



# Reshoring Initiative

*Bringing Manufacturing Back Home*

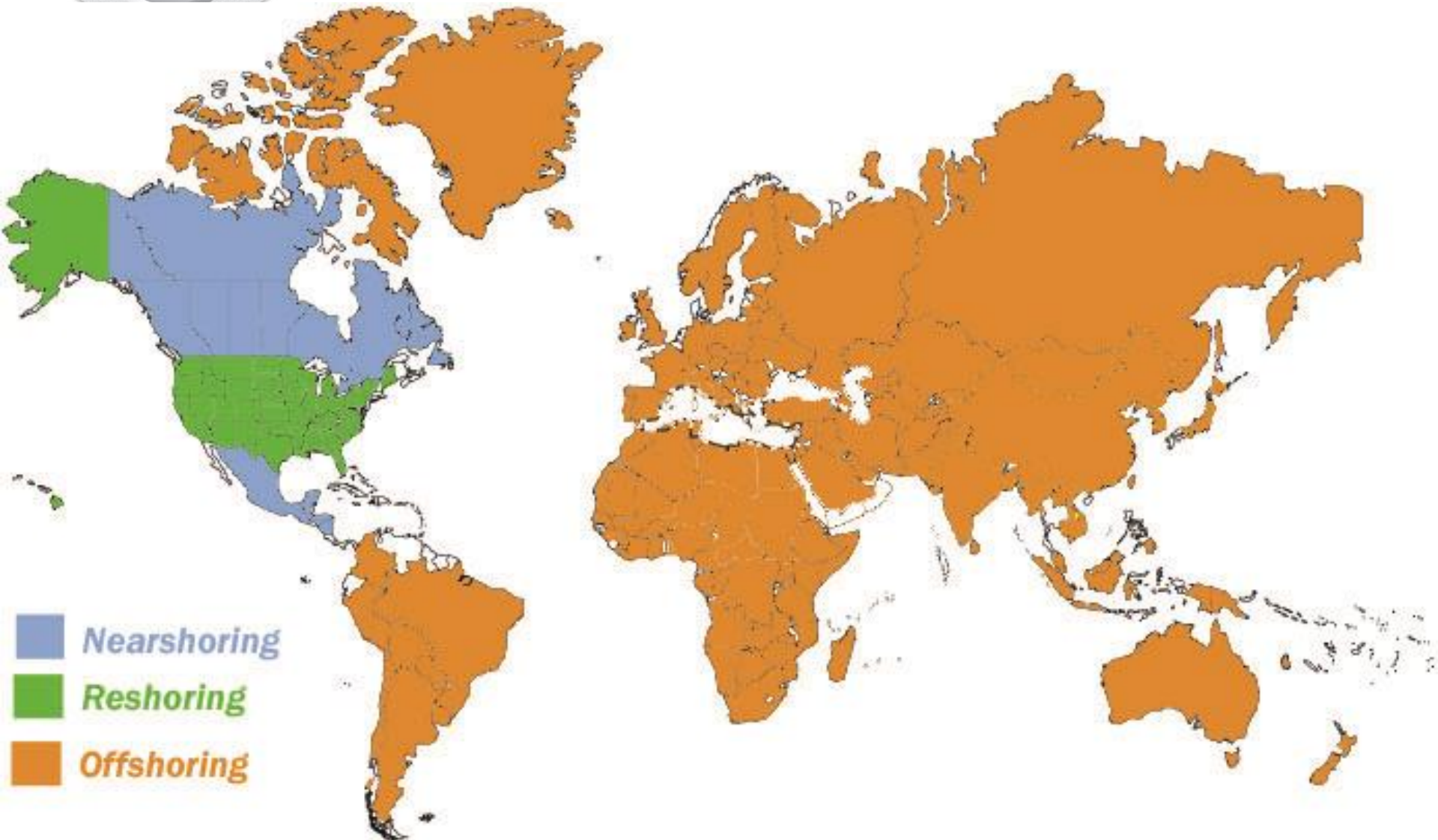
## To Offshore or Reshore? How to Objectively Decide

SABC

Harry Moser  
President  
Reshoring Initiative

- Reshoring/Backshoring/Onshoring/Insourcing: Bringing back manufacture of products that will be sold or assembled here.
- Transplants/FDI: Similar logic
- Producing near the consumer!
- Localization

# Geographic sourcing alternatives





# Flawed company economic model

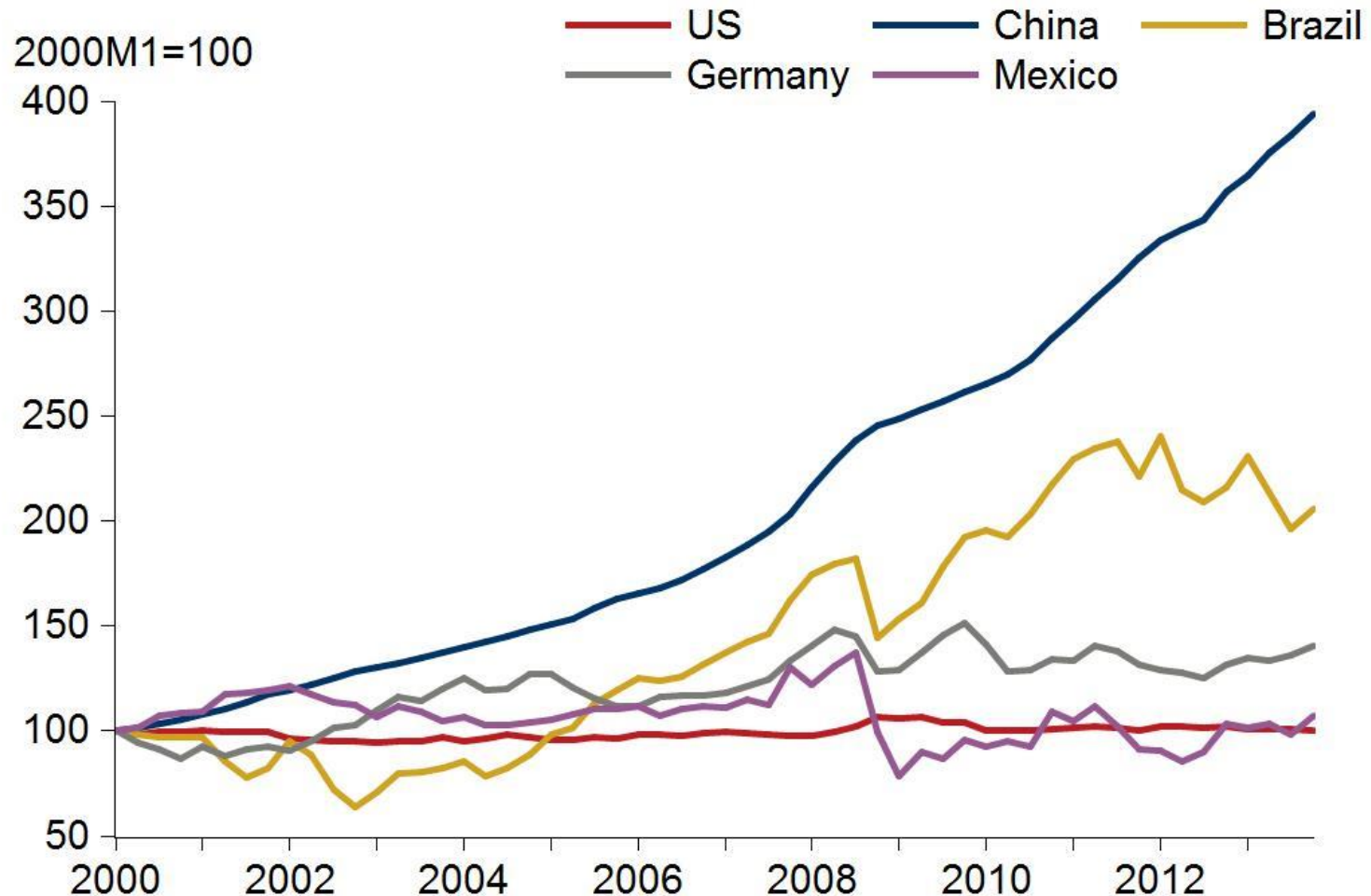
## 60% of manufacturers:

- Apply “rudimentary” total cost models
  - Wage Arbitrage
  - PPV (Purchase Price Variance)
  - Landed Cost
- Ignore 20% or more of the total cost of offshored products

Source: Archstone Consulting survey, American Machinist Mag., 7/16/09

# Indexed Unit Labor Costs in the Manufacturing Sector of Selected Countries

## US: Unit labor costs in manufacturing in US\$



Source: Oxford Economics/Haver Analytics





# The Industry-Led Reshoring Initiative Provides

- Free Total Cost of Ownership (TCO) software for:
  - Companies for sourcing
  - Suppliers of parts and equipment for selling
- Online Library of 2,200+ reshoring articles
- Statistics from TCO and Library databases
- Case Study template for posting cases.
- Solutions to major supply chain problems
- Motivation for skilled manufacturing careers

# TCO Comparison Example

**Present and Forecast US and China Price and TCO (US\$)**





# 2012 TCO cases, China vs. U.S.

<b>Comparison Basis</b>	<b>% of cases where U.S. has the advantage</b>
Price	5%
TCO	53%
Difference	48%*

\*Conservatively 25% might return if companies shifted to TCO

Source: TCO user database



# Local production dominates

## Product Values

Price ( $p$ )

Make-to-order cost ( $c_0$ )

Residual value ( $rv$ )

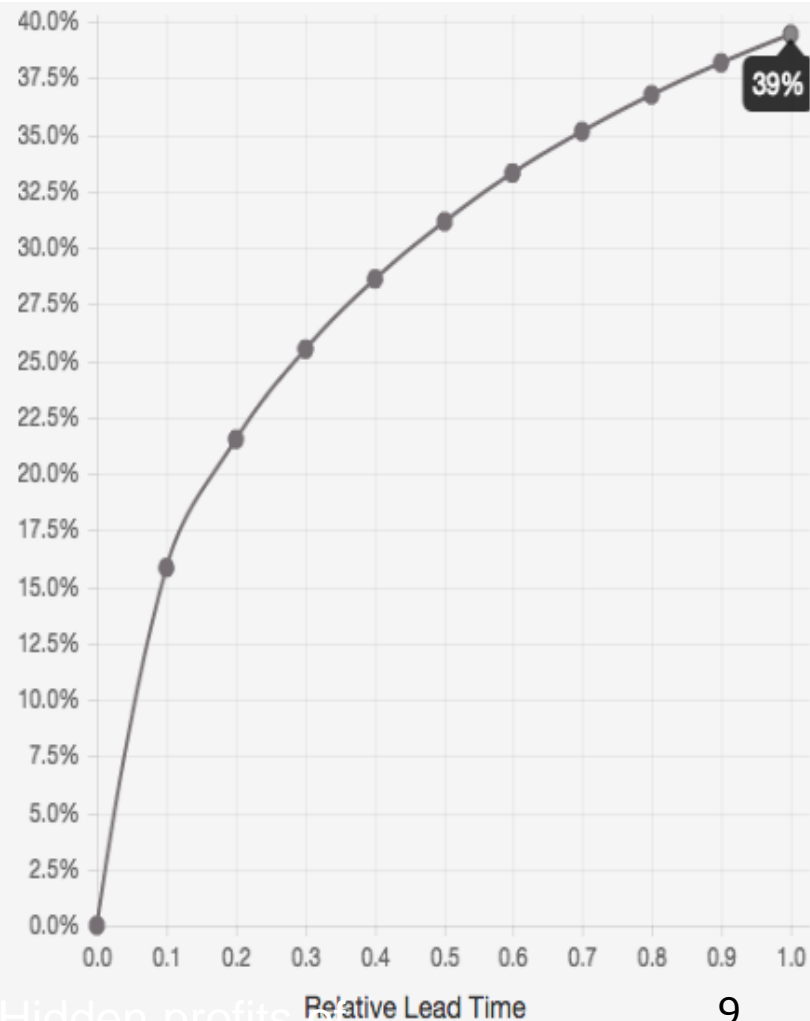
Critical fractile ( $cf_0$ )

Minimum service level ( $msl$ )

Fill rate ( $fr$ )

Volatility parameter ( $v$ )   
(Calculator)

Add Curve





# Offshoring Multiplies Waste

<b><u>Toyota Wastes</u></b>	<b><u>Offshoring Contributes</u></b>
Overproduction	Large batch shipments, filling containers
Waiting	Uncertain delivery/Inconsistent quality, port, customs, shared “awake time” window for discussions
Transport	8,000 mi. inbound (return boat ½ full)
Overprocessing	More packing and unpacking, customs paperwork
Inventory	In transit, cycle, safety stock, uncertain delivery and quality, less ability to check and count
Motion	Increased cost over time – repetitive motion injuries or additional labor to compensate
Defects	Much higher than local sources, extra inspection of materials and tolerances, customers unhappy longer



## Bringing Production back from China:

- Water-heaters, fridges, and washing machines
- Unionized facility in Louisville, KY
- 1300 jobs, renovated facility, \$800 million invested
- Reasons:
  - Tax incentives
  - High-tech new model
  - Ease of design collaboration with workers: retail price -20%
  - 2 tier contract
  - Chinese cost: -30% becomes +6% considering inventory and delivery problems

- Walmart's increase in U.S. manufactured purchases:
    - \$250 Billion over 10 years
    - \$50 Billion in the 10<sup>th</sup> year
    - In the 10<sup>th</sup> year:
      - Approx. 300,000 manufacturing jobs\*
      - Approx. 1 million total jobs\*\*
  - <http://engage.walmart-jump.com/>
- \*Reshoring Initiative    \*\*Boston Consulting Group

- Woodridge, IL
- Supplies heavy equipment companies
- Had quality issue with a Chinese component
- Found local IL source
- Result:
  - Quality problem fixed
  - Inventory cut by 94%



- Had 100,000 ft<sup>2</sup> in Chennai, India
- Reshored to Westknoxville, TN
- 60,000 sq. ft.
- Reasons:
  - Fast delivery vs. 5 wks on the water
  - Fewer supply chain problems
  - If a quality problem, no more bad units en-route

Source: Knoxvillebiz.com Ed Marcum 8/7/10



# The Bleeding has Stopped

Manufacturing Jobs/Year			
	2003	2014	% Change
New Offshoring	~150,000*	30,000-50,000*	-70%
New Reshoring & FDI	12,000*	60,000**	+ 400%
Net Jobs Gained	~-140,000	~+10,000	N/A

\* Estimated    \*\* Calculated

# Reshored Industries: Top 10

Industry	Jobs	Cases
Transportation Equipment	13823	33
Electrical Equipment, Appliances, Components	9240	58
Computer/Electronic Products	3483	25
Machinery	2860	20
Apparel/Textiles	2154	46
Fabricated Metal Products	1721	39
Food	1628	9
Wood Products	1028	18
Medical Equipment	738	17
Hobbies	723	29

Sources:  
Reshoring  
Initiative Library.

Cases 2007  
through 12/31/14.



# Negative Issues Offshore: Top 10

Negative Reasons not to Offshore	Companies
Quality/rework/warranty	116
Freight cost; Lead time/time to market	90 each
Rising wages	63
Total cost, TCO	62
Delivery	45
Inventory	42
Communications	26
Intellectual property risk	23
Loss of control	22
Supply chain interruption risk, Travel cost	21 each

Source: Reshoring Initiative Library, December 2014.



# Positive Reasons to Reshore: Top 10

Positive Reasons to Reshore	Cases
Image/brand	58
Automation/technology	53
Re-design of the part	40
Government Incentives; Walmart	35 each
Skilled workforce availability/training	34
Higher productivity; Lean or other business process improvements; Manufacturing/Engineering joint innovation	27 each
U.S. price of natural gas, chemicals, electricity	18
Contracted/Customers Reshoring	16

# Top Countries From Which Reshored

Global Region	Cases
Asia	241
North America	37
Western Europe	12
Eastern Europe	5

Country	Cases
China	194
Mexico	27
Unknown Country	13
Canada	10
Taiwan	9
Japan	8
India	7
Italy	6
Korea, Malaysia, Hungary	3 each



# Jobs Reshored by State: Top 10

State	Jobs	Cases	Jobs/ Facility
SC	7530	8	941
TX	3792	13	292
KY	3412	4	853
GA	3145	8	393
TN	3137	15	209
OH	2739	24	114
MI	1742	16	109
NY	1165	19	61
NC	1020	15	68
KS	1000	2	500

Sources: Reshoring Initiative Library, December 31, 2014. Cases 2007 through 12/31/14.





# Benefits of Reshoring

- Balance the \$500 billion trade deficit:
  - 3 million manufacturing jobs
  - Cut U.S. budget deficit by about 50%
  - Reduce unemployment about 4 percentage points
  - 25% increase in manufacturing
  - If spread over 20 years: 25% extra annual capital equipment investment



# Gaining support in Washington, DC

- Commerce Dept:
  - 2012 budget specifies TCO.
  - Links:
    - <http://nist.gov/mep/reshoring.cfm>
    - <http://business.usa.gov/program/reshoring-initiative>
    - Major new site: <http://acetool.commerce.gov/>
  - Testified at Congressional hearing on 3/28/12
  - Working actively with SelectUSA
- Calls from:
  - US-China Economic and Security Review Commission
  - White House National Economic Council



## Employment Projections

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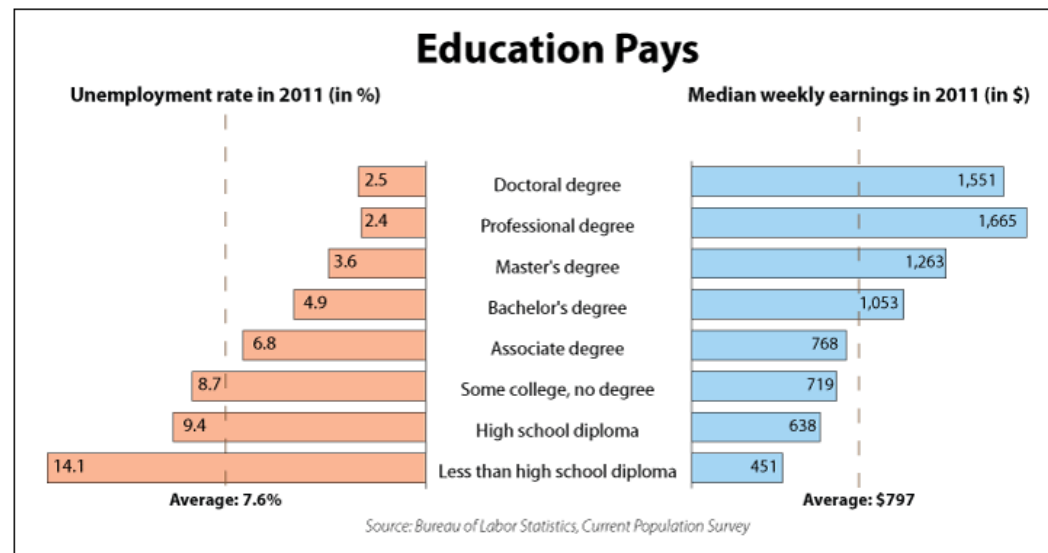
DETAILED DATA FOR  
RESEARCHERS ▸

CAREER INFORMATION  
RESOURCES ▸

TECHNICAL  
DOCUMENTATION ▸

## Education pays...

Education pays in higher earnings and lower unemployment rates



[Chart data \[TXT\]](#)

Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.

Source: Bureau of Labor Statistics, Current Population Survey.

BLS has some data on the [employment status](#) of the civilian noninstitutional population 25 years and over by educational attainment, sex, race, and Hispanic origin online.

The Census Bureau also has some data on [educational attainment](#) online.

**WE NEED  
YOUR  
HELP!**



# Local Skilled Workforce Recruitment

Issue	Solution
“Trades” and “vocations” image	Call them “Professions”
“Middle skills”	“Technical Skills”
Manufacturing career image due to offshoring	Industry collect and media report the local reshoring case of the month. Use our Case Studies feature.

# Economic Development Program Starting in PA, MS, Central NY

Action	Source/Responsibility
Identify local imports by U.S. or foreign companies	Datamyne
Suggest to companies they source locally	EDO/MEP/ etc.
Train companies on TCO to overcome issue of higher local price	Reshoring Initiative
Needed further cost reductions	MEP/ Comm. College/ Technology Suppliers/EDO





# More Boots on the Ground

- Suppliers suggest companies where they lost to offshoring
- Visit the companies
- Educate on TCO
- Encourage reshoring and use of local suppliers
- Underway in MS and PA



# Resources for Retail Suppliers

- Purpose: Help suppliers supply more Made in USA products
- Developed for Walmart. Will invite all retailers
- Page on Walmart USA Mfg. site, w/links to
- Nine Resources on Initiative site:
  - Timing
  - Product Selection
  - Revaluation
  - Competitiveness: design, advanced mfg., Lean, gov. assistance, skills
  - Suppliers
  - Retailers
  - Compliance
  - Transition
  - Financing
- Contacts at 23 (eventually 40) assoc's/companies/Commerce
- DMDII could be a contact



# How you can help Reshoring and your Industry

- Use the tools for sourcing and selling.  
Free at [www.reshorenow.org](http://www.reshorenow.org)
- Use our archived webinars to inform staff and customers
- Post a link.
- Call on me to speak at: open houses, webinars, customer industry conferences
- **Submit cases of reshoring.**



# How the Initiative can help companies

- Data on reshoring by others
- Consumer preference data
- Training on TCO
- Help with the analysis
- Ideas for managing the transition
- Promotion of your success

- ACETool
  - Cost Differential Frontier
- TCO Estimator
- Using the TCO Estimator: A How-To Guide
- Library
- Submit a Case Study
- Economic Development Program



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Silver





# A non-profit with 38 sponsors

## Bronze

**FESTO**



**ROYAL**  
PRODUCTS

**AWPA**  
AMERICAN  
WIRE  
PRODUCERS  
ASSOCIATION  
\*Steel Wire and Wire Products  
for Manufacturing



**DOOSAN**

**usbank**

**FMA**

**spi** the plastics industry  
trade association

## Steel

**Swiss Machine  
Tool Society**

**BIG KAISER**  
PRECISION TOOLING INC.

**manex**  
The Corporation for Manufacturing Excellence

**PARLEC**

**ETA**

30 years  
**NAHAD**

Association Connecting Electronic Industries  
**IPC**

## Iron

**USCTI**  
UNITED STATES CUTTING TOOL INSTITUTE  
LEADING THE FUTURE OF THE CUTTING TOOL INDUSTRY

**CANADIAN  
TOOLING &  
MACHINING  
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system solutions

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**MSSC**

CALIFORNIA  
CORLITON  
METALS

**Nutec**  
GROUP

**IDEAL**  
FASTENER CORPORATION

# Help reverse the offshoring flood now!

Contact:

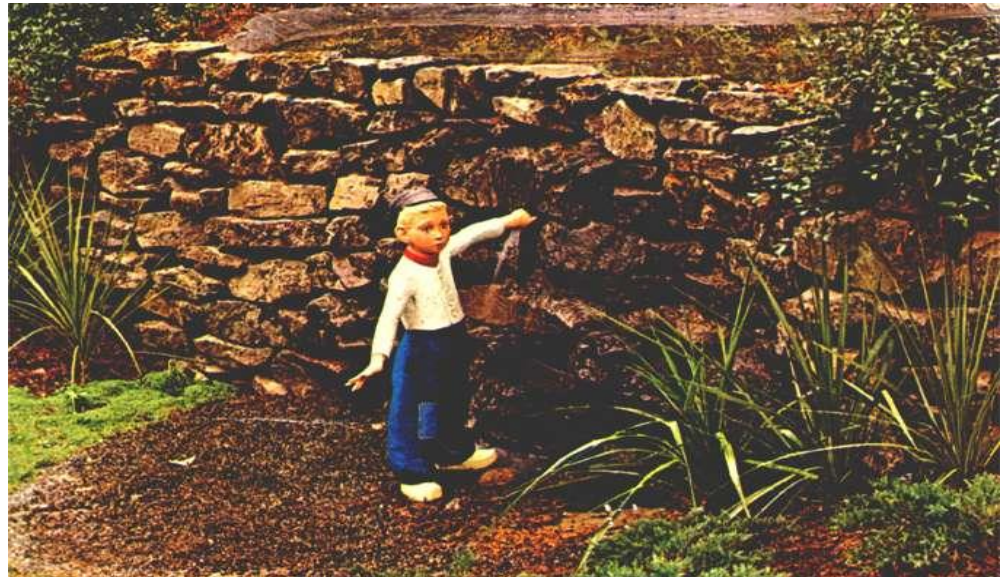
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Recruiting trainees for the skilled manufacturing workforce:

<http://tinyurl.com/33vpz9k>