

Manufacturing Innovation Fund
2016 Annual Report | December

Department of Economic and
Community Development



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“Chairperson’s Perspective”



Catherine H. Smith
Commissioner

Connecticut’s manufacturing sector is growing and demanding innovative solutions to market conditions. In Connecticut, manufacturers employ 164,200, in 4,152 establishments and account for 11% our economy.

2016 was an inflection point year for Connecticut’s manufacturing industry. With manufacturing jobs now starting to grow in the state again (for the first time in decades), companies have enormous opportunity to expand. Backlogs in aerospace, doubling the output of submarine construction and continued growth in medical devices, fuel cells, and other advanced manufacturing are fueling this growth. The Manufacturing Innovation Fund is geared up to support the manufacturing ecosystem, focusing on ensuring companies have access to funds to help them innovate and grow to meet this demand.

Since its inception the fund has developed eight initiatives and leveraged \$73,448,084 in private and federal investments. Our support of talent development, which is the largest programmatic theme of the Fund, has an incumbent worker training program, revised apprenticeship program and support for early talent identification through the Dream It Do It program. In addition, we have now added an energy efficiency financing program, helping many manufactures in the state improve energy efficiency. Of course, the original Voucher Program, which helps companies purchase equipment and other critical services, continues to be available.

Looking Ahead

In the coming year, we will continue to focus on workforce development and innovation, further supporting manufacturers in the state as they modernize, gain productivity and invest in the workforce of the future.

I want to thank the members of the Advisory Board for their support and dedication. These volunteers, largely from the private sector, have ensured we stay focused on solutions that will help make Connecticut a great place for a manufacturer to locate. The commitment and integrity of the board and staff are instrumental to the quality of implementation and results now and in the future.

Catherine H. Smith

Commissioner

Department of Economic and Community Development (DECD)

Chairperson

Manufacturing Innovation Fund

Manufacturing in Connecticut

Current Snapshot Manufacturing has been, is now, and will continue to be a critical industry driving Connecticut's economy into the future. The impact of the manufacturing industry sector on our economy is felt across the entire state of Connecticut and the region. Connecticut is a global leader in the defense industry with an educated and trained workforce, an integrated supply chain, a high-technology infrastructure and a network of resources that include world-renowned educational and technological facilities.

*Facts:

- Connecticut manufacturing is responsible for **11.17%** of CT's Gross Domestic Product
- CT has **4,152** manufacturing establishments with more than **162,800** jobs for CT workers
- Within Connecticut's **37** distressed communities there are **1,804** manufacturing establishments, representing **43%**, employing **55,399** people
- Manufacturing accounts for an annual payroll of more than **\$13.6 Billion**
- The average annual compensation for a manufacturing worker is **\$95,671**
- More than **\$15 Billion** in exports
- Every manufacturing job creates **1.5 to 4** additional jobs in the state economy
- Every dollar spent in manufacturing adds **\$1.35** in economic activity in CT
- CT manufacturers bring in **\$11.8 Billion** in defense contracts with **50,000** defense-related jobs

**Sources: National Association of Manufacturers Connecticut Data February 2015
CERC Town Profiles 2014*

What has the Manufacturing Innovation Fund (MIF) done for Connecticut Manufacturers?

As of June 30, 2016

- Invested to date **\$30,675,794** million alongside **425** manufacturers which represents over 10% of Connecticut's total manufacturers
- Trained **2,700** workers
- Created **426** and retained **1,485** jobs for a total of **1,911** jobs
- Leveraged **\$73,448,084** million **approximately 2.5 times the states investment** in private and federal funding

What is the Manufacturing Innovation Fund? “Advancing Manufacturing Faster”

The Manufacturing Innovation Fund was established in 2014 by the Connecticut legislature under PA 14-98 as part of the state’s overall strategy to support and grow manufacturing in Connecticut. The fund total authorization is **\$60 million** through fiscal year 2017. The DECD administers the fund along with the advice and counsel of an 11 member advisory board. The Fund is committed to strengthening Connecticut’s manufacturers to help them become more globally competitive. With the investments and resources, the MIF provides strategic direction. It is making a difference by supporting manufacturing modernization, innovation, and infrastructure improvements. MIF has helped 425 Connecticut manufacturers to become more globally competitive. Our manufacturing programs have helped to create measurable impacts for manufacturers throughout the state with an investment focus on:



- Precision Manufacturing
- Transformation of manufacturing ecosystem through research and development efforts
- Training and education to help ensure Connecticut’s manufacturing industries have access to talent that will help improve productivity and innovation
- Special support of companies in the 37 Designated Communities that are historic manufacturing hubs whose revitalization will improve Connecticut employment opportunities
- Leveraging funds from both the private sector and federal government
- Support of defense industry and supply chain

Mission & Strategic Objectives

Build Connecticut as a center for manufacturing innovation excellence

- Help manufacturers adopt innovative processes, technologies, and materials, creating value-added products and services that meet the rapid changes in the marketplace

Strengthening the supply chain Network

- Assist supply chain companies to meet the increased demands of the Original Equipment Manufacturers (OEMs) in domestic and global markets
- Ensure they are equipped to meet expected demand increases and technological change

Establish continuous workforce supply

- With education/training partners, continue to ensure Connecticut has a productive, flexible, and well-trained labor pool with competitive skills

PROGRAM INITIATIVES

Workforce Training

An available skilled, well-trained and value added workforce that adapts to new technologies, materials and processes.

Incumbent Worker Training Program

Administered by Department of Labor

Program Description: The Incumbent Worker Training program is used to help finance companies' efforts to train current employees in the skills they need to meet current and emerging market needs, bring technological innovation to the marketplace and improve sales and profitability. In order to meet the goals of technological innovation and revenue growth, the program matches funds to train incumbent workers in the appropriate skills needed by the manufacturing companies. Projects are awarded on a first come first serve basis providing up to \$100,000 per company on a matching basis, per calendar year.



The goals are to:

- Support advanced and innovative manufacturing companies in their efforts to train incumbent workers in the appropriate skills to upgrade skills.
- Bring technological innovation to the market and help manufacturing companies lead ahead in productivity and efficiency by enhancing skills of the workforce
- Improve productivity, maintain sales and grow revenue and profitability.

Results to date:

\$7,000,000 MIF investment

1,530 Job to be created and retained

2,652 Workers trained

20% of workers received an upgrade in position

71% of the companies reported upgrade in skills and expect productivity increases

“EvoAero Inc. is a manufacturer of aerospace components. We have received funding from the MIF program after training for our employees. We are always looking for ways to improve our production delivery with quality components, and to do this and to be competitive with other manufacturers we need trained employees to set up and operate the machinery. With trained employees on new machinery, this has helped increase our sales. With increased sales we are, therefore able to purchase new state of the art machinery and keep competitive in the aerospace industry. The Ct. Dept. of Labor has been tremendous help to our company working with the MIF program. Because of the training we are able to provide, and the MIF program funding we have a trained workforce in the aerospace industry and this has resulted in delivering parts to our customers on time, which in turn we receive new contracts.”

*Gary N. Massaro
Human Resources Manager
EvoAero, Inc.*

Apprenticeship Program

Administered by Department of Labor

Program Description: CT's recently launched program addresses registered Apprenticeship which is a premier form of workforce development that combines a structured work schedule of on the job training together with related classroom instruction. Apprenticeships in manufacturing usually last from 3 to 4 years. Each year of Registered Apprenticeship requires a minimum of 2,000 hours of On the Job Learning (OJL) and 144 hours of classroom related instruction. This dual format of training sets apprenticeship apart from other types of training. Upon program completion the apprentice earns "journeyperson status" and the CT DOL Commissioner of Labor issues a Certificate of Completion which is a nationally recognized and portable credential.



Goal

To provide real time demand driven registered apprenticeship program that combines a structured work schedule of on the job training together with related classroom instruction to catalyze the supply base.

Results to Date:

- \$7,799,000** MIF Investment
- 48** Number of apprentices
- 10** Number of schools
- 18** Number of companies

"The Apprentice Innovation Grant has enabled Barden to expand its apprenticeship program to include CNC operators. The grant provided funding for the employees to attend education classes that may not have been available. Barden was able to bring an instructor to our plant to train our employees to receive their NIMS credentials. Overall the CNC apprentice program has increased the skill level of our employees. For Barden the benefits are being seen in quality of our products, productivity and moral."

*Pat Van Tassel
Training Specialist/Facilitator
The Barden Corporation*

Connecticut Dream It. Do It.

Administered by CT Center for Advanced Technology (CCAT)

Program Description: Connecticut. Dream It. Do It. (CTDIDI) is licensed and led by CCAT as part of The National Association of Manufacturers and The Manufacturing Institute's nationwide campaign to create a positive image of today's manufacturing. CTDIDI provides students, parents and families, and educators with a wide variety of resources and programs that dispel misconceptions about the 21st century manufacturing workplace, and introduce the broad range of educational and career opportunities that manufacturing offers. CTDIDI hosts and participates in events throughout the state that include student expos, conferences, career fairs, school-based workshops, presentations, and industry events. CTDIDI initiative has been recognized by The Manufacturing Institute as a national model, with both its "Young Manufacturers Academy" and "Making It Real: Girls & Manufacturing" programs named as best practices for replication throughout the network and endorsed by the National Association of Manufacturers.

Results:

- \$266,929** MIF Investment
- 1,304** Students (direct impact)
- 2,600** Students (indirect impact)
- 32** companies
- 108** Events
- 159** Families/Parents
- 209** Educators
- 1,830** Website Sessions
- 10** Online/media/podcasts/Facebook Live stories
- 2** National Conference Presentations



Young Manufacturers Academy

Administered by CT Center for Advanced Technology (CCAT)

Program Description: The Young Manufacturers Academy (YMA) introduces students entering grades 7 – 9 to the broad range of careers in manufacturing. The program fosters a positive image of the manufacturing workplace through experiential learning, promotes achievement in STEM, and develops an awareness of future career possibilities. Students participate in hands-on workshops and simulation-based activities focused on demonstrating Lean Manufacturing concepts, cellular manufacturing, factory floor design and layout, CNC, engineering design, CADD software, 3D printing/additive manufacturing, and automation/robotics. YMA activities reinforce 21st century skills such as collaboration, communication, problem solving and critical thinking. Students get a first-hand opportunity to interact with manufacturers through specialized tours of local companies. This year we partnered with Goodwin College to bring the Advanced Manufacturing Mobile Lab to the Hartford Promise Zone program. YMA students also receive an introduction to preparing for a career in manufacturing, the various educational and career pathways available, and job seeking skills such as résumé preparation and interview techniques.

Results:

- \$423,000** MIF investment
- 8** Academies
- 142** Students
- 29** Cities/Towns sending students
- 10** Manufacturers hosting site visits
- 12** Manufacturers/educational partners exhibiting
- ~160** Parents/families members attending capstones



Manufacturing Supply Chain Network

The Supply Chain has the human and financial capital to meet the market demands. It is flexible, agile, and can implement new technology, materials and processes

Voucher Program

Administered by CCAT, Inc.

Program Description: Connecticut manufacturing is renowned for its innovation, quality and value. To help keep pace with the state of the art product development and manufacturing technology, the program provides companies with matching funds to access the expertise they need to become more efficient, productive and profitable.

Matching grants ranging from \$10,000 to \$50,000 are available to eligible companies. Third party vendors or service providers must be used for implementation and execution of the proposed project. The eligible use of funding ranges from technical assistance, prototype development, specialized equipment, and research for proof of principle.

Results to Date:

- \$8,192,411** MIF Invested
- 250** Awards
- \$32,769,644** Leveraged Investment (4:1)
- 155** Companies Participated
- 381** jobs created/retained
- 71%** of awards used for equipment purchase
- 17%** of awards used for training
- 12%** of awards used for software

*“Our experience with the **Manufacturing Voucher Program (MVP)** was very positive. The ease of the application and timely responses enabled Prospect Machine Products to undertake a complete reimplementation of our business computer software. This reimplementation resulted in a fully integrated database of all business disciplines. During the project we reviewed our internal processes to identify inefficiencies, achieved more accurate reporting and ultimately better supply chain management. We now are better equipped to respond to the needs of our customers whether it is associated with R&D projects or electronic communication with something as simple as shipping and invoice documentation. The success of the project and ultimately Prospect Machine Products is felt by all personnel because we are now evaluating data, not doing data entry. We encourage all manufacturers’ with a pending project to consider the Manufacturing Voucher Program.”*

Richard A. Laurenzi, President
Prospect Machine Products, Inc.

Energy on the Line

Administered by the CT Green Bank

Program Description: Connecticut has the second highest energy costs in the country. The manufacturing sector accounts for over 10% of the state's total energy consumption. In order to maintain its competitive position CT manufacturers must reduce the long term cost of energy. The Energy on the Line program works with our successful C-Pace program (Commercial Property Assessed Clean Energy) by providing manufactures an upfront grant up to \$40,000 per project equivalent to a 1% interest rate reduction over 20 year period. The program also leverages current programs: Utility Incentive (Energy Efficiency), Utility Incentive (ZREC), Federal Incentive (Investment Tax Credit), Federal Incentive (Accelerated Depreciation). Program administration, marketing and monitoring is done by the CT Green Bank.

MIF Investment: \$800,000

Private Sector Investment: \$10,000,000



New technologies, products and innovation are easily transferred from research institutions to the marketplace.

Regional Aerospace & Defense Exchange (RADE) 2

Partners: CCAT, Draper Labs, Belcan Engineering Group, Center for Regional Economic Competitiveness

Program Description: RADE 2 is a Department of Defense Office of Economic Adjustment (OEA) initiative established to support a robust New England defense community. Connecticut is working in collaboration with its partners in Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. Connecticut was awarded \$4.5 million to facilitate the coalition and is responsible for the enhancement of an economic modeling tool; a strong regional collaboration in the form of a regional cluster; a creation of an online forum, RADE Commons; creation of Workforce Toolkit; and a Connecticut focused manufacturing innovation initiative. The MIF \$450,000 match is dedicated to the Manufacturing Innovation Initiative. Its goal is to increase Connecticut companies' cost competitiveness through specialized process innovations and technologies that will address prioritized areas of interest of the Connecticut supply chain to leverage key defense work and assist in meeting immediate demand for the ramp-up in aerospace production.



Results:

\$450,000 MIF Amount Invested

\$4.5 Million leveraged federal Investment

Advanced Composites Initiative

Administered by CCAT

Program Description: The Advanced Composites Initiative will assist manufacturers to increase production speed, lower costs, increase competitiveness, and provide advanced composite material manufacturing proficiency to industry. The program goal is to demonstrate a new approach to dynamic, adaptive, and mistake-proof machining of advanced, high value structural composites using technologies that are applicable to current and future platforms and components. The initiative will engage supply chain private industry partners. The purpose will be to design, integrate, and prove-out advanced technology machining cell by:

- Procuring and installing Composites Machining Cell at CCAT Advanced Manufacturing Center
- Devising machining process for initial project / F-135 Fan Inlet Case - transition process to GKN
- Further revising machining cell based on lessons learned for process development with Connecticut companies; and
- Developing further process improvements with Connecticut manufacturers

MIF Investment: \$2,900,000

Designated Communities

Program Description: The Manufacturing Innovation Fund recognizes the significant role Connecticut’s historic manufacturing hubs have played in shaping the state. The fund supports initiatives in these designated communities to spur revitalization, job growth and employment opportunities, and gives consideration to proposals from a distressed municipality, targeted investment community, public investment community, enterprise zone or manufacturing innovation district. There are **37** designated communities with 1,804 manufacturing establishment employing **55,399** people.

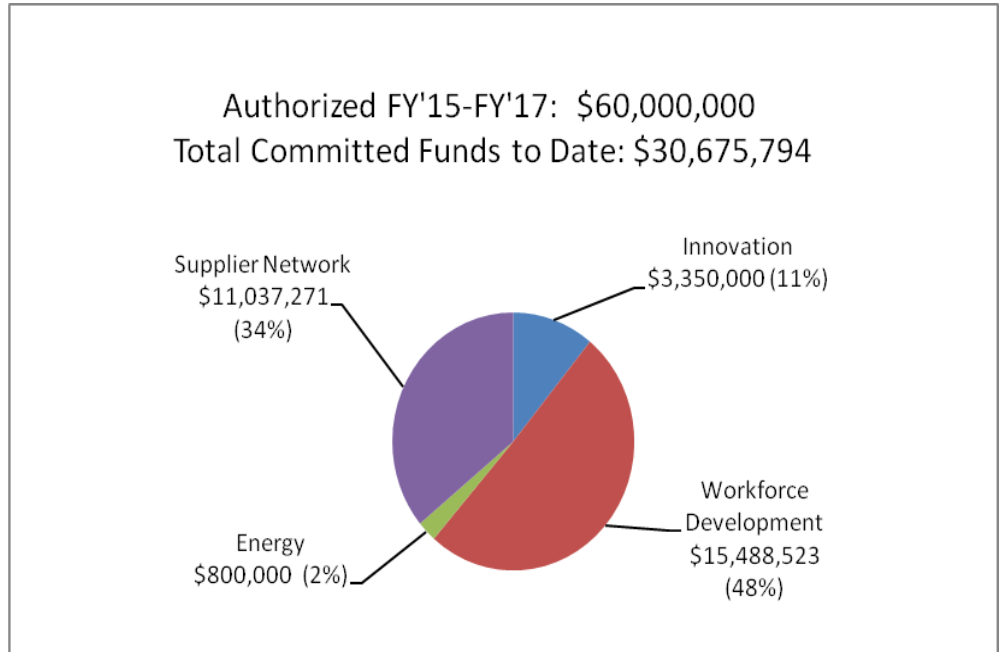
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|---------------|--------------|
| Ansonia | Norwalk |
| Beacon Falls | Norwich |
| Bridgeport | Plainfield |
| Bristol | Plymouth |
| Derby | Putnam |
| East Hartford | Seymour |
| Enfield | Southington |
| Griswold | Sprague |
| Groton | Stamford |
| Hamden | Sterling |
| Hartford | Thompson |
| Killingly | Torrington |
| Lisbon | West Haven |
| Meriden | Waterbury |
| Middletown | Wethersfield |
| Naugatuck | Winchester |
| New Britain | Windham |
| New Haven | Wolcott |
| New London | |

Results:

- **Voucher Program - 28%** went to manufactures in designated communities for a total investment of **\$2,293,875**.
- **Incumbent Worker Training Program - 45%** went to manufactures in designated communities for a total investment of **\$1,507,500**.

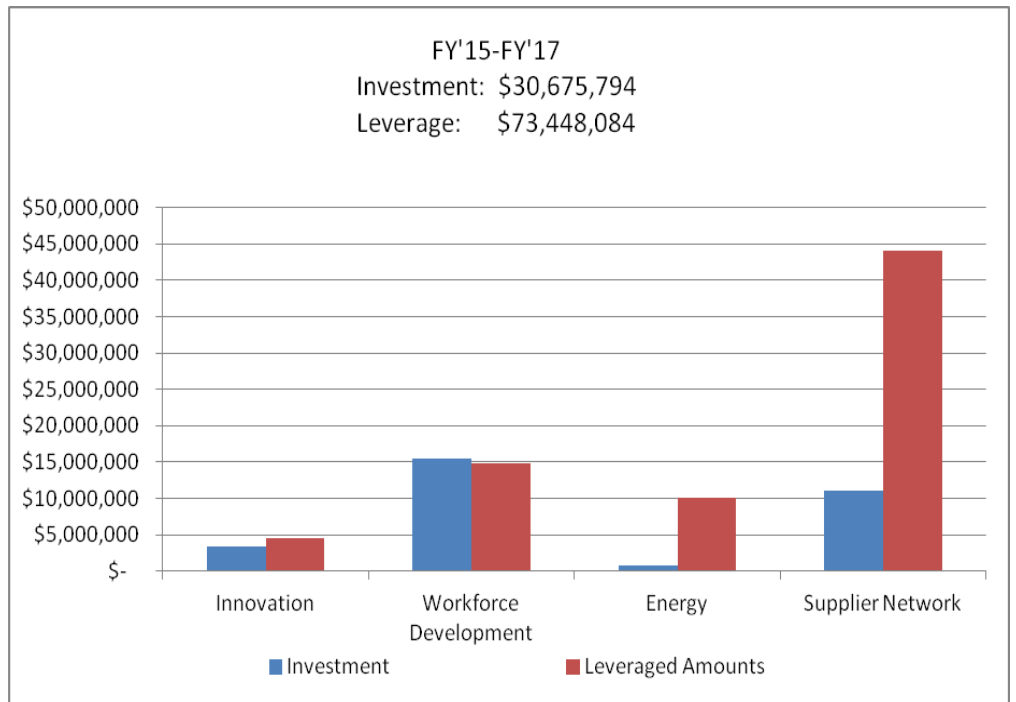
At a Glance: Financial Overview

Total Investment:



Source: DECD

Programs' Leverage:



Long Term Goals

Based on current lessons learned and best practices, it is anticipated that the MIF will continue to work with strategic private industry, government entities, and academia to provide support to the manufacturing sector to address market demands and conditions. It would be our goal that in the coming few years, the ecosystem for manufacturing will strengthen to the point that many of the MIF programs will no longer be needed.

Advisory Board of Director's

Catherine H. Smith, Chairman

Commissioner

Department of Economic and Community Development

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