



VMEC... The "Go To" Resource for Proven Solutions to Grow Your Business Profitability and Become a Next Generation Manufacturer.



2011



Next Generation Manufacturing
Attributes & Strategies for Success

The Vermont Manufacturing Extension Center (VMEC) operates statewide as a not-for-profit center providing confidential consulting, coaching, hands-on assistance and training to accelerate profitable growth through innovation, increased productivity, reduced costs, improved competitiveness, and creating and retaining good paying jobs.

VMEC's Primary Mission

Our mission is to improve and grow manufacturing in Vermont and strengthen the global competitiveness of the state's manufacturers.

Additionally, in early 2006 VMEC launched the Process Strategies Group (PSG) as a specialized business unit within the Center to bring its vast Lean process improvement experience and growth strategy expertise to selected non-manufacturing sectors. This impact report does not include any client project impact results from VMEC PSG.

How VMEC Assists Companies

Accelerating Profitable Growth Through Innovation:

- VMEC services accelerate solutions for your company's very important problems and opportunities for profitable growth.
- VMEC Innovation Engineering Black Belts provide expertise and coaching to help organizations learn and apply innovation tools and the Innovation Engineering Management System to increase speed (up to six times) and decrease risk (30 to 80 percent). Innovations may be for more profitable customers and markets, processes, products and services and systems.

On-site Consulting, Training and Implementation

VMEC Advisors are hands-on experts, working with Vermont's manufacturers and selected other organizations to develop and implement targeted improvements and growth strategies.

Lean Training, Implementation and Coaching

Since 1995, VMEC has been working with companies of all sizes to transform plant and office administrative processes, to lower costs, increase throughput, and improve customer and employee satisfaction. VMEC staff members are "Lean" experts with a proven track record. Success stories are available at vmec.org.

When Lean companies mature and have their own Lean resources, VMEC often continues to assist as an unbiased coach—or "sensei"—and provides new and advanced training.

Public Workshops and Events: A variety of basic and advanced workshops are held throughout the state to provide information and tools to improve operations. On-site workshops are also available.

A Resource Center: Companies have access to a wealth of information from the VMEC website, newsletters, events, certification programs, and numerous local, regional and national resources through VMEC's affiliation with its federal partner, the Hollings Manufacturing Extension Partnership (MEP), a nationwide program of the National Institute of Standards and Technology (NIST) in the U.S. Department of Commerce.

Leading the way for "Next Generation Manufacturing" in Vermont: VMEC is helping manufacturers be competitive in the six Next Generation Manufacturing strategies and attributes:

- 1 Innovation and Technology Acceleration
- 2 Advanced Talent Management
- 3 Systemic Continuous Improvement
- 4 Extended Enterprise Management
- 5 Sustainable Product and Process Development
- 6 Global Engagement

Vermont Innovation Marketplace

The Vermont Innovation Marketplace accelerates "open innovation" connections between people and companies who have innovations and ideas for growth and those that need ideas for profitable growth.

This web-based service was launched in April 2009 by VMEC and the U.S. Department of Commerce. It is a subset of the USA National Innovation Marketplace.

The Marketplace also includes a USA Manufacturing and Expertise Registry where Vermont companies can create a free website with higher credibility and visibility, tell what makes them great, and provide a link to their site.

The Innovation Marketplace is a valuable tool for manufacturers, investors, entrepreneurs, distributors and researchers.

2011 Innovation Marketplace Statistics

- Ability to search over \$2.7 billion in Innovation Buying Requests
- Ability to search over \$945 billion in Innovation Business Opportunities

www.VermontInnovation.org

VMEC is aggressively promoting profitable and sustainable growth through innovation using principles of Innovation Engineering.

INCREASES SPEED REDUCES RISK

for
Existing and New Projects
and
Profitable Solutions for
Very Important Problems and
Very Important Opportunities



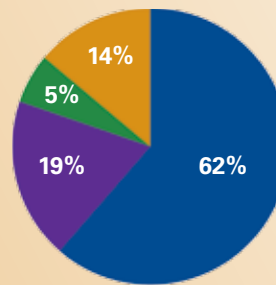
During 2010 and 2011, VMEC hosted three Vermont IE Leadership Institutes.

This intense graduate level course held in Vermont for senior leaders was attended by a total of 366 participants from 129 companies.

Manufacturing Really Matters in Vermont

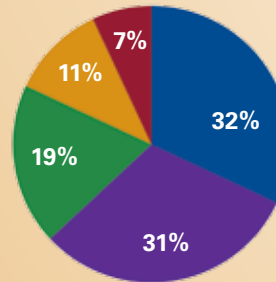
- Next to Government, manufacturing contributes more to Vermont's economy than any other sector.
- Manufacturing contributed \$2.86 billion to Vermont in 2009.
- Manufacturing provided about 31,500 jobs in Vermont in 2011 that are high skill and high wages. Each manufacturing dollar generates approximately \$1.37 in additional economic activity.
- Between 1997 and 2009, Vermont manufacturers showed a 70 percent increase in output — \$1.69 billion vs. \$2.9 billion (both in inflation adjusted dollars). Each worker produced nearly 2.5 times more in 2009 than in 1997.
- Approximately 60% of Vermont's 2,000 manufacturers have fewer than 10 employees, and about 87% have 50 or fewer employees.
- Manufacturing remains the engine of American technology development and innovation.

Partial Impact of VMEC: July 2010–June 2011



Client-reported Investment in Modernization: \$4,152,000

- Plant & Equipment: 62%
- Workforce Practices and Employee Skills: 19%
- Information Systems & Software: 5%
- Other: 14%



Size of Firms Served by VMEC (by number of employees)

- 1–9: 11%
- 10–50: 32%
- 51–100: 19%
- 101–500: 31%
- 500+: 7%

WE GET RESULTS!

Number of Manufacturers Served: 865

- VMEC served more than 865 of Vermont's approximately 2,000 manufacturers from January 1996 through June 2011.
- VMEC served 107 manufacturing companies from July 2010 through June 2011.

Public and On-site Workshops and Training Provided by VMEC

More than 2,150 manufacturing employees from 82 companies participated in public workshops and onsite manufacturing training in Vermont from July 1, 2010 through June 30, 2011.

Vermont Manufacturers Forums

Approximately 367 manufacturing employees from 40 companies participated in seven Vermont Manufacturers Forums held throughout Vermont at various plant sites of companies committed to continuous improvement, Lean thinking and/or Lean manufacturing, and innovation-led growth.

Vermont Manufacturing Industry (2009)			
	Output (\$ million)	Jobs	Average Wage
All Manufacturing	\$2,863	31,431	\$51,829
Durable Goods	\$2,081	22,319	\$56,224
Computer and Electronic Products	\$827	6,718	\$77,080
Non-durable Goods	\$783	9,112	\$41,064
Food Products	\$444	4,053	\$38,582

Note: Average annual earnings in Vermont manufacturing is 36 percent above the statewide average: \$51,829 versus \$38,124. Source: Vermont Economy Newsletter (in 2009)

Vermont Gross Domestic Product by Industry vs. 50 States		
	2009 Vermont Share	2009 Shares 50 States
Government	14.3%	12.9%
Manufacturing	11.1%	11.1%
Health Care	10.4%	7.3%
Retail	7.9%	6.0%
Finance	6.7%	8.5%
Professional & Technical	6.4%	7.6%
Wholesale	4.7%	5.6%
Hotel & Restaurant	4.5%	2.9%
Construction	3.7%	4.1%
Information	2.7%	4.5%
Utilities	2.4%	1.9%
Private Education	2.4%	1.1%
Transportation	2.1%	2.8%
Agriculture	1.1%	1.0%
Arts & Entertainment	0.9%	1.0%

Source: Vermont Economy Newsletter

PARTIAL VMEC IMPACT

- Jobs created that otherwise would not have existed: **135***
- Jobs retained: **115***
- Total jobs created (direct, indirect and induced): **512**** that paid a total of **\$23.2 million**** in employer wages and benefits
- Client investment in modernization: **\$4,152,000***
- Cost savings: **\$1,929,000***
- Increased and retained sales: **\$3,762,000***
- Additional labor compensation: **\$38,051,000****
- Total value added (gross state product): **\$41,779,000****

This data reflects the results of VMEC client projects from July 2010 through June 2011. The data is from formal surveys conducted by a third party under contract to the National Institute of Standards and Technology (NIST), Hollings Manufacturing Extension Partnership (MEP). Clients surveyed represent only 18 percent of all Vermont clients served by VMEC during the period.

*Client-reported impact as a direct result of VMEC assistance.

**Results of input-output analysis (IMPLAN modeling) based on results from VMEC clients surveyed.



VMEC's TOTAL IMPACT on Vermont's Economy¹

\$993,137,000

January 1996–June 2011

\$102,903,000

July 2010–June 2011

Includes the direct client impact reported by clients via third-party survey, the indirect impact generated when clients' firms increase their purchases from suppliers, and the induced impact caused by increased household expenditures generated by direct and indirect effects.

¹ Reported impacts are modeled using IMPLAN 3.0 Software and Vermont 2009 State data package.

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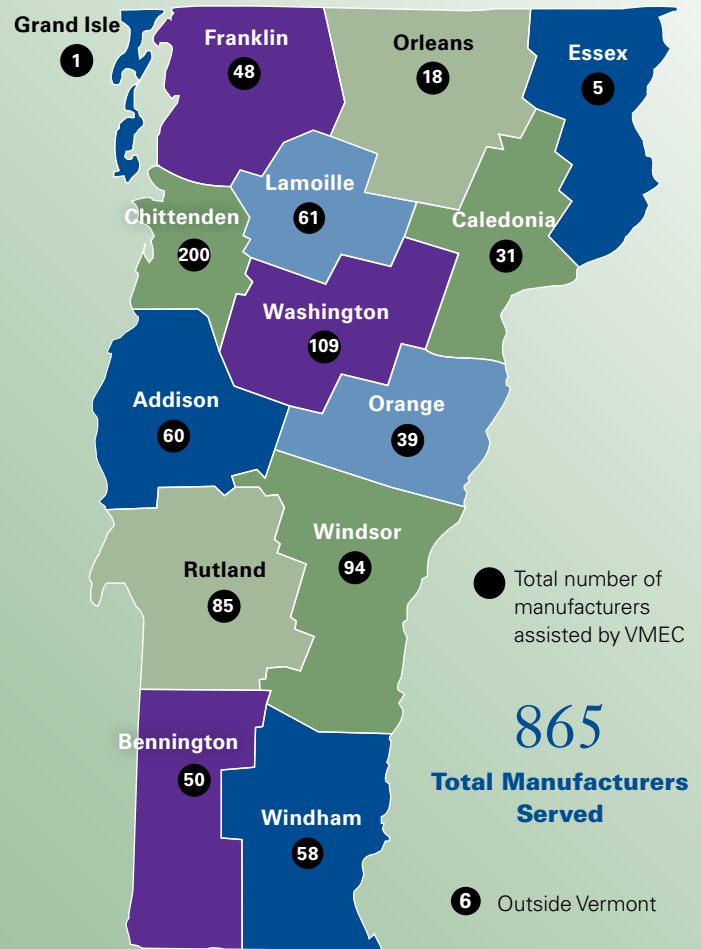
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The VMEC Board is an elected board of experienced manufacturers and other leaders with manufacturing interests who serve without compensation for a minimum of two years. The board works with the center's director to help set basic policies and directions to enable VMEC to fulfill its mission.



VMEC is the local affiliate and point of contact for Vermont companies interested in learning about or applying for **The Shingo Prize for Operational Excellence** in the Northeast Region. *Business Week Magazine* has referred to the Shingo Prize Program as the "Nobel Prize of manufacturing," because it establishes a standard for world-class excellence.

VMEC Assistance by County January 1996–June 2011



Contact us at
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Cover photos courtesy of Autumn Harp, Inc., Omega Optical, Revision Military Ltd. and Superior Technical Ceramics Corporation

"Innovation Engineering has resulted in a meaningful, unique, and significant cultural change in our company. It has increased our ability to move a process, product, or marketing improvement along ten-fold."

RICK ROSE, DIRECTOR OF SALES, MARKETING & DESIGN,
CLASSIC DESIGNS / TABLELEGS.COM