



SINCE 1995

IMPACT REPORT 2018

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

**VERMONT
TECH**
VMEC HOST SINCE 1995



vmec.org

802.728.1432



CLIENT PROFILE: J.K. ADAMS COMPANY

LEAN Transforms Top American Wood Manufacturer

When the leaders of **J.K. Adams Company** wanted to take their business to the next level, they turned to VMEC for help. The Dorset, VT-based company is the preeminent American manufacturer of high-quality, wooden cutting boards and innovative culinary tools. The company makes all its products in Vermont using sustainably-harvested North American hardwood and employs about 40 full-time workers. To help improve the company's sales and efficiency, VMEC conducted two "Fundamentals of Lean 101" trainings for all J. K. Adams employees, followed by a Value Stream Mapping project. The mapping revealed that although raw materials traveled just six hundred feet through five operations to become a finished product, employees were walking a full mile to get the job done. By moving tools around for optimum efficiency, the company reduced employee walking distance by two-thirds. They also made dramatic improvements to the plant layout, increasing efficiency and bringing all the company divisions under the same roof.

"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

J.K. ADAMS PROJECT IMPACTS



REDUCED JOB ROUTERS PRODUCED FOR PRODUCTION BY 60%



REDUCED EMPLOYEE WALKING DISTANCE BY 66%



REDUCED SET UP TIMES ON CNC ROUTERS BY 20%

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.

Multiplier Impacts of Manufacturing



Economic Multiplier

Every \$1 in manufactured goods generates an estimated **\$1.89** worth of additional economic activity, the highest of any other economic sector.



Employment Multiplier

Each manufacturing job supports an additional **four jobs** elsewhere.

Source: National Association of Manufacturers

HOW VMEC ASSISTS ENTERPRISES

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**
- **Quality Management Systems**
- **Lean Manufacturing**
- **Six Sigma**
- **Administrative Lean**
- **Strategy Development and Deployment**
- **Cost Reduction**

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™**
- **Industry 4.0 and 5.0**
- **Marketing / Branding**
- **Cybersecurity**
- **Product Development**
- **Export Planning and Growth**
- **Supply Chain**

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 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

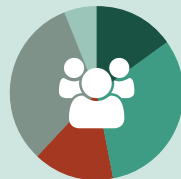
Client Return on Investment » 175:1



Over the past 3 years, every \$1 spent by clients on VMEC assistance returned an average on that investment of \$175.

Based on company-reported data, April 2015 through March 2018.

Size of Firms Served by VMEC by Number of Employees*



1-9 » 15%
 10-50 » 32%
 51-100 » 15%
 101-500 » 32%
 500+ » 6%

* July 2017 - June 2018

LAKE CHAMPLAIN CHOCOLATES PROJECT IMPACTS



AVOIDED AND/OR SAVED \$12,000,000 ON INVESTMENT

INVESTED \$58,000 INTO OTHER AREAS OF OPERATION

INCREASED SALES BY \$2,100,000



CLIENT PROFILE: NSA INDUSTRIES

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

NSA INDUSTRIES PROJECT IMPACTS



**EMPLOYEES TRAINED
IN LEAN SIX SIGMA AND
SET-UP PROCEDURES**

75%

**REDUCED SCRAP
DOLLARS IN ONE
DEPARTMENT BY 75%**



**ONE EMPLOYEE
EARNED A GREEN
BELT CERTIFICATE**

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 Economy¹

\$2,300,930,000

January 1996 – June 2018

\$339,545,000

July 2017 – June 2018

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. ¹Reported 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.

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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.



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