

Manufacturing Innovation Fund Annual Report FY 2015



Connecticut 
still revolutionary

**Department of Economic and
Community Development**

Manufacturing Innovation Fund

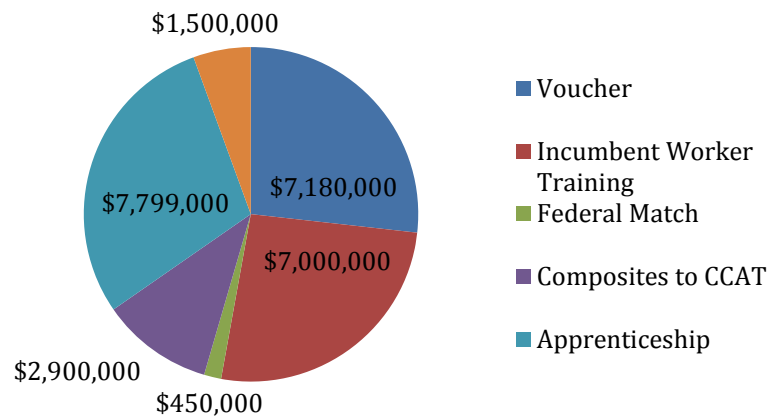
In 2014, as part of the State's overall comprehensive strategy to support, invest, and grow manufacturing in Connecticut, the Connecticut Legislature passed PA 14-98 approving a Connecticut Manufacturing Innovation Fund. This fund targets financial assistance to support the growth, innovation, and progress of Connecticut's advanced manufacturing sector. It will provide matching grants to manufacturers to assist with purchasing the equipment, research and development, and training they need to remain competitive in this global manufacturing marketplace. The Fund...

- Encourages company/university/non-profit research efforts
- Helps companies fund business development and technical needs
- Provides funding for access to training and educational programs that help develop the required workforce skills
- Provides matching funds for federal grants
- Helps attract new manufacturers to the state

The MIF was originally capitalized with \$30 million in bond funding; an additional \$20 million in each of the next two fiscal years was authorized as part of the 2015 bond package. At the end of FY 2015, \$26.8 million had been committed to support the Fund's competitive initiatives. The Connecticut Department of Economic and Community Development (DECD) administers the Fund, along with the advice and counsel of an 11 member advisory board.

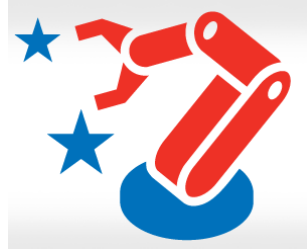
Manufacturing Innovation Fund Overview

Breakdown of Approved Funding (June 30, 2015)



\$26.8 million was approved during FY 2015 for Manufacturing Innovation Fund programs, with \$4,522,371 already deployed: the Voucher Program spent nearly \$3.5 million and the Incumbent Worker Training Program spent approximately \$1 million.

Impact to Date



In order to maintain and grow its competitive position in the manufacturing world, Connecticut has committed to supporting advanced manufacturing companies throughout the state. During this early tenure, the fund is already actively supporting manufacturers through its innovative and responsive programs. Programs supported by the Manufacturing Innovation Fund are intended to meet immediate and near-term demand for a skilled workforce (Vouchers, Incumbent Worker Training Program) and ensure that there is an equally strong workforce for future market demands (Apprenticeship, Young Manufacturers Academy). Some key highlights:

- At the end of FY 2015, **\$26.8 million** has been committed to support Manufacturing Innovation Fund initiatives
- Since December 2014, nearly **100** companies have received matching grants through the Voucher Program
- **56%** of companies receiving Voucher grants have used their funding to upgrade and purchase equipment
- In less than **3** months, **32** companies have enrolled in the Incumbent Worker Training Program
- These companies represent approximately **1,400** trainees

More detailed information on each program and its accomplishments throughout Fiscal Year 2015 can be found within this Annual Report and on the DECD website on a quarterly basis.

Manufacturing Innovation Fund Advisory Board

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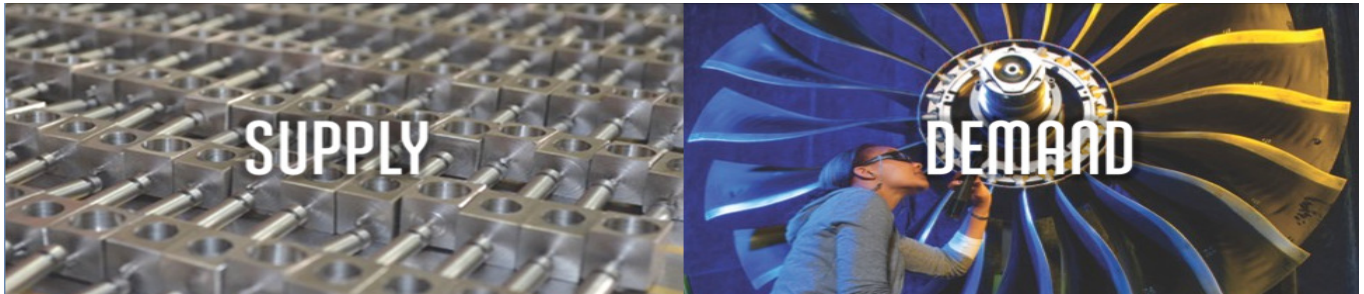
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Amodex Products, Inc.

Todd Pihl, General Manager
Web Industries, Inc.

Chris DiPentima, President
Pegasus Manufacturing

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MISSION:

- 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
- Strengthen the supply chain network
 - Assist supply chain companies to meet the increase demands of the Original Equipment Manufacturers in domestic and global markets
 - Ensure they are equipped to meet expected demand increases and technological changes
- Establish continuous workforce supply
 - With education/training partners, continue to ensure Connecticut has a productive, flexible, and well-trained labor pool with competitive skills

INVESTMENT FOCUS:

- Precision manufacturing
- Transformation of manufacturing infrastructure through research and development efforts
- Training and education to help ensure Connecticut’s manufacturing industries are competitive on a global basis
- Special support of companies in Designated Communities*
- Leveraging funds from both the private sector and federal government

Types of Assistance

SKILLED WORKFORCE:

Voucher Program.....5

Incumbent Worker Training Program.....8

FUTURE WORKFORCE DEMANDS:

Apprenticeship Program..10

Young Manufacturers Academy.....11

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*Designated Communities: 37 municipalities that are historic manufacturing hubs whose revitalization will improve Connecticut employment opportunities

Voucher Program

(Administered by Connecticut Center for Advanced Technology, Inc.)

The Manufacturing Innovation Voucher Program provides financial assistance to Connecticut manufacturers to help them undertake innovative projects that will significantly improve productivity, efficiency, and competitiveness in the global marketplace.

The Voucher Program provides financial assistance for...

- Access to technical experts in universities and non-profit research centers
- Access to nonprofit organizations and other organizations that can provide specialized expertise to solve engineering, marketing, legal, and other challenges that align with the goal of the Manufacturing Innovation Fund
- Further development or modernization of manufacturing equipment
- Supporting advancements in manufacturing to meet an anticipated demand for appropriately skilled and trained workers
- Encouraging training and education
- Attracting new manufacturers to CT



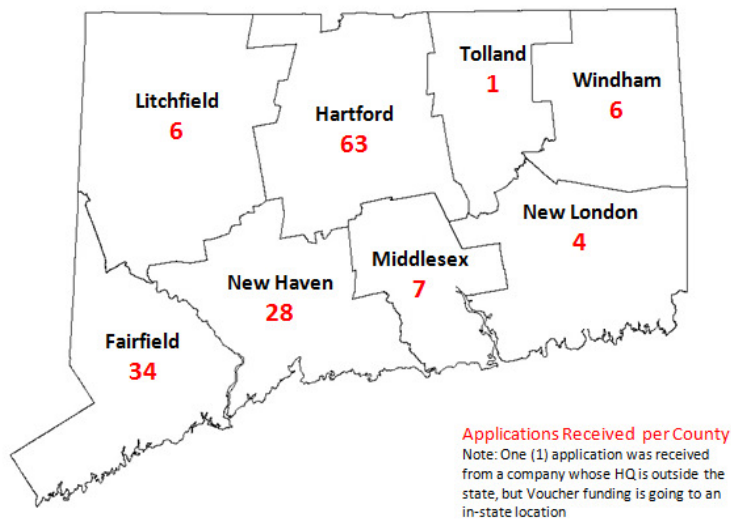
Governor Dannel P. Malloy discusses the advantages of the Voucher Program at Phoenix Manufacturing in Enfield, CT.
Photo Credit: New Haven Register

DECD, in partnership with Connecticut Center for Advanced Technology, Inc., administers matching grants to eligible companies with worthy projects ranging from \$5,000 to \$50,000 (applicants must match grant awards dollar for dollar). To date, 98 applications have been approved.

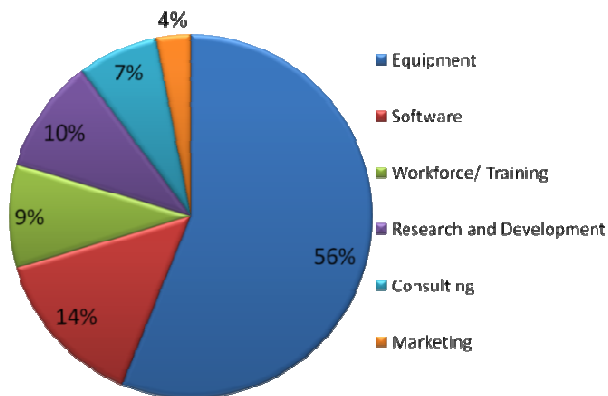
VOUCHER PROGRAM BY THE NUMBERS (As of June 30, 2015)

Financial Assistance	
Average Requested	\$38,038
Average Approved	\$35,837
Total Approved	\$4,264,641
Total Available	\$7,180,000

Voucher Applications by County



Voucher Program Approved Funding Breakdown



Companies are encouraged to apply for voucher grants for a broad scope of innovative projects. Equipment upgrades and purchasing is, by far, the most popular use of grant money – nearly 60% of approved voucher funding to date is for equipment purchases and upgrades.

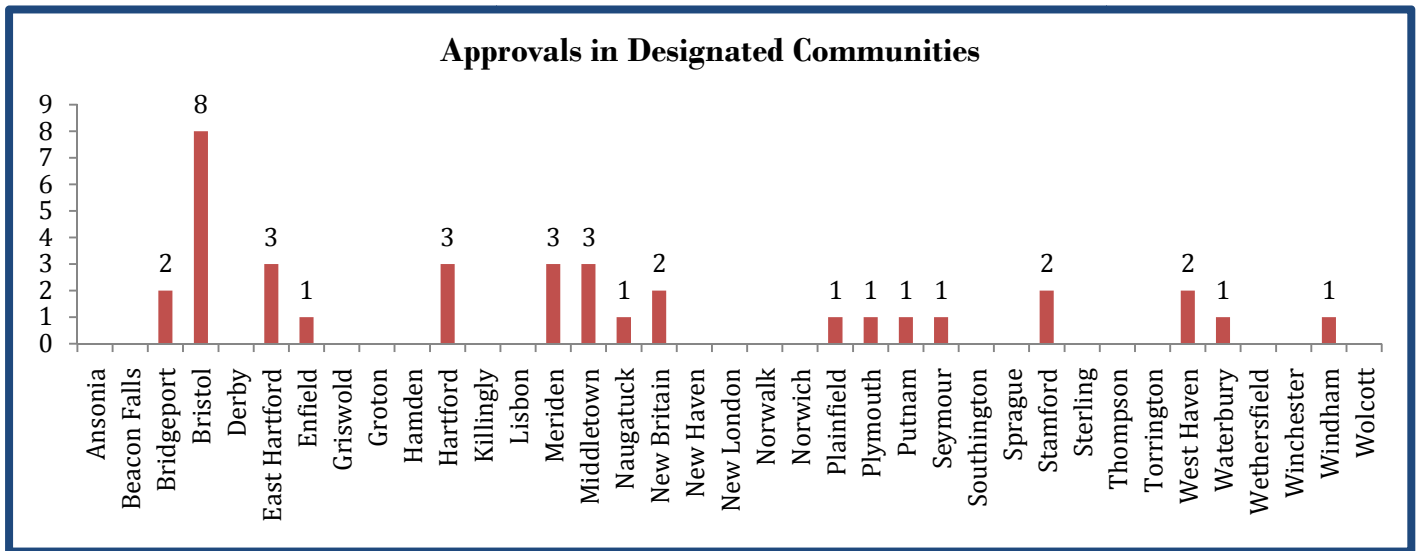
Software employee training, research and development, and consulting are the next most common uses for voucher grants.

Though the graph represents the most popular uses of funding, voucher grants can also be used for market analysis, business development, patenting, technology counseling, compliance and monitoring activities, process improvements, and prototype developments.

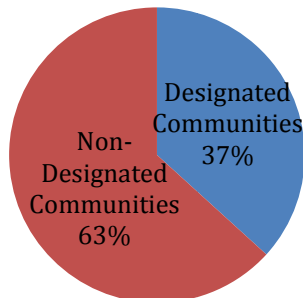
Voucher Programs in Designated Communities

The Voucher Program’s legislation includes 37 municipalities identified as Designated Communities. The communities listed below are historic manufacturing hubs whose revitalization will improve Connecticut employment opportunities. Though all 169 towns and cities in the state are encouraged to apply for financial assistance through the MIF, Designated Communities are especially encouraged.

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



Voucher Programs in Designated vs Non-Designated Communities



- 36 of the 98 approvals (approximately 37%) were awarded to manufacturers in Designated Communities
- More outreach will be required to reach all Designated Community companies

Incumbent Worker Training Program

(Administered by Connecticut Department of Labor)

The Incumbent Worker Training Program is used to train current employees in the skills they need to help businesses meet current and emerging market needs, bring technological innovation to the marketplace, and help companies improve sales and increase profitability.

In order to meet its expressed goals of technological innovation and revenue growth, the program provides financial assistance to train incumbent workers in the appropriate skills needed by manufacturing companies. Projects are reviewed by the state Department of Labor on a first-come, first-served basis and are awarded matching grants up to \$100,000 per employer, per calendar year. DOL acts as program managers and overseers to enroll companies, track data, and performance program assessments.

Since its inception in April 2015, 32 companies have enrolled in the Incumbent Worker Training Program. These companies represent a total of approximately 1,400 trainees, and range in size from 14 to 414 employees. These training projects typically last between 6 and 12 months, with the first project expected to finish in December 2015.

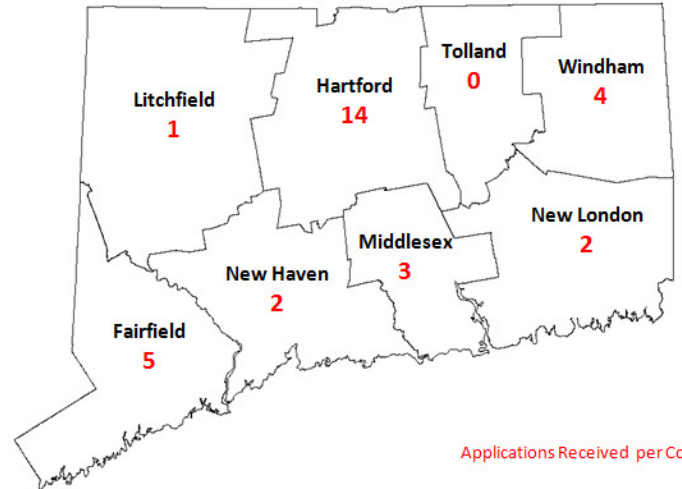
PROGRAM GOALS

1. Support advanced and innovative manufacturing companies in their efforts to train incumbent workers in the appropriate skills to meet current and emerging market needs
2. Bring technological innovation to the market and help manufacturing companies leap ahead in productivity and efficiency by enhancing the skills of the workforce
3. Maintain sales and grow revenue and profitability

INCUMBENT WORKER TRAINING PROGRAM BY THE NUMBERS (As of June 30, 2015)

Applications by County

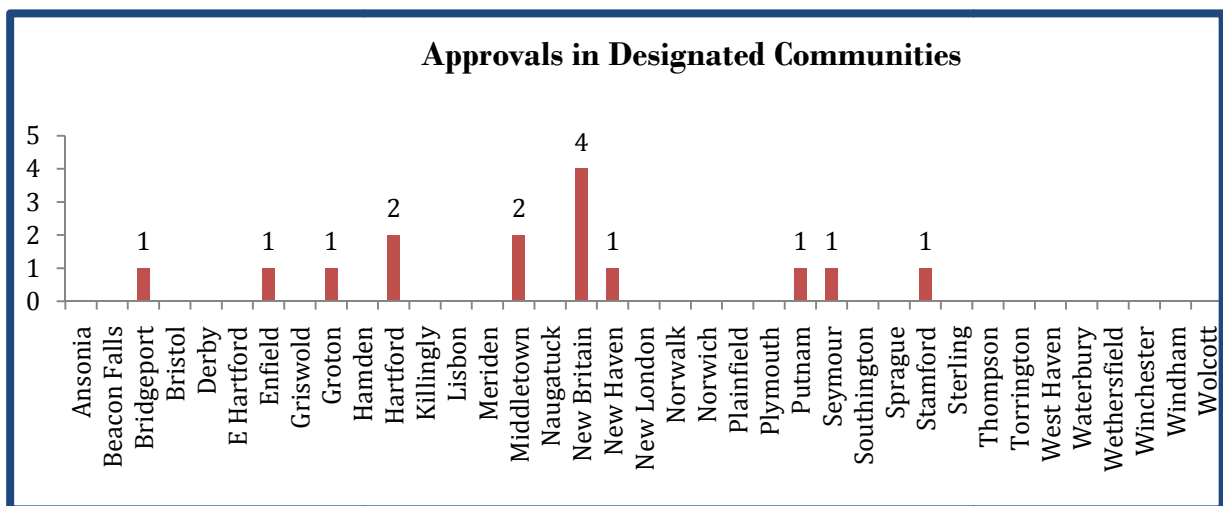
Financial Assistance	
Average Requested	\$34,655
Average Approved	\$34,655
Total Approved	\$1,074,189
Total Available	\$7,000,000



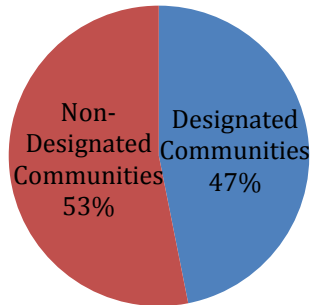
Applications Received per County

“Manufacturing is changing rapidly, not just in terms of technology but also our processes, so we need to constantly invest in our employees’ training and development... **The Incumbent Worker Training Program will help our company and our work force stay ahead of the curve.**” – Paul Hoffman, President of Orange Research, a Milford-based manufacturing company, Connecticut Post, 2015

Incumbent Worker Training Program in Designated Communities



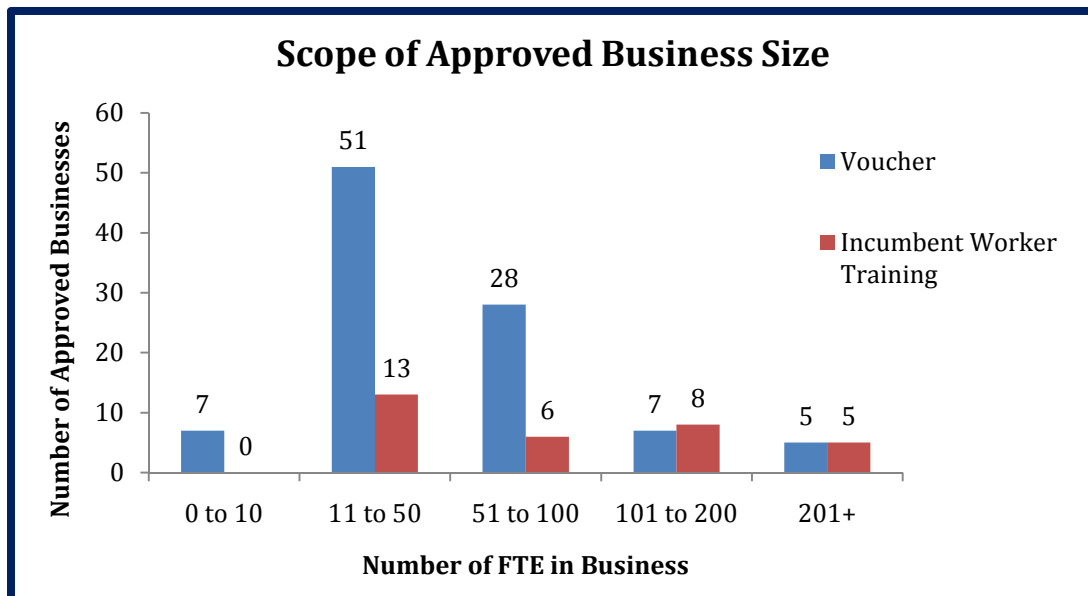
Incumbent Worker Training Programs in Designated vs Non-Designated Communities



- 32 applicants have been approved since the program’s inception in April 2015. 15 of the 32 approvals (approximately 47%) were awarded to manufacturers in Designated Communities
- More outreach will be required to reach all Designated Community companies

Building a Skilled Workforce across Businesses

The Manufacturing Innovation Fund is committed to supporting businesses of all sizes. The below graph illustrates the wide scope of approved businesses for both the Voucher and Incumbent Worker Training programs. For both programs, the most common business size ranges between 11 and 50 full-time employees.



Apprenticeship Program

(Administered by Connecticut Department of Labor)

As Connecticut manufacturers work to gain momentum and competitive advantage, they are faced with workforce challenges. While today's workforce is well-trained and very productive, many are nearing retirement and others lack the skills to address the rapidly-changing technologies being used by manufacturers world-wide. Additionally, the current traditional hiring strategies are no longer yielding adequate results: the industry requires multiple or unique skills that current prospective employees do not have. Young people are no longer drawn to manufacturing as a potential career. Bottom line: companies are faced with long-term needs, especially in response to projected talent gaps and the growing shortage of technically-skilled shop talent.

To address this shortage, Connecticut has offered an Apprenticeship program in place for many years. The MIF determined that, in order for the industry to meet long-term increasing demands, changes were needed. The team studied successful programs in other states, such as South Carolina, and other countries, such as Germany, before designing its new program.



The goal of Connecticut's Manufacturing Innovation Fund Apprenticeship Program, which will begin July 2015, is to provide a real-time, demand-driven program that combines a structured work schedule of on-the-job training and classroom instruction to catalyze the supply base. This competence-based approach will be driven by outcomes. Data tracking of Registered Apprenticeship workers that are enrolled on or after July 1, 2015 will be integral for the success of the program. The program's success will be measured by data focused on employee retention and job training in manufacturing. DECD will track the number of trained apprentices to sponsor companies, and the impact on wages to increased skills.



DECD partners with the CT Department of Labor to award grants for the Manufacturing Innovation Fund Apprenticeship Program that can be used for wage subsidies, tuition reimbursement, and to offset the costs of gaining appropriate credentials for apprentices. The two-year grants fund up to \$13,000 for wages subsidies, \$2,000 for credential costs, and \$3,750 toward tuition reimbursement. Assistance leverages company funds, capping at \$18,750 (per apprentice) over the two-year period.

Data for the Manufacturing Innovation Fund Apprenticeship Program will be available beginning in the FY 2016 Annual Report.

Young Manufacturers Academy

(Administered by Connecticut Center for Advanced Technology, Inc.)

The Young Manufacturers Academy programs are intended to dispel misconceptions about today's manufacturing workplace and introduce future educational and career pathways in the manufacturing industry through a wide range of first-hand experiential opportunities. During the Academy, students learn what goes into producing products in workshops using lean manufacturing, engineering design, and high-tech industry software. Students are granted the opportunity to make products by hand, virtually, and with 3D printers. They are able to interact with engineers and manufacturers during site visits and they hold mock interviews for jobs with real manufacturers. These programs are offered free of charge to students entering grades 7 to 9.



Though funding has been approved for Young Manufacturers Academy programs through the Manufacturing Innovation Fund, detailed data will not appear until the FY 2016 Annual Report.



Advancement of Composite Technologies

(Administered by Connecticut Center for Advanced Technology, Inc.)

After realizing that a piece of crucial equipment for the joint strike fighter was not readily available, Connecticut decided it was time to increase their own advanced manufacturing capabilities. Rather than relying on another state or country for the creation of this piece, Connecticut decided to design a machining cell to create it right here at home.

The goal of the composites initiative 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 platform and components. Once fully installed, this initiative will assist manufacturers to increase production speed, lower costs, increase competitiveness, and will provide advanced composite material manufacturing proficiency, which is needed in order for Connecticut manufacturers to remain competitive domestically and globally.

In order to administer the composites program, DECD teamed with the Connecticut Center for Advanced Technology, Inc. (CCAT). Five million dollars has been committed for this initiative.

CCAT's expressed mission is to install and utilize a state-of-the-art machining cell to develop advanced processes for machining organic matrix composite aerospace parts and transition those processes to CT manufacturer.

Due Date	Milestone / Deliverable	Status
February 1, 2015	Request for Proposal (RFP) released to potential consultants (suppliers) for design and integration of	Completed
June 30, 2015	Signed agreement for the design and integration of the composite cell	Completed
June 30, 2015	Document outlining the final design of cell, including detailed bill of materials for equipment to be purchased	Completed
June 30, 2016	A list of all equipment on site at AMC as indicated by packing slips from deliveries	On Schedule
October 30, 2016	Cell certified as production ready as documented by GKN approval. CCAT delivers full documentation of process including results. Guidelines and procedures in place for other companies that wish to use this process for their business.	On Schedule

To date, CCAT has determined the machining cell that would best suit the State's needs, issued a request for proposal to potential suppliers for design and integration of the composite cell, signed an agreement with Zimmerman for the design and integration of the composite cell, and provided a document outlining the final design of the cell, including a detailed bill of materials. At present, CCAT has committed \$2,900,000 to the machining cell. While waiting for the equipment and machining pieces of the Zimmerman machine to arrive, CCAT is preparing its facilities to have the machine installed.

Measuring Success

Short-Term

- Time – the production of equipment should take no longer than 8 hours to complete
- Quality – the equipment must meet standards set by both Pratt & Whitney and GKN Aerospace

Long-Term

- Bringing in other CT composite materials companies and corporations to utilize the machining cell and further improve advanced manufacturing in the state