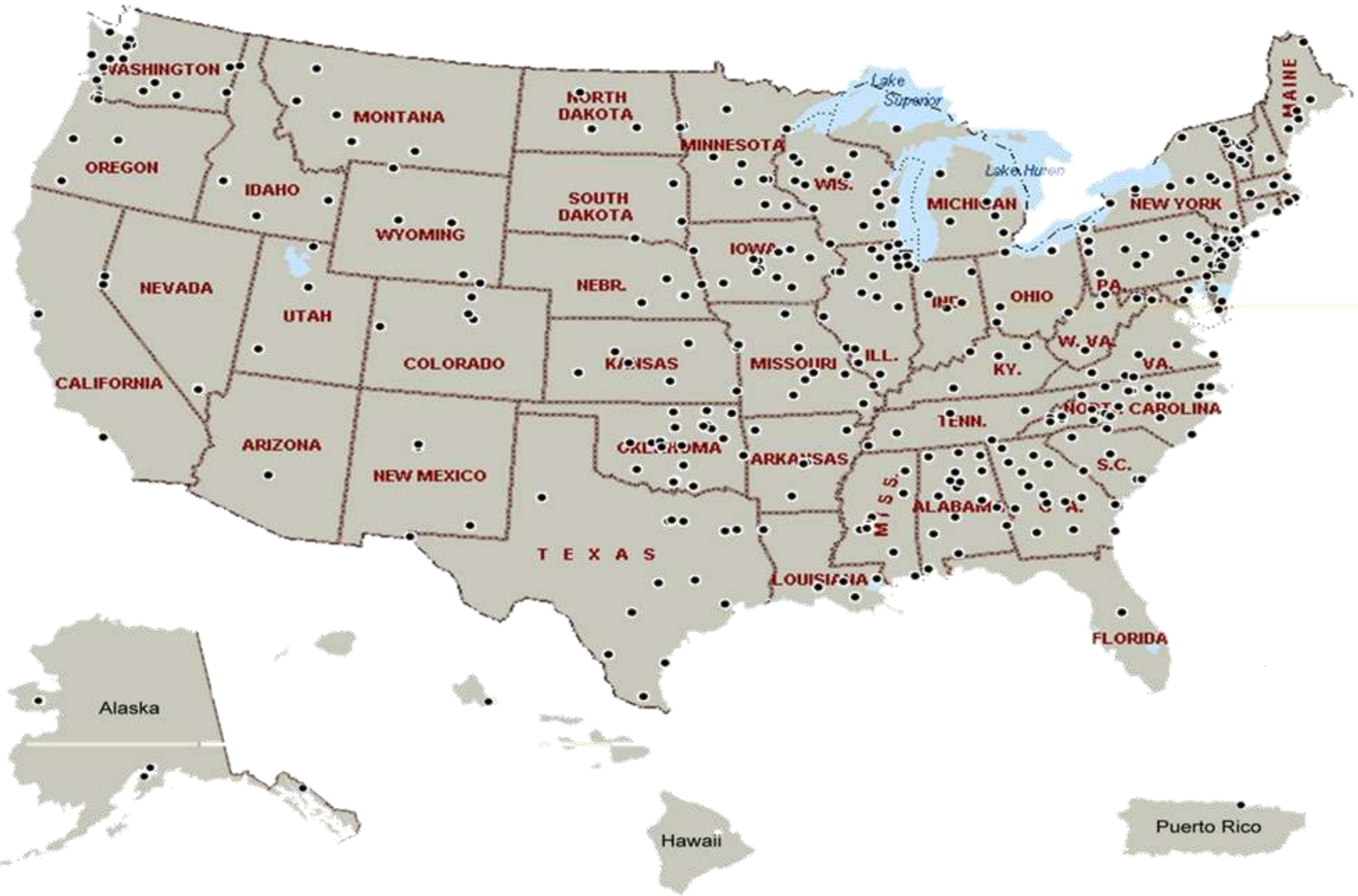
Why Manufacturing?

- States & regions don’t jump from success in Sector A to success in Sector B. They migrate from A to A’ to A”.
- New activity in startups, including university spinouts, heavily driven by federal funding. A few big successes, many failures, few jobs
- Unless new activity leads to in-region companies making new or improved products, little economic impact
- The point is not to extol manufacturing; it’s to help manufacturing GET BETTER to power a better economy.
- Despite a welcome increase in attention paid to manufacturing, no consensus on what to do. Three main camps, each of which has more and less valid arguments:

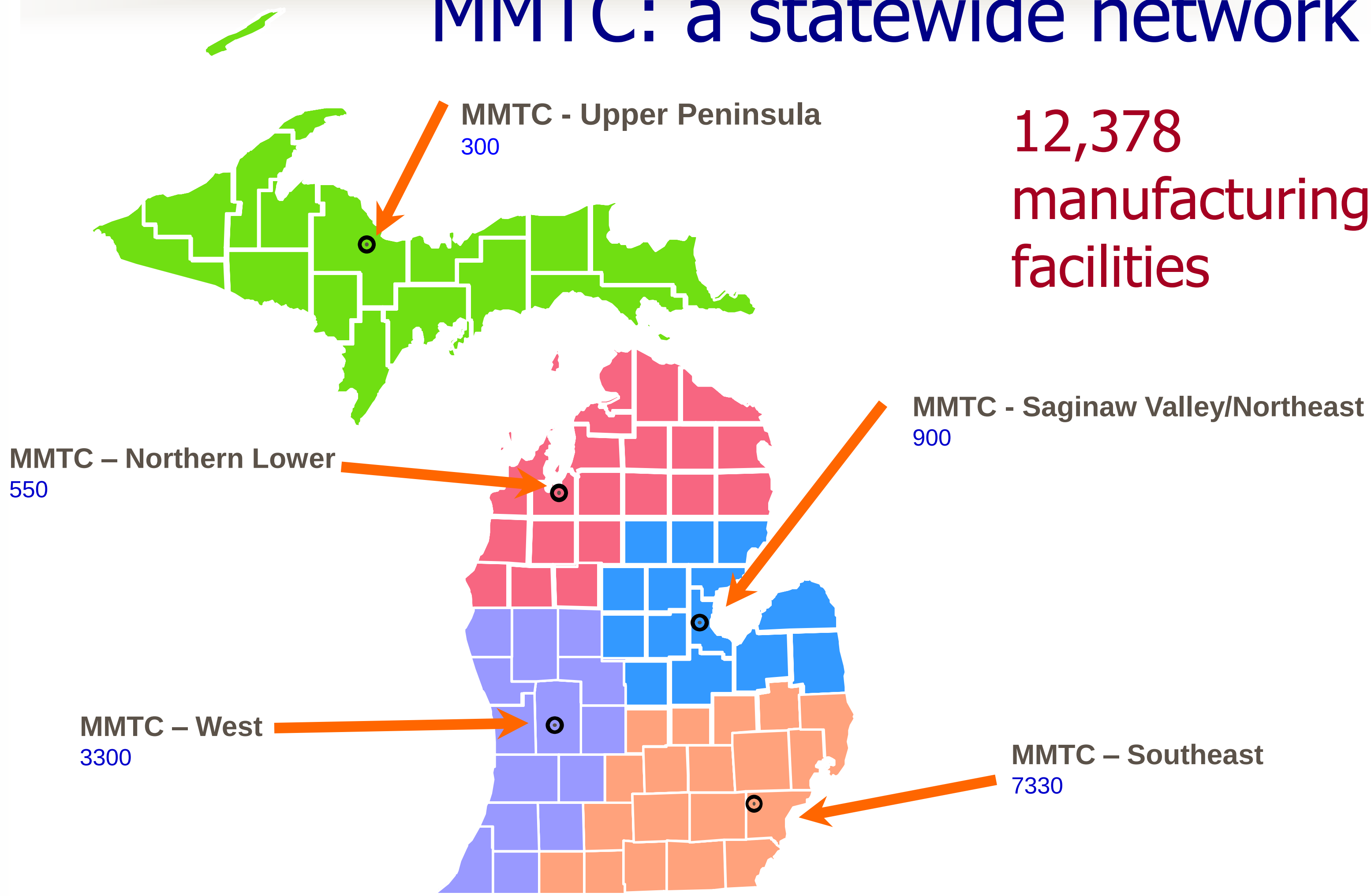
1. Technology push (creative class): Advanced mfg / HPC / S&T / R&D
2. 1950s nostalgia (Cheneyites): Deregulation / fossil fuel boom
3. Oligopoly nostalgia (Labor): Protectionism to counter mercantilism

MEP Centers: a national network

59 MEP Centers
373 Locations



MMTC: a statewide network



12,378 manufacturing facilities

Our Mission

To enhance the global competitiveness of Michigan's small and medium-sized manufacturers

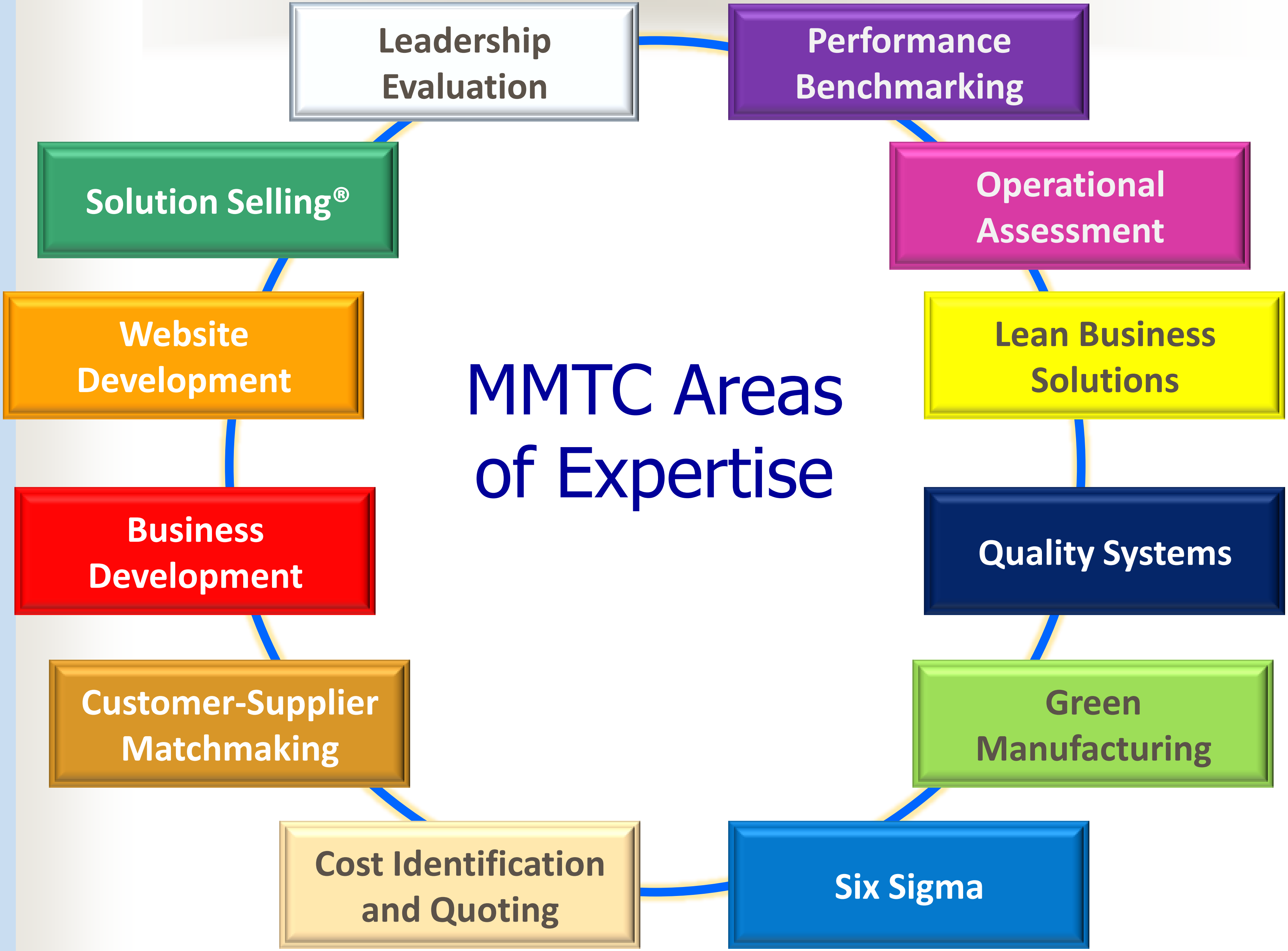
Our Focus

Survivable manufacturers with 20-499 employees, with particular emphasis on those with 50-249 that want to grow

50-249-Emp. Mfrs Now Dominate

Employment	Facilities (%)	Employees (%)
1-49 in 2012	10,320 (82%)	109,000 (20%)
50-249 in 2012	**1,870 (15%)**	**237,000 (45%)**
250-499 in 2012	220 (2%)	90,000 (17%)
500+ in 2012	90 (1%)	96,000 **(18%)**
All (July 2012)	**12,378 (2010)**	**532,000**
1-49 in 1998	13,151 (82%)	149,000 (19%)
50-249 in 1998	**2,351 (15%)**	**269,000 (32%)**
250-499 in 1998	364 (2%)	129,000 (15%)
500+ in 1998	198 (1%)	282,000 **(34%)**
All (1998)	**16,064**	**829,000**

MMTC Areas of Expertise



Case study: Visioneering

Cari Spears and Kevin Reilly
Visioneering
115 employees

Challenge: Get AS9100 certification to retain existing sales

- AS9100 prep training and mentoring
- Internal auditor training
- LEAN manufacturing

Result: 30% increase in revenue via retention of aerospace orders

Case study: The Cardinal Group

Challenge: Developing new sales leads

- Market Diversification training

Result: 25% percent volume increase in new business

Tracy McCullough
The Cardinal Group
60 employees

Case study: Venchurs

Jeff Wyatt
Venchurs
150 employees

Challenge: Communicating the long-term strategic growth plan throughout all levels of the company

- LEAN Kaizen
- Hoshin Kanri strategy deployment

Result: $6 million increased and retained sales, with $350,000 in costs saving/avoidance

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Documented Service Impact

Clients Surveyed October 2009-September 2010

Sales:
Created: $55.0 Million
Retained: $123.1 Million

Cost Savings:
$29.3 Million

Jobs Created or Retained: 1,731

Investments Made:
$44.0 Million

Clients Surveyed Over the Past Ten Years

Sales:
Created: $556.8 Million
Retained: $1.074 Billion

Cost Savings:
$184.8 Million

Jobs Created or Retained: 12,337

Investments Made:
$1.061 Billion

Our State and federal sponsors measure the impact of the services we provide to Michigan manufacturers. MMTC clients are interviewed by an independent, third-party survey firm six months after project work is completed.

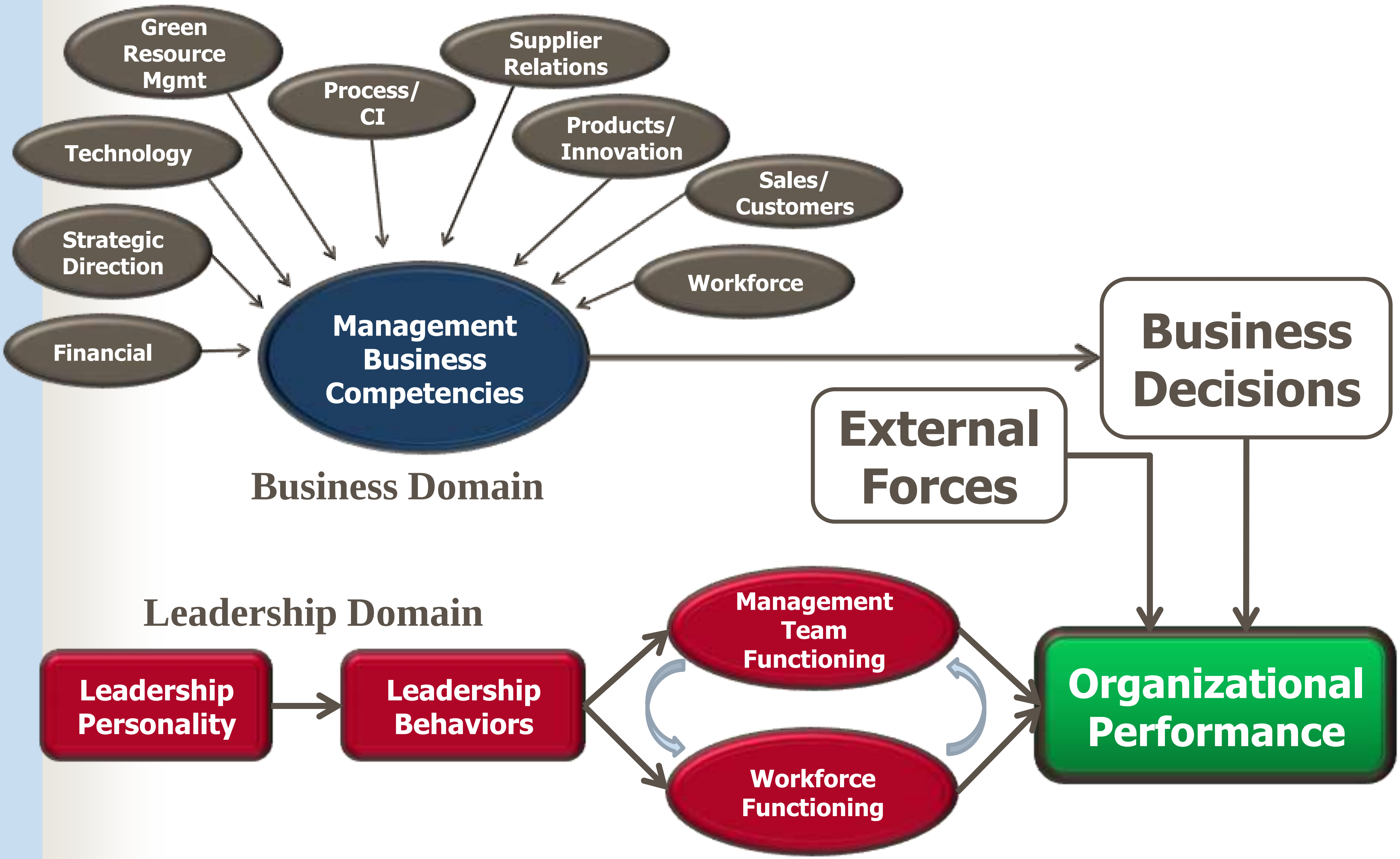
But Impact Uneven

- As with everything, the 80/20 rule applies: many with a little impact, a relative few with larger impact
- So we studied the few and found:
  - **Leadership** competency and sponsorship critical to achieving & sustaining success
  - Competent **management team** with competency across full range of business domains essential … and relatively rare
  - **Employee engagement** critical to "discretionary effort" needed to take firms to next level
  - **Profitable growth** – not just hanging on – must be the explicit goal of engagements.

Our New Solution: "*Leadership in Action*"

- In development since 2010
- Ten pilots run 2010-11
- Intensive 2-day assessment :
  - Leader
  - Managers
  - Engagement survey of entire workforce
- Confidential reports for:
  - Leader
  - Management team
- Every domain rated green, yellow, or red
- 3-day Execs-only workshop
  - What best practice takes
  - A plan to attack every red and many yellows

MMTC LIA Conceptual Framework



Competency Rated in Leadership & 27 Critical Business Areas

Strategic Direction & Vision			Financials			Process / CI		
Strategic Plan	Business Plan	Succession Plan	P & L	Quotation	Asset Management	Process Management	Improvement Plan	Quality Management

Workforce			Sales			Product Innovation		
Recruitment & Separation	Engage & Reward	Develop & Advance	Customer Management	New Business Development	Sales Management	Concept Development	Product Development Engineering	Product Launch Engineering

Information Technology			Supplier Relations			Green Resources		
IT Management	Information Systems	Infrastructure	Performance	Partnership	Integration	Green Marketing	Raw Material Consumables	Energy Efficiency

A Forecast for 2013-17

- Manufacturing performance critical to state's and region's comeback. Solid 2011 at most a partial recovery:
  - Still down 400,000 mfg jobs from 2000
  - Detroit 3's share half what it was in 1978
- A moment of threat and opportunity:
  - A weak dollar, rising transportation prices, and higher Asian costs could ignite more than recent anecdotal reshoring, and …
  - Vehicle lightweighting to meet 2025 CAFÉ standards could bring a sea-change in materials and fabrication … This is also the area in which high-performance computing could be important for SMMs – being able to simulate the performance of new-material parts without building and testing prototypes.