

Driving the Demand for Our Supply Chain



A Letter from the MIF Chairman



Paul Lavoie

Chairman,
Manufacturing Innovation Fund
Advisory Board

Chief Manufacturing Officer,
State of Connecticut

It is hard to believe that I was appointed Chief Manufacturing Officer by Governor Ned Lamont just 10 months ago. I literally hit the road running, embarking on the L4 tour — *Lean In, Listen, Learn and Link* — visiting over 140 manufacturers across the state to gain an even deeper understanding of the challenges and opportunities facing the manufacturing sector.

One thing is for certain: manufacturers of every size, in every region, truly value the support of the Manufacturing Innovation Fund (MIF).

Connecticut is the only state in the U.S. with a robust fund that invests in manufacturing, and many see the MIF as tangible proof that Connecticut is committed to asserting its rightful place as one of the most innovative centers of manufacturing in the world.

Our manufacturers appreciate the fund's unique ability to help them explore what new technologies to embrace, then to help them integrate those advancements into their operations. And they are passionate about MIF's support of key workforce development initiatives — as they view their ability to attract, retain, and retrain talent as critical to their success.

I encourage you to take a few minutes to read through this Annual Report to learn more about all the initiatives the MIF supports. Let us work together to get the word out about all the ways the MIF programs support our manufacturers.

We will continue to invest in manufacturing in 2022-2023 and beyond. We have plans in place to help manufacturers become more resilient through cybersecurity assessments and programs, to connect innovators with manufacturers — what is invented in CT, gets made in CT! Also, we are building a communication system to keep manufacturers informed of all our opportunities and continuing to support our Office of Workforce Strategy team with sustained investments in workforce development.

I also ask you to join me in thanking the many partners who administer the programs we fund. It's these public/private partnerships — and the close collaboration with our educational institutions — that define and differentiate the MIF and the state of Connecticut's reputation in advanced manufacturing.

I look forward to working with all of you to continue to drive demand for our supply chain — already one of the most enviable in the world.

\$90M MIF funding by fiscal years



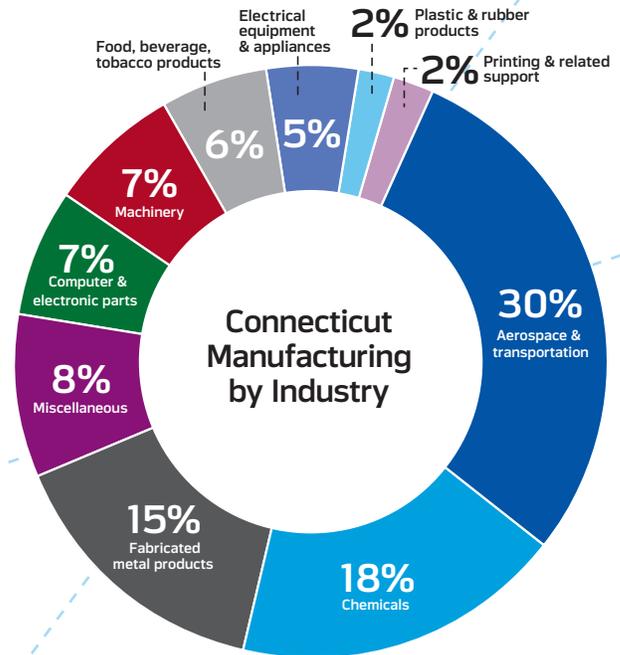
*FY21 was funded under the Manufacturing Assistance Act

Connecticut's Manufacturing Sector at a Glance

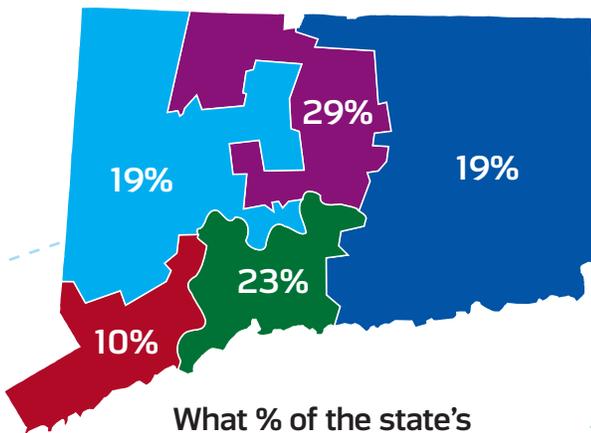
4,000+ companies producing an array of components and products

No doubt, Connecticut is one of the world's leading aerospace manufacturers. But that's just the beginning of what we make to support so many different industry sectors.

Our companies manufacture a wide array of products — from medical devices to precision components of all kinds.



Source: U.S. Bureau of Economic Analysis, 2021



What % of the state's manufacturing employees live in each region

Source: U.S. Census Bureau, 2021

160,000+ workers employed in manufacturing all across the state

Manufacturing employs a significant number of skilled workers in every single county of our state. In fact, according to the National Association of Manufacturers' latest report (2021), manufacturing employs nearly 10% of our state's total workforce. Better still, these jobs represent highly paid, highly in-demand career opportunities for our residents.

Ranked the fourth most innovative state in the country

Thanks in part to the ongoing innovations in our manufacturing sector, Connecticut maintained its ranking as the fourth most innovative state in Bloomberg's latest annual State Innovation Index. Top 10 scores for patent activity, productivity, and research and development intensity continue to drive the state's overall ranking.



Source: Bloomberg, 2022

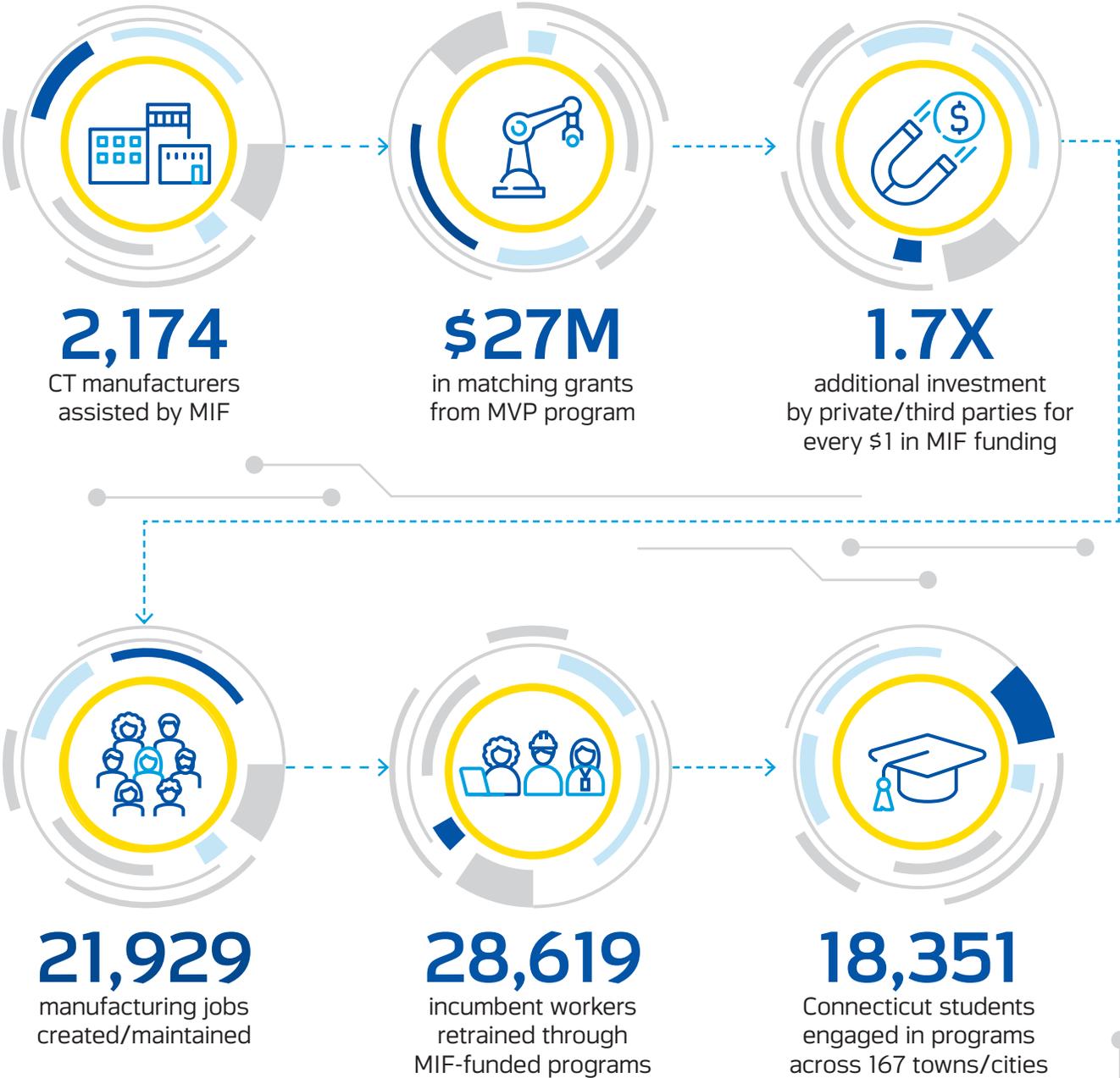
How Manufacturing Powers Connecticut's Economy

Manufacturing is a significant driver of Connecticut's growth. Not only do our manufacturers generate \$31B in GDP and \$434M in state tax revenues, they create high-paying careers for workers across the state.



How the MIF Empowers Connecticut's Manufacturers

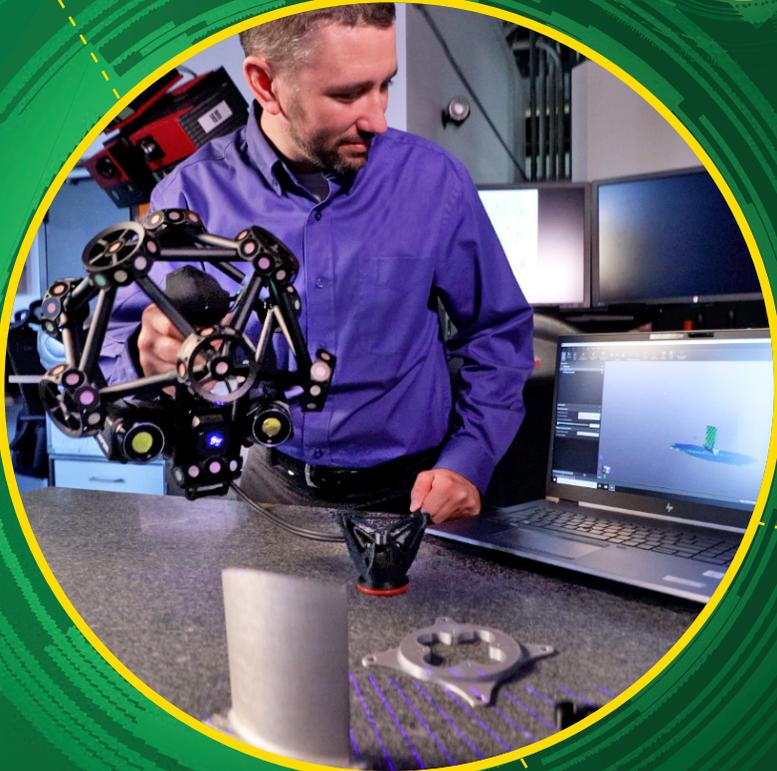
Because manufacturing is so critical to Connecticut, the MIF is so critical to Connecticut's manufacturers. To succeed in today's marketplace, they need more access to financial resources, technical expertise, and skilled workers — all of which MIF facilitates by funding well-designed programs that are well-administered by leading organizations.



Source: Manufacturing Innovation Fund, 2022
The figures above capture the cumulative impact since the inception of the MIF program in 2014 and 2015.

Funding Innovations That Drive Demand

To sustain our global competitiveness, CT manufacturers have to continually embrace transformative innovations. For our thousands of small- to mid-size manufacturers, that can be particularly overwhelming and costly. That's why the MIF funds programs that streamline both the exploration — and the mastery — of new technologies. The more advanced each link in our supply chain becomes, the more unstoppable our entire ecosystem remains.



Industry 4.0

Administered by CT Center for Advanced Technology (CCAT)

This industry-driven program is key to advancing the global competitiveness of our state's manufacturing supply chain. Specifically designed to help manufacturers explore and adopt Industry 4.0 technologies, this initiative focuses on four key areas:

- Industrial Internet of Things (IIOT)
- Big Data and Analytics
- Additive Manufacturing
- Automation

In addition to demonstrations and training on 4.0 technologies, it includes a matching grant program to facilitate the adoption of these advancements.

Digital Model Initiative (DMI)

Fueled in part by a \$1.4M federal grant, this pilot program is accelerating the adoption of Model-Based Definition (MBD) by our state's many defense manufacturers. This program itself is a model of public/private partnerships, leveraging the skills and resources of CCAT, CONNSTEP, and Central Connecticut State University to facilitate supplier adoption of new MBD processes and to develop new curricula for emerging digital roles as well as a comprehensive guide to digital transformation. This initiative also partnered with *Manufacturing x Digital* (MXD), a national manufacturing institute, to establish the Connecticut Defense Manufacturing Community Consortium Collaboration (CDMCC), which is strengthening relationships between DECD and our three largest Original Equipment Manufacturers (OEM) — Pratt & Whitney, Electric Boat, and Sikorsky.

High Rate Additive Manufacturing (HRAM)

Administered by CT Center for Advanced Technology (CCAT)

Grants from this program have been key to helping manufacturers across the state leverage the power of additive manufacturing to help speed production and lower the cost of building complex parts. In addition to workshops, this program has helped small- to mid-size manufacturers evaluate, purchase, and install the state-of-the-art equipment needed for additive manufacturing. It's also provided hands-on exploration and training opportunities on these new technologies for our manufacturers.



Composites Manufacturing

Administered by CT Center for Advanced Technology (CCAT)

The MIF also supports initiatives focused on both the fabrication and precision machining of composites.

ATCC Center. The Advanced Technology Composite Center (ATCC), formerly known as The Connecticut Center for Excellence for Composites Manufacturing, is committed to strengthening and growing the fabrication of composites in the Connecticut supply chain. This center draws on the technological strength of Pratt & Whitney, CCAT, and Goodwin University. It gives manufacturers hands-on opportunities to learn more about new technologies and expert guidance in how to integrate them into their own operations.

Advanced Composites Program. MIF funding has also enabled CCAT to develop composites machining capabilities. This program makes it possible for manufacturers to better understand the unique inputs and outcomes of manufacturing with composites.



Helping to Make the Possible Practical

Manufacturing innovations are only truly useful if they're enthusiastically embraced — and effectively integrated into each company's operations. Since its inception, the MIF has helped hundreds of companies do just that. By funding the programs that follow, we've helped manufacturers invest in innovative new equipment and operationalize updated processes — the real keys to harnessing the power of innovation.



Manufacturing Voucher Program | Administered by CT Center for Advanced Technology (CCAT)

Historically, one of the most well-utilized initiatives the MIF has funded has been the Manufacturing Voucher Program (MVP). Recently, the program has helped manufacturers keep pace with the rising cost of state-of-the-art technologies by extending matching grants of up to \$100,000 to obtain new equipment or master new processes. To be eligible, manufacturers must be contemplating investments valued at a minimum of \$25,000 and willing to match their MIF voucher two to one for first-time applicants and three to one for repeat applicants. Highlighted below is the MIF's total investment in this initiative — and the impact it has had on Connecticut's manufacturing community.

MIF FUNDING TO COMPANIES | FY22: \$3,447,227 | Total Since FY15: \$27,180,395



COMPANIES ASSISTED

FY22:	60
Total:	600



JOBS CREATED/RETAINED

FY22:	203
Total:	1,532

THE MAGNIFIER EFFECT:

For every \$1 in MVP grants, recipients invested another \$3 in upgrades to their own equipment and processes.

“This grant allowed us to buy equipment that we use now to produce work in house versus sending it out of state.”

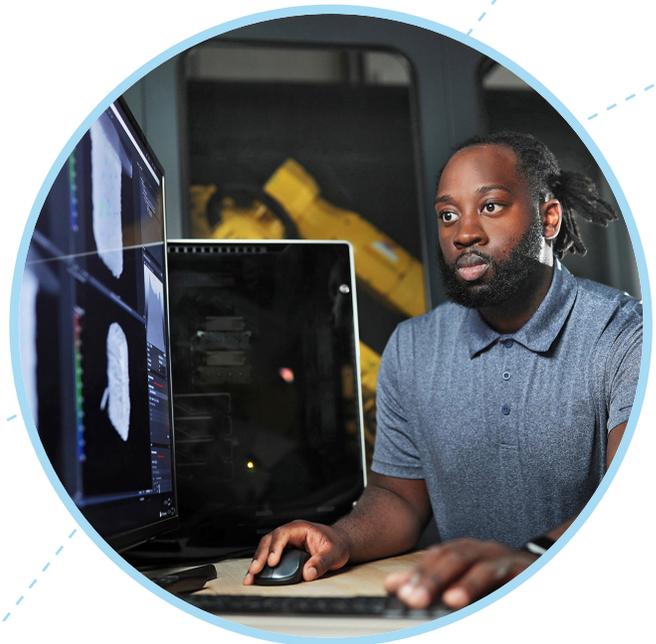
— Dan Kennedy, President, Keno Graphic Services, Inc.

“We’ve increased our company’s productivity to a projected 30% overall — while significantly lowering our per-unit cost.”

— Tom Otynski, President, Superb Steel

“This grant helps us achieve a unit savings of 20-30% as well as dramatically reduced lead times.”

— Michele Caulfied, Vice President/CFO, Stevens Company Inc.



Energy on the Line | Administered by Connecticut Green Bank

Another factor inhibiting growth for manufacturers is the high cost of energy, since these businesses are more dependent on electric power than those in other sectors. Many manufacturers want to become more energy efficient, but the up-front costs of these improvements stop some companies from making them.

To help Connecticut companies move forward with these improvements, Energy on the Line has awarded grants totaling \$568,196. Not only will these solar and energy-efficiency projects save manufacturers millions in energy costs, they will advance the state's goals to reduce emissions and create cleaner, healthier communities.

MIF FUNDING TO COMPANIES | FY22: \$22,252 | Total Since FY16: \$568,196



COMPANIES ASSISTED

FY22:	2
Total:	25



JOBS CREATED/RETAINED

FY22:	2
Total:	76

THE MAGNIFIER EFFECT:

For every \$1 in MIF support, companies and other third parties invested \$17 to implement these energy improvements.

“As a government subcontractor in the defense industry, it is essential to keep our own lights on. While manufacturing occurs under our roof, the power source is created from above. Our solar panels provide us with clean energy right on-site...another level of U.S.-made, environmentally conscious manufacturing. As we continue to expand, so does our roof!”

— Bill Psillos, Vice President, The L.C. Doane Company





Developing Talent through Training

Funding effective workforce development initiatives has always been core to the mission of the MIF. But it has never been more critical. We continue to focus on strengthening every aspect of the talent “supply chain” — from attracting young recruits to retraining seasoned workers. There is so much more work to do in this area, but we’re incredibly encouraged by the number of educational institutions joining the effort.

College Connections | Administered by CSCU

To get more students interested in manufacturing earlier, the Connecticut State Colleges & Universities' College Connections program offers comprehensive high school students an opportunity to earn college credits in manufacturing through the state's community colleges. MIF funds make this opportunity more accessible to more students — by providing half the cost of tuition, books, and transportation.

MIF FUNDING | Total Awarded: \$600,000



STUDENTS PARTICIPATING

FY22: 75
Total: 778



HIGH SCHOOLS PARTICIPATING FY22

Bassick	Enfield	Suffield
Derby	Granby	Windsor Locks
East Granby	Kolbe Cathedral	

Apprenticeships and Pre-Apprenticeships | Administered by CT Department of Labor

On-the-job training is essential to enabling early-career employees to build their credentials. To help fund that training, the MIF supports the Department of Labor's pre-apprenticeship and apprenticeship programs in manufacturing. Not only has the \$11 million in MIF support helped pay for third-party training resources for these apprentices, it subsidized their wages while on the job. That's a win-win for the participating employers — as well as the apprentices and pre-apprentices who have gained experience while earning a salary through this program.

MIF FUNDING | Total Since FY16: \$10,799,000



INDIVIDUALS PARTICIPATING

Total: 818



COMPANIES ASSISTED

Total: 232



TRAINING PROVIDERS

Total: 11

“The apprenticeship program has benefited our company in so many ways...It has enabled us to bring in fresh talent...the infusion of a new generation. The interaction of apprentices and mentors has also created a melding of the generations that has been so interesting to see — one that has transformed our company as a whole.”

— John Testa, Vice President of Operations, CT Spring & Stamping



Incumbent Worker Training | Administered by CT Department of Labor

This program encourages advanced skills training required to help manufacturers continue and/or become highly competitive and productive in today's global market. Their employees need to learn how to operate high-tech equipment and how to integrate it into lean manufacturing processes. As of the end of fiscal year 2022, the MIF had committed over \$16 million in the Incumbent Worker Training Program. This program provides the support necessary to help defray the costs of training employees on both new technology and updated processes.

MIF FUNDING TO COMPANIES | FY22: \$1,425,000 | Total Since FY15: \$16,150,000



INDIVIDUALS TRAINED

FY22: 1,092
Total: 28,125



COMPANIES ASSISTED

FY22: 42
Total: 554



JOBS CREATED/RETAINED

FY22: 682
Total: 18,816

Connecticut. Dream It. Do It. (DIDI)** | Administered by CT Center for Advanced Technology (CCAT)

Through this inspirational program, almost 11,000 K-12 students have learned about the many different career opportunities in advanced manufacturing. MIF funding has also made possible other initiatives sponsored by the DIDI program, such as "Manufacturing Mania" and "Making It Real: Girls and Manufacturing."

**Program no longer active.

MIF FUNDING | Total Since FY16: \$1,129,145



STUDENTS PARTICIPATING

Total: 10,883



COMPANIES ASSISTED

Total: 510



EDUCATORS PARTICIPATING

Total: ~1,300



Young Manufacturers Academy** | Administered by CT Center for Advanced Technology (CCAT)

Designed to engage students in grades 5-8, this program has been opening the minds of middle-grade students across Connecticut to the world of possibilities in manufacturing — from CNC machining to factory design. Students have toured local manufacturers and learned other critical skills like communication, resume preparation, and interviewing techniques.

**Program no longer active.

MIF FUNDING | Total Since FY16: \$1,257,678



STUDENTS
PARTICIPATING

Total: 6,690



COMPANIES
VISITED

Total: 115



CITIES/TOWNS
REPRESENTED

Total: 167

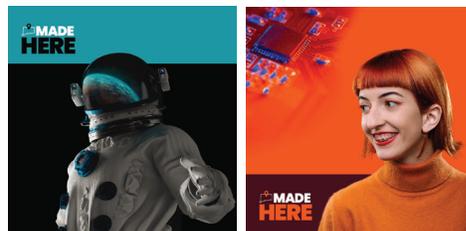
NEW: Engineering Internship Program (EIP) | Administered by CT Center for Advanced Technology (CCAT)

The overarching goal of this program is help to Connecticut's engineering graduates working in Connecticut. To that end, it provides students in CT undergraduate engineering programs with opportunities to intern with small- to mid-sized manufacturing companies of up to 300 employees. Eligible companies receive a wage subsidy of \$3,500 per intern (maximum two interns per company), designed to cover up to half their summer wages.

MIF FUNDING | Total Since FY22: \$650,000

NEW: Hearts & Minds Campaign | Administered by CSCU

Launched in October 2022, the MIF helped to fund the new, year-long Hearts & Minds Marketing Campaign. This campaign is focusing on two key objectives: 1) to improve the overall image of manufacturing careers in Connecticut by promoting a clean, exciting, high-skill work environment, and 2) to drive enrollment in higher education programs within the manufacturing field. With the support of the CT State Colleges & Universities (CSCU) system and the CT Office of Workforce Strategy (OWS), we were also able to magnify the reach of the campaign as we linked our efforts with those of the CareerConnect marketing launch.



MIF FUNDING | Total Since FY22: \$750,000

Manufacturing Innovation Fund Program Financials

	REVENUES	EXPENSES	BALANCE
Total Funding	\$90,000,000		
Manufacturing Innovation Fund (MIF)	\$85,000,000		
Manufacturing Assistance Act (MAA)	\$5,000,000		
Subtotal Administration	\$4,250,000	\$1,437,239	\$2,812,761
Subtotal Programs	\$85,750,000	\$81,211,719	\$4,538,281
Manufacturing Voucher Program		\$29,860,896*	
Incumbent Worker Training		\$17,000,000	
Apprenticeships/Pre-Apprenticeships		\$10,799,000	
Industry 4.0		\$5,000,000	
Advanced Composites		\$5,000,000	
Advanced Technology Composites Center		\$4,800,000	
High Rate Additive Manufacturing		\$3,500,000	
Young Manufacturers Academy**		\$1,257,678	
Dream It. Do It.**		\$1,129,145	
Energy on the Line		\$800,000	
Hearts & Minds Campaign		\$750,000	
Engineering Internship Program		\$650,000	
College Connections		\$600,000	
Manufacturing Month		\$65,000	
Total Balance			\$7,351,042

*Of the \$5,000,000 for this program funded by the MAA, \$4,928,354 was expended.

**Program no longer active.

Total Investments in Distressed Communities

Fiscal Year 2022

Across every county in the state, the MIF builds on Connecticut's traditional hubs of manufacturing advancement. The MIF has given special consideration to proposals from distressed municipalities, targeted investment communities, public investment communities, enterprise zones, and manufacturing innovation districts. These funds have been critical to spurring municipal revitalization, job growth, and employment opportunities.

DISTRESSED LIST	FY 2019 FUNDING	FY 2020 FUNDING	FY 2021 FUNDING	FY 2022 FUNDING	4-YEAR TOTALS
Ansonia	\$38,260	\$0	\$0		\$38,260
Bridgeport	\$0	\$14,397	\$119,215	\$124,315	\$257,927
Bristol	\$440,894	\$121,435	\$175,432		\$737,761
Dayville	\$0	\$0	\$6,337		\$6,337
Derby	\$0	\$0	\$19,700	\$13,650	\$33,350
East Hartford	\$0	\$97,616	\$82,954	\$141,506	\$322,076
Enfield	\$58,000	\$14,366	\$42,698		\$115,064
Groton	\$6,934	\$56,500	\$6,000	\$5,663	\$75,097
Hamden	\$30,000	\$83,263	\$47,500		\$160,763
Hartford	\$28,029	\$64,554	\$0		\$92,583
Killingly	\$0	\$84,497	\$0		\$84,497
Meriden	\$81,000	\$212,430	\$0	\$22,318	\$315,748
Middletown	\$36,100	\$28,000	\$7,313		\$71,413
Naugatuck	\$86,000	\$76,333	\$43,493		\$205,826
New Britain	\$341,169	\$177,411	\$172,974	\$205,723	\$897,277
New Haven	\$0	\$70,000	\$9,303		\$79,303
New London	\$0	\$0	\$0		\$0
Norwalk	\$0	\$33,979	\$0		\$33,979
Norwich	\$6,630	\$45,000	\$0		\$51,630
Plainfield	\$65,539	\$48,000	\$15,103		\$128,642
Plymouth	\$112,080	\$0	\$49,000		\$271,636
Putnam	\$53,476	\$160,279	\$17,521	\$110,556	\$231,276
Seymour	\$212,000	\$83,003	\$14,339		\$309,342
Southington	\$157,581	\$171,088	\$0		\$328,669
Stafford Springs	\$0	\$0	\$3,675		\$3,675
Stamford	\$102,000	-\$12,419	\$53,347		\$142,928
Stratford	\$0	\$0	\$0	\$114,395	\$114,395
Sterling	\$0	\$0	\$0		\$0
Thompson	\$0	\$0	\$0		\$0
Torrington	\$189,001	\$143,880	\$94,562	\$15,733	\$443,176
Waterbury	\$809,702	\$149,802	\$98,000	\$177,487	\$1,234,991
West Haven	\$0	\$150,000	\$0	\$10,414	\$160,414
Winchester	\$0	\$0	\$38,692		\$38,692
Windham	\$28,000	\$0	\$0		\$28,000
Wolcott	\$183,937	-\$82,273	\$49,000		\$150,664
Totals	\$3,066,332	\$1,991,141	\$1,166,158	\$941,760	\$7,165,391

2022 Manufacturing Innovation Advisory Board

This report is submitted on behalf of the Manufacturing Innovation Fund Board of Directors, whose members are listed here.



Paul Lavoie

Chairman,
Manufacturing Innovation Fund Advisory Board
Chief Manufacturing Officer,
Department of Economic and Community Development (DECD), State of Connecticut



Donald Balducci

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Balducci Associates, LLC



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Office of Workforce Strategy



John Zoldy

Sales Manager,
The Platt Brothers & Co.
Board Member,
SMA

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For more information on the Connecticut Manufacturing Innovation Fund, visit CTMIF.com or contact Connecticut's Chief Manufacturing Officer, Paul Lavoie, at paul.lavoie@ct.gov.



Manufacturing
Innovation Fund
Advancing Manufacturing Faster