Providing Systems and Solutions to Help Vermont Manufacturers Innovate, Plan, Perform and Grow

Since 1995
OUR MISSION: TO STRENGTHEN AND EMPOWER VERMONT MANUFACTURERS

VERMONT MANUFACTURING EXTENSION CENTER (VMEC) has operated statewide as a not-for-profit Center since 1995, collaborating with public and private partners in business, government and education to bring world-class assistance and resources to Vermont manufacturers and other enterprises of all sizes, helping them overcome ever-changing challenges, become more competitive and grow their profitability. A valuable local Resource and Trusted Advisor, VMEC has a 24-year track record of achieving measured results and quantified impact for its clients, with a high average Return on Investment (ROI) reported by clients as a direct result of VMEC assistance.

The VMEC Team is Vermont’s go-to resource for expertise in manufacturing consulting, coaching, hands-on implementation, continuing support, and training and education for leaders and workers. We help clients to innovate, plan, perform and accelerate profitable growth in ways that drive increasing enterprise value. The VMEC Team provides proven systems and solutions focused on Strategies, Processes, Products, Technologies and People.

VMEC IMPACTS

Partial Impact of VMEC in Vermont

- Jobs created that otherwise would not have existed: 111* Last three years: 296
- Jobs retained: 361 / Last three years: 659
- Total jobs created (direct, indirect and induced): 1,340** that paid a total of $61.1 million** in employer wages and benefits
- Client investment in modernization: $1,361,000* Last three years: $30,411,000
- Cost savings: $15,715,000* Last three years: $37,508,000
- Increased and retained sales: $60,002,000* Last three years: $170,399,000
- Additional labor compensation: $90,014,000**
- Total value added (gross state product): $102,298,000**

This data reflects the results of VMEC client projects from July 2017 through June 2018. 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 63% 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 Lean 101 training program played a critical role in helping us get all of our employees on board with this strategic initiative.” — JON BLATCHFORD, PRESIDENT AND CEO

COVER PHOTO COURTESY OF LAKE CHAMPLAIN CHOCOLATES
Value Stream Mapping Spurs Company Growth

After two decades of controlled growth at their Pine Street, Burlington, VT and Boyer Circle, Williston, VT manufacturing facilities, Lake Champlain Chocolates was ready to expand. The company has been producing fair trade and organic chocolate confections since 1983, distributing and selling nationwide. They contacted VMEC to evaluate their operation and help them plan for future growth. Lake Champlain Chocolates particularly wanted to analyze their manufacturing process through Value Stream Mapping and discuss the layout of their second manufacturing facility. With VMEC’s assistance, the company applied Lean principles to their manufacturing process that allowed them to avoid building a new facility and instead invest in their existing plants.

“Through Value Stream Mapping, we developed a greater cross-functional understanding of the most heavily used machine in our operation. This one exercise has transferred to other project areas, creating a ripple effect of inquiry, trials and data collection, and improved performance. VMEC provided the tools and perspective to evaluate our operation more effectively.” – ERIC LAMPMAN, PRESIDENT

Avoided and/or Saved $12,000,000 on Investment
Invested $58,000 into other areas of operation
Increased sales by $2,100,000

Operational Excellence and Continuous Improvement
Ongoing continuous improvement, cost reduction strategies and operational excellence remain among the top needs we hear from manufacturers. VMEC can recommend and support systems and solutions to identify and systematically drive out waste in all of its forms, transform office/administrative and plant processes, solve problems, lower costs, improve quality, increase customer and employee satisfaction, manage talent and train employees, and grow a culture of continuous improvement.

• Trusted Advising and Executive Coaching
• Lean Manufacturing
• Administrative Lean
• Cost Reduction

Quality Management Systems
Six Sigma
Strategy Development and Deployment

Innovation, Growth and Technology Acceleration
Vermont Manufacturers are asking for help to develop new products and increase sales to new markets. Spanning the innovation continuum, VMEC can help plan, accelerate and implement strategies to integrate advanced manufacturing technologies into profitable new Products & Services, Processes and Business Models for systemic excellence and sustainable growth. VMEC is a licensed member of the growing global Innovation Engineering™ Network of practitioners.

• Innovation Engineering™
• Marketing / Branding
• Product Development
• Supply Chain

Industry 4.0 and 5.0
Cybersecurity
Export Planning and Growth

Resources for Vermont Manufacturers
Manufacturers need quick access to information and resources for wide-ranging needs. The VMEC team is comprised of a highly experienced group of professionals with many years of combined experience in all aspects of manufacturing and enterprise growth.

We have ready access and established relationships with State of Vermont and private resources, plus MEP National Network™ consultants and numerous other resources across the nation through VMEC’s longstanding affiliation with federal stakeholder partner, the Hollings National Institute of Standards & Technology (NIST) Manufacturing Extension Partnership (MEP).

• Representative of the MEP National Network™ in Vermont
• Value-added Partnerships and Experts
• Vermont CoreValue™ Agency

Workforce Strategies and Talent Development
Developing a highly skilled workforce is critical to Vermont’s manufacturers. VMEC offers a variety of networking and training opportunities through its basic and advanced public and on-site Workshops, Vermont Manufacturing Forums held at local plants, and focused Special Events.

• Workshops and Training
• Forums and Networking
• Workforce and Leader Development

Client Return on Investment » 175:1
Over the past 3 years, every $1 spent by clients on VMEC assistance returned an average of $175.
Based on company-reported data, April 2015 through March 2018.

LAKE CHAMPLAIN CHOCOLATES PROJECT IMPACTS

Size of Firms Served by VMEC by Number of Employees*

<table>
<thead>
<tr>
<th>Number of Employees</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–9</td>
<td>15%</td>
</tr>
<tr>
<td>10–50</td>
<td>32%</td>
</tr>
<tr>
<td>51–100</td>
<td>15%</td>
</tr>
<tr>
<td>101–500</td>
<td>32%</td>
</tr>
<tr>
<td>500+</td>
<td>6%</td>
</tr>
</tbody>
</table>

*July 2017 - June 2018

Client Profile: Lake Champlain Chocolates

Value Stream Mapping Spurs Company Growth

After two decades of controlled growth at their Pine Street, Burlington, VT and Boyer Circle, Williston, VT manufacturing facilities, Lake Champlain Chocolates was ready to expand. The company has been producing fair trade and organic chocolate confections since 1983, distributing and selling nationwide. They contacted VMEC to evaluate their operation and help them plan for future growth. Lake Champlain Chocolates particularly wanted to analyze their manufacturing process through Value Stream Mapping and discuss the layout of their second manufacturing facility. With VMEC’s assistance, the company applied Lean principles to their manufacturing process that allowed them to avoid building a new facility and instead invest in their existing plants.

“Through Value Stream Mapping, we developed a greater cross-functional understanding of the most heavily used machine in our operation. This one exercise has transferred to other project areas, creating a ripple effect of inquiry, trials and data collection, and improved performance. VMEC provided the tools and perspective to evaluate our operation more effectively.” – ERIC LAMPMAN, PRESIDENT
Improving Processes, Reducing Waste

NSA Industries was looking for specialized training for its employees when it first approached VMEC. The company, which is headquartered in St. Johnsbury, VT, provides a number of industries with metal fabrication and machining, as well as powder coating, silk-screening and assembly. One of its major challenges was finding specialty skills training in the local region, which in turn was stalling employee advancement and continuous improvements within the company. Fortunately, NSA Industries learned about VMEC’s Lean Six Sigma Green Belt training. The training provided a series of tools that the participants used to organize their improvement projects. In one project, NSA employees improved the set-up process in the copper department, reducing scrap dollars by 75 percent. New employees received training on set-up procedures that decreased variation from machine to machine. Collectively, the improvements changed the culture of the plant.

“VMEC’s Six Sigma training was taught by a highly skilled individual with real-world experience. This helped the employees who received this training to realize the value in Six Sigma thinking.” — DARCI RUGGLES, CONTINUOUS IMPROVEMENT MANAGER

Vermont Manufacturing Facts

- **8.7%** Vermont GSP provided by manufacturing
- **9.1%** Vermont workers employed by manufacturers
- **$63K** Average annual compensation for Vermont’s manufacturing employees

Challenges to Manufacturing Growth

The five highest-ranking strategic challenges reported by VMEC clients include the following (based on client surveys completed October 2017-September 2018 by an independent third party under contract to NIST MEP):

- 67% Continuous Improvement and Cost Reduction
- 63% Growth Opportunities
- 50% Product Innovation and Development
- 48% Employee Recruitment and Retention
- 19% Sustainability in Products and Processes

VMEC’s Impact on Vermont’s Economy

<table>
<thead>
<tr>
<th>Period</th>
<th>Impact Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1996 – June 2018</td>
<td>$2,300,930,000</td>
</tr>
<tr>
<td>July 2017 – June 2018</td>
<td>$339,545,000</td>
</tr>
</tbody>
</table>

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. Reported impacts are modeled using IMPLAN 3.1 Software and Vermont 2016 State data package.

Manufacturers Served — VMEC served more than 931 of Vermont’s approximately 1,200 manufacturers from January 1996 through June 2018, with 90 served in the last year.

Employees Trained — More than 878 manufacturing employees from 70 companies participated in public workshops and onsite manufacturing training in Vermont from July 1, 2017 through June 30, 2018.

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.