

2024

Connecticut Manufacturing Report

reimaginect 



THE POWER OF BEING UNDERSTOOD
ASSURANCE | TAX | CONSULTING

Henry

One of the
RSM team



Change won't wait for you to sleep on it.

Change is inevitable. But when it happens, you don't have to sit back and wait. You can take charge of it.

With 57,000 powerful minds who live and breathe the nuances of a rapidly changing middle market, RSM instills confidence when it matters most by harnessing technology and deep industry experience, enabling you to take charge of change.

RSM. The Power of Being Understood.

rsmus.com

CONNECTICUT MANUFACTURING'S ECONOMIC POWER



EMPLOYEES



157,800

Manufacturing employees
(as of Aug. 2024)

MANUFACTURERS



4,548

Manufacturing companies
(2023)

WAGES



\$15.12
BILLION

Total manufacturing
salaries (2023)

\$95,470

Average manufacturing
salary (2023)

TAXES



\$144
MILLION

State corporate
taxes paid (2021)

\$309
MILLION

State sales & use
taxes paid (2023)

MULTIPLIERS



5

ADDITIONAL JOBS

What each manufacturing
job creates in other parts
of the economy

\$34.55
BILLION

Manufacturing accounted for
10.2% of the state's GDP (2023)

\$2.60

Amount generated in
additional activity for every
\$1 spent in manufacturing

EXPORTS



\$15.85
BILLION

Total manufacturing
exports (2023)

DEFENSE



\$25.1
BILLION

Connecticut manufacturing
defense contract spending
(2023)

Sources: U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics, U.S. Department of Defense, U.S. Census Bureau, National Association of Manufacturers, Connecticut Department of Revenue Services, Connecticut Department of Labor.

Introduction

The 2024 Connecticut Manufacturing Report is produced by CBIA and affiliates CONNSTEP and ReadyCT and made possible again this year through the generous support of RSM.

Connecticut has a long history of manufacturing ingenuity and innovation, one deeply embedded and central to the state’s economy. This is the birthplace of the helicopter, the submarine, anesthesia, the Polaroid camera—not to mention the Frisbee and Wiffle Ball.

The state’s 4,548 manufacturers and world-class workforce fully showcase that legacy today, making the parts that launch rockets into space, put planes and helicopters into the skies, allow nuclear submarines to run silent and deep, provide the latest innovations to the cars on our roads, keep transmission lines humming, bring life-saving medical technologies and medicines to the world, and put food on our tables.

This year’s report reviews the current state of Connecticut manufacturing, examines the scope of the post-pandemic recovery, and explores the outlook for the sector, including growth factors, policy priorities,

hiring and investment trends, and challenges and opportunities.

Across the U.S., manufacturers face an ever-shifting economic landscape, navigating ongoing inflation, a tight labor market, higher capital costs, continued supply chain risks, and geopolitical disruption.

Connecticut’s manufacturing sector is not immune to those challenges. The post-pandemic years represented tremendous disruption, with rapidly evolving technologies, business models, consumer behavior, and career expectations.

While it can be argued that the pandemic made us a stronger state, old issues and new await as Connecticut charts its future course. Federal pandemic relief funds—a critical lifeline over the past four years that kept tax hikes at bay as government spending increased—will no longer be available when the Lamont administration and the legislature hammer out the state’s latest two-year budget next winter and spring.

Funding for the state’s Manufacturing Innovation Fund, a popular program driving innovation, technology,

Contents

Introduction.....	2	State of Manufacturing	8	FIRST Robotics Awarded \$2.27M in Funding	12	Key Stakeholders	20
Key Takeaways	3	Competitive Landscape....	9	Capitalizing on Opportunities.....	17	2024 Manufacturing Innovation Fund Programs.....	23
Manufacturing Ecosystem	4	Workforce & Hiring	12				

and workforce initiatives for small and midsize manufacturers, will be among those budget questions.

Lawmakers allocated \$30 million for the fund in the two-year state budget adopted in 2023. Paul Lavoie, the state's chief manufacturing officer, told reporters earlier this year he plans on asking for \$100 million over six years for the fund.

"We need to put MIF on steroids," Lavoie said in April. "It's a great program, and no other state has such a robust program that we have, but it simply is not going to be enough to significantly move the needle as it relates to the workforce."

Workforce remains a significant challenge for Connecticut manufacturers and funding for programs such as the Office of Workforce Strategy's CareerConneCT program, will also be part of budget discussions. As of August 2024, Connecticut had 84,000 job openings—20% more than pre-pandemic levels—while the labor force has declined by 28,570 people (-1.5%) since February 2020. An estimated 8,000 of those jobs are in the manufacturing sector.

A year after releasing the state's first strategic manufacturing plan, a much-anticipated blueprint with ambitious job and GDP growth targets, the Office of Manufacturing in April announced the Make It Here 2030 plan, a list of priorities for developing talent, removing employment barriers, and maximizing productivity through technology.

"Efforts to increase labor participation and attract new residents are critical and include initiatives that improve assets and remove barriers," the plan notes. "Among these programs are those that touch affordable housing, access to childcare, and expanding transportation."

“ The pride and dedication of Connecticut manufacturers is unmatched. Leaders are engaged, collaborative, innovative, and determined to meet the demands for their products and expand opportunities for their workforces.

Chris DiPentima, President & CEO, CBIA

Can Connecticut develop a more business-friendly environment? Can the state's manufacturing sector boost its competitiveness? What are the main issues impacting growth opportunities?

The 2024 Connecticut Manufacturing report provides critical insights into the state's manufacturing sector and highlights the numerous opportunities—requiring a greater sense of purpose and commitment from policymakers—to unlock its full potential.

The information and data shared in this report was drawn from multiple sources, including a comprehensive June 11-July 18 CBIA survey of Connecticut manufacturers, numerous state and federal agencies, and interviews with public and private sector manufacturing leaders.

Key Takeaways

- ▶ 80% of Connecticut manufacturers say it is difficult to find and retain workers
- ▶ The lack of skilled job applicants is the main factor hampering growth for 33%, along with the cost of living (20%)

- ▶ The cost of doing business is increasing for 87% of manufacturers (down four points from 2023)
- ▶ 27% expect to grow their workforce in the next six months
- ▶ 65% reported profits in 2023, 21% posted losses, and 15% broke even
- ▶ 41% say the state's business climate is static, 38% say it's declining, and 5% say it's improving

well-established small businesses, employing less than 50 people. Twelve percent of the companies that participated in CBIA's June-July survey have operated for more than 100 years, with the average survey respondent operating for 59 years.

Sixty-eight percent of firms employ less than 50 people, and 83% have less than 100 employees.

Thirty-one percent are S-corporations, 20% are C-corporation, 14% are privately held, 7% are limited liability companies, and 6% are limited liability.

Six percent are women-owned, 3% veteran-owned,

2% foreign owned, 1% employee-owned, and 1% are family-owned businesses.

Nearly all surveyed manufacturers have their primary facility in Connecticut (97%), with 82% making all their products in the state and 15%

locating partial production here.

Connecticut manufacturers employed 157,800 people as of August 2024, representing 10.7% of the state's total private sector workforce.

Twenty-nine percent of Connecticut's manufacturing jobs are in the First Congressional District, which covers 27 cities and towns in Hartford, Litchfield, and Middlesex counties.

Manufacturing Ecosystem

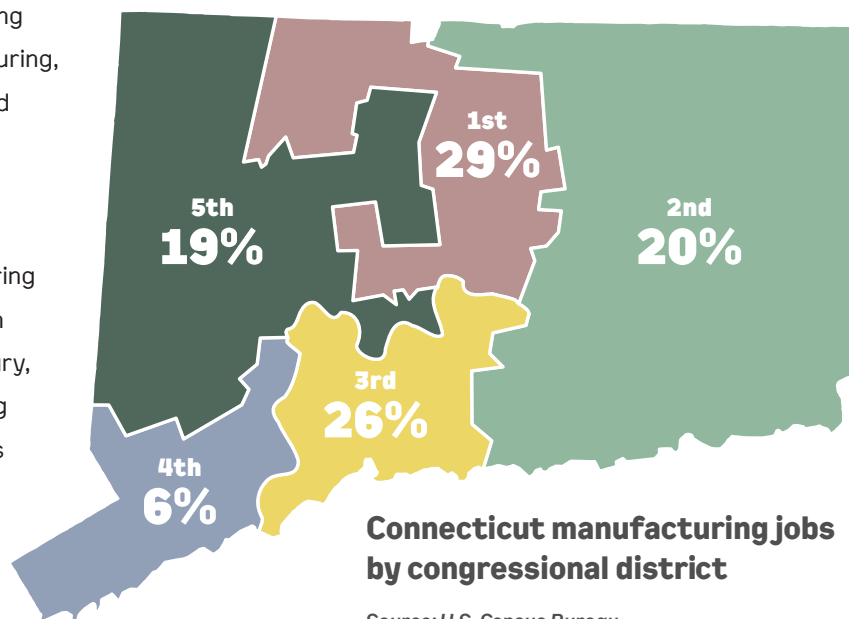
Connecticut has a long history of manufacturing, one deeply embedded and central to the state's economy. Connecticut was a leader in manufacturing throughout the 19th and early 20th century, producing everything from guns and clocks to auto parts and textiles.

The state's 4,548

manufacturers and

world-class workforce fully showcase that legacy today, embodying the spirit of innovation that's defined the sector for hundreds of years as they continue putting food on tables, saving lives with groundbreaking medical devices, putting planes and helicopters into the skies and submarines beneath the seas.

Most of the state's manufacturing companies are



The state's Third Congressional District, centered on New Haven County, parts of Middlesex County, and most of Stratford and parts of Shelton in Fairfield County, is home to 26% of manufacturing jobs.

Twenty percent are located in the Second District, covering all of New London, Tolland, and Windham counties and parts of Hartford, Middlesex, and New Haven counties.

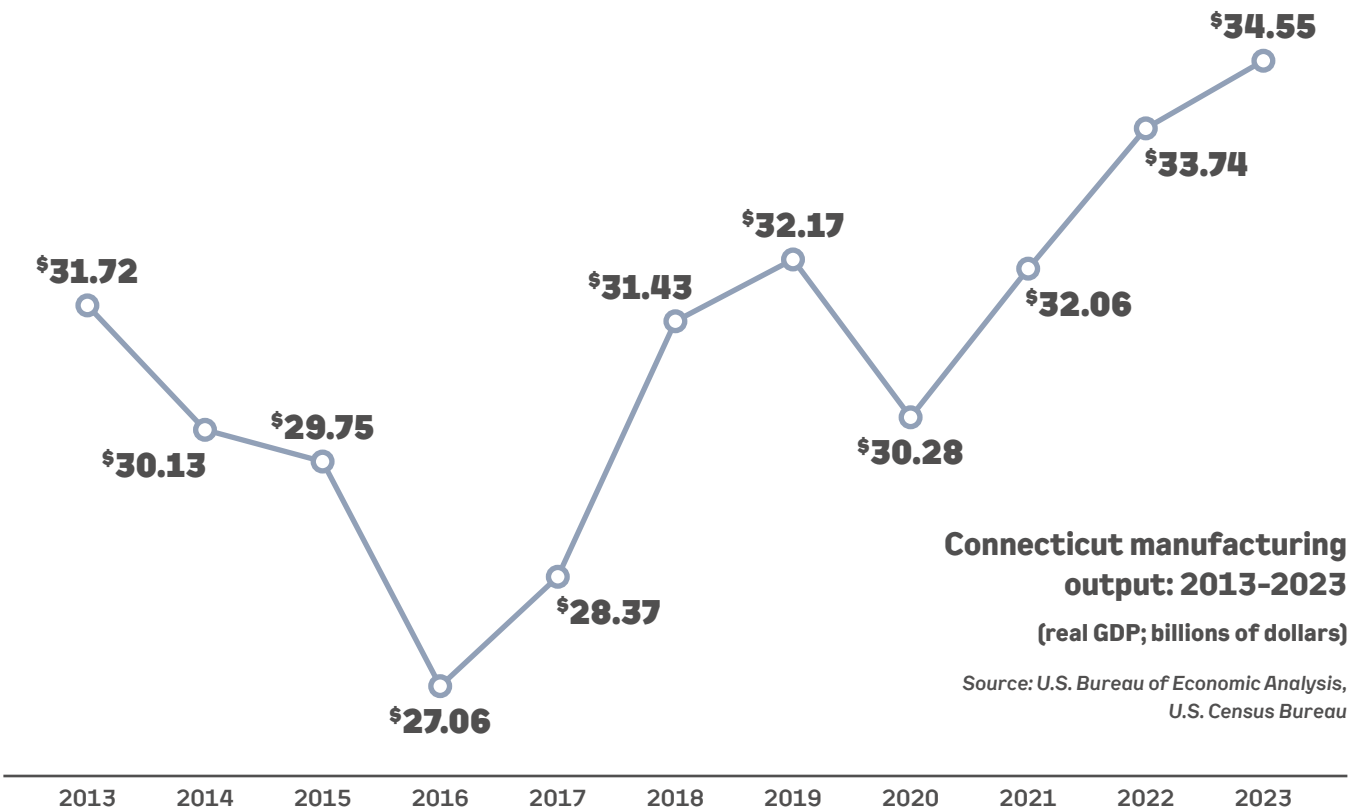
The Fifth District, which includes New Britain, most of Waterbury, the Housatonic Valley, Farmington Valley, Upper Naugatuck River Valley, and the Litchfield Hills hosts 19% of sector jobs while 6% are located in the Fourth District, covering most of Fairfield County.

Connecticut manufacturers pay \$144 million annually in state corporate taxes and \$309 million in sales and use taxes.

The state's annual manufacturing output increased 2.4% to a record \$34.55 billion in 2023—representing 10.2% of Connecticut's real annual GDP—including \$15.85 billion in commodity exports.

Based on the latest U.S. Bureau of Economic Analysis data, aerospace and transportation equipment remains the largest manufacturing subsector in Connecticut, responsible for \$13.86 billion in annual output in 2022, up 15.3% over the previous year.

Chemical manufacturing generated \$4.8 billion in output (0.2%), followed by fabricated metal products (\$3.18 billion; -4.8%), miscellaneous durable goods (\$2.82 billion; 4.1%), machinery (\$1.65 billion; 3.7%), computer and electronic products (\$1.63 billion; 2.5%), food, beverage, and tobacco products (\$1.63 billion; 7.4%), electrical



equipment, appliances, and components (\$1.17 billion; -2.5%), paper (\$659.8 million; -6.8%), and motor vehicles, bodies and trailers, and parts (\$508 million; 19.9%).

Connecticut's economy expanded 2.1% in 2023, the best performance in New England based on U.S. Bureau of Economic Analysis data. The six New England states grew 1.8% last year, with the national economy expanding 2.5%.

The state's economy rebounded from a sluggish start to 2024, with GDP growing 2.8% in the second quarter —30th best of all states—after contracting 0.3% in the first three months of the year. The regional economy expanded 2.2% in the second quarter, while national GDP grew 3%.

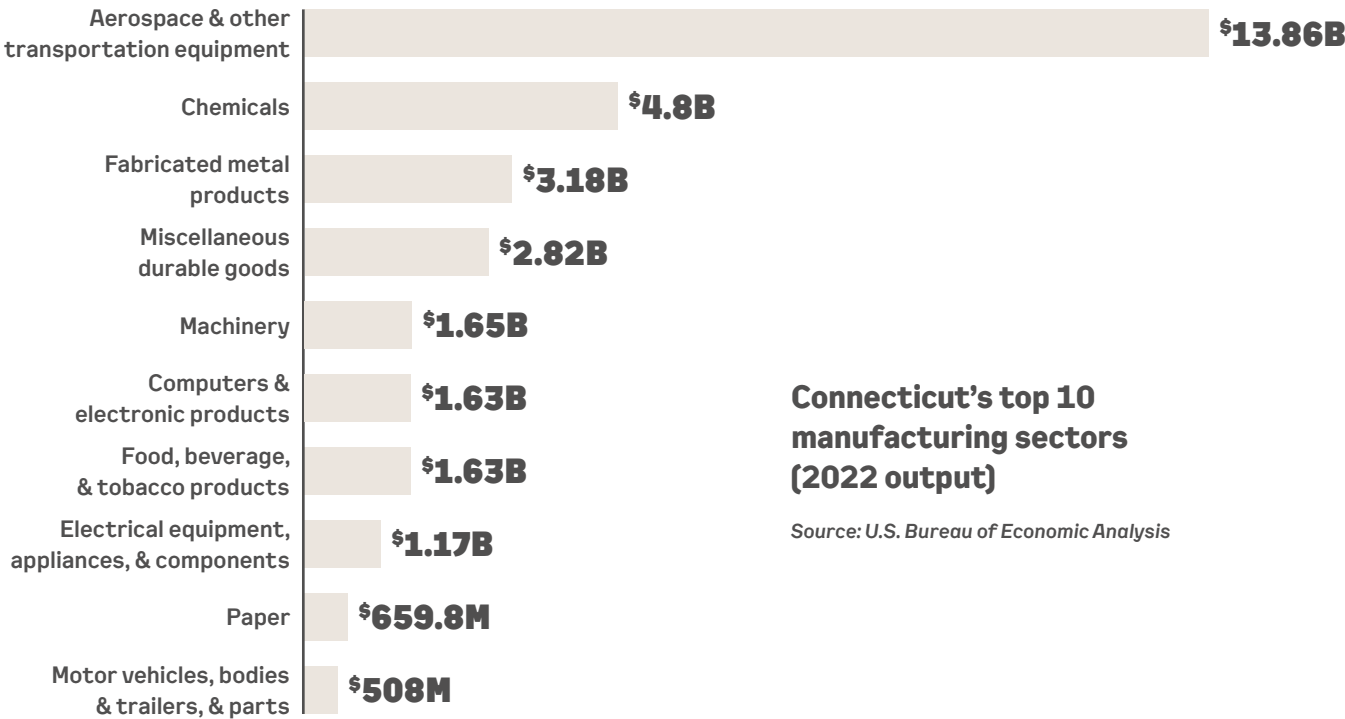
Durable goods manufacturing grew 0.43% in the second quarter—third strongest of all sectors—with nondurable goods manufacturing output expanding 0.15%.

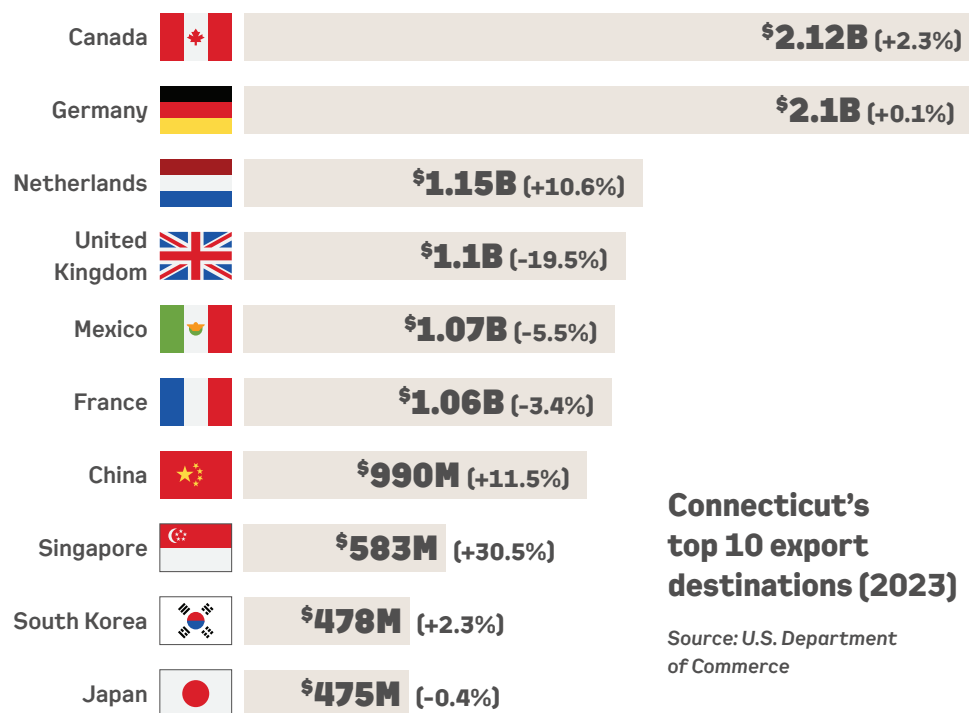
Connecticut commodity exports continued to grow year-to-year, increasing 3.2% last year to \$15.85 billion.

U.S. Department of Commerce data indicates Connecticut companies exported \$494 million more in goods in 2023, with six of the state's top 10 export markets posting increases.

Connecticut experienced notable shifts in trading partners—with Canada rising above Germany as the state's largest export market in 2023—as commodity sales to our northern neighbor increased \$48 million (2.3%) to \$2.12 billion.

Exports to Germany increased \$3 million to \$2.1 billion, while shipments to the Netherlands jumped \$110 million (10.6%) to \$1.15 billion as that country overtook the United Kingdom for third place.





Connecticut's top 10 export destinations (2023)

Source: U.S. Department of Commerce

Germany shipped \$7.25 billion in goods to Connecticut last year, followed by South Korea (\$5.98 billion), Canada (\$5.57 billion), and China (\$5.28 billion).

At \$4.8 billion, aircraft, spacecraft, and parts represented the greatest share of commodity exports, up 0.9% from 2022.

Exports of industrial machinery, including computers, reached \$3.76 billion (+16.4%),

United Kingdom commodity shipments posted a dramatic decline last year, falling \$266 million (-19.5%) to \$1.1 billion amid ongoing post-Brexit regulatory challenges and inflationary concerns.

Connecticut exports to Mexico fell \$63 million (-5.5%) to \$1.07 billion, while shipments to France declined \$37 million (-3.4%) to \$1.06 billion.

Exports to China grew 11.5% (\$102.1 million) to \$990 million, by 30.5% (\$136.2 million) to Singapore, and by 2.3% (\$10.9 million) to South Korea.

Japan fell from eighth to Connecticut's 10th largest market last year, with commodity sales declining modestly to \$475 million.

Mexico is Connecticut's largest trading partner, accounting for \$9.17 billion of the \$37.23 billion in goods the state imported in 2023.

while electric machinery exports hit \$1.53 billion, an impressive 18.5% increase, followed by optic, photo, and medical equipment (\$1.29 billion; -3.6%), special classification provisions (\$663.25 million; +44%), plastics and articles (\$542.84 million; +0.02%), miscellaneous chemical products (\$218.27 million; -18%), iron or steel articles (\$207.78 million, +10.6%), inorganic chemicals (\$183.45 million, -15.2%), and iron and steel (\$181.87 million; -26.1%).

Connecticut ranks 29th nationally for exports and is the number two exporter in New England behind Massachusetts, which shipped \$35.3 billion in goods last year.

Overall, New England's commodity exports increased 3.88% last year to \$66.64 billion, with Canada, Germany, Belgium, China, and Mexico representing the top five markets.

U.S. exports fell 2.3% to \$2.02 trillion in 2023. Canada and Mexico remained the top two destinations for U.S. exports, with China, the Netherlands, and Germany rounding out the top five markets.

State of Manufacturing

Connecticut manufacturers have proven their resiliency year after year—no more so than in recent years as they weathered a series of daunting challenges through innovation, persistence, and grit.

Products produced in Connecticut power some of the nation’s most important assets, including the critical components delivered by a robust supply chain. At \$25.1 billion in 2023, Connecticut was the fourth highest state for U.S. Department of Defense contract spending.

In 2023, 67% of Connecticut manufacturers forecasted a profitable year, 13% anticipated

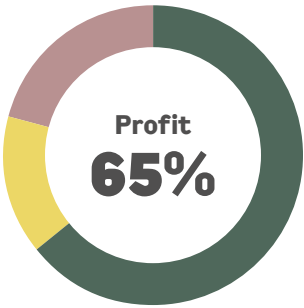
breaking even, and 9% predicted losses. Actual returns proved that it was a more difficult year than manufacturers expected, with 65% of firms reporting profits, 21% posting losses, and 15% breaking even. This represents a stark difference compared to the 8% of business leaders surveyed in 2024 who suffered a loss.

Manufacturing leaders say sales, efficiency through technology investments, lower raw material prices, and controlled labor costs drove profits in 2023.

Conversely, sales, lack of government contracts, inflation, increased wages, rising costs, and regulations drove losses.

“Difficulty in finding experienced labor,” one manufacturer noted. “State and federal laws are stifling new and existing businesses,” said another.

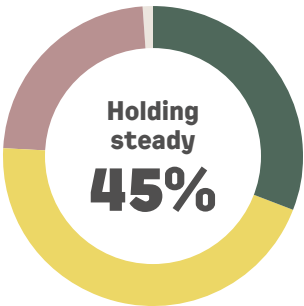
Nearly half (45%) of surveyed manufacturers said sales are currently holding steady, 31% project growth, and 23% forecast declines.



Manufacturing profitability (2023)

- Profit (65%)
- Break even (15%)
- Loss (21%)

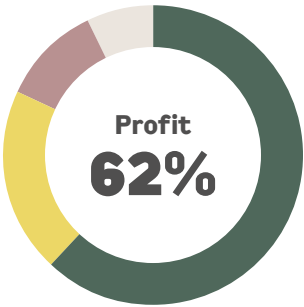
Source: CBIA June-July 2024
Connecticut manufacturing survey



Are your company sales...

- Growing (31%)
- Holding steady (45%)
- Contracting (23%)
- Unsure (1%)

Source: CBIA June-July 2024
Connecticut manufacturing survey

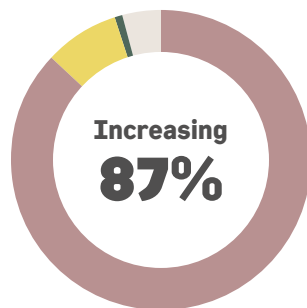


What do you expect for overall financial returns for 2024?

- Profit (62%)
- Break even (20%)
- Loss (11%)
- Unsure (7%)

Source: CBIA June-July 2024
Connecticut manufacturing survey

Looking ahead, 62% of manufacturers expect to post profits in 2024 and 20% expect to break even. Eleven percent are predicting losses for 2024, which would be significantly less than this year.



Is the cost of doing business in Connecticut...

- Increasing (87%)
- Remaining the same (8%)
- Decreasing (1%)
- Unsure (4%)

Source: CBIA June-July 2024 Connecticut manufacturing survey

cite increasing energy, health insurance, and housing costs.

In line with profit contributions, 40% of manufacturers said the costs of goods and supplies

Still, 87% of manufacturers believe the cost of doing business in Connecticut is increasing, down four points from last year.

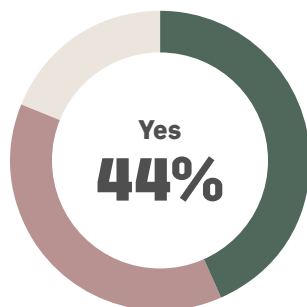
These rising costs are attributed to various factors, including labor (23%), goods and supplies (19%), state taxes (15%), state mandates (14%), local taxes (14%), and compliance (12%). The remaining 2% of businesses

are decreasing. Additionally, 20% of respondents reported reduced compliance costs, state taxes (20%), and local taxes (20%).

Manufacturers continue to diversify their products. Forty-five percent of those surveyed introduced a new product last year, and 44% expect to introduce something new in the next 12 months, with 80% of those products scheduled to be made in Connecticut,

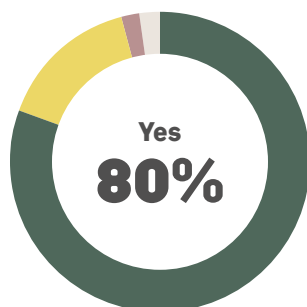
15% partially manufactured here, and 2% will be produced outside the state.

Companies choosing to manufacture their products elsewhere cite high labor costs (18%), business regulations and mandates (18%), energy costs (13%), taxes (13%), and proximity to customers (13%) as the primary reasons for their decision, in addition to other unique factors (24%).



Will your company introduce a new product or service over the next 12 months?

- Yes (44%)
- No (38%)
- Unsure (19%)



Will your new products or services be manufactured or supported in Connecticut?

- Yes (80%)
- Partially (15%)
- No (2%)
- Unsure (2%)

Competitive Landscape

Forty-one percent of manufacturers believe Connecticut's business climate is static, down two points from last year, while 5% say it is improving, and 38% see declining conditions. Fifteen percent are unsure.

Source: CBIA June-July 2024 Connecticut manufacturing survey

Nearly one third (32%) of manufacturing executives say Connecticut's quality of life is the greatest advantage to running a business here, followed by proximity to customers (21%).

Others tout the state's skilled workforce (13%), access to major markets (9%), industry-specific ecosystems (8%), technology and innovation access/awareness (8%), access to capital (1%), and access to state leaders (1%) as the greatest advantages to being in Connecticut. Eight percent of respondents cited other assets, such as family ties, with a notable number commenting that there are no advantages.

The labor shortage remains the greatest threat for most companies, with 33% of manufacturers reporting that the lack of skilled job applicants is the main factor hampering growth. Notably, this is down eight points from last year's survey.

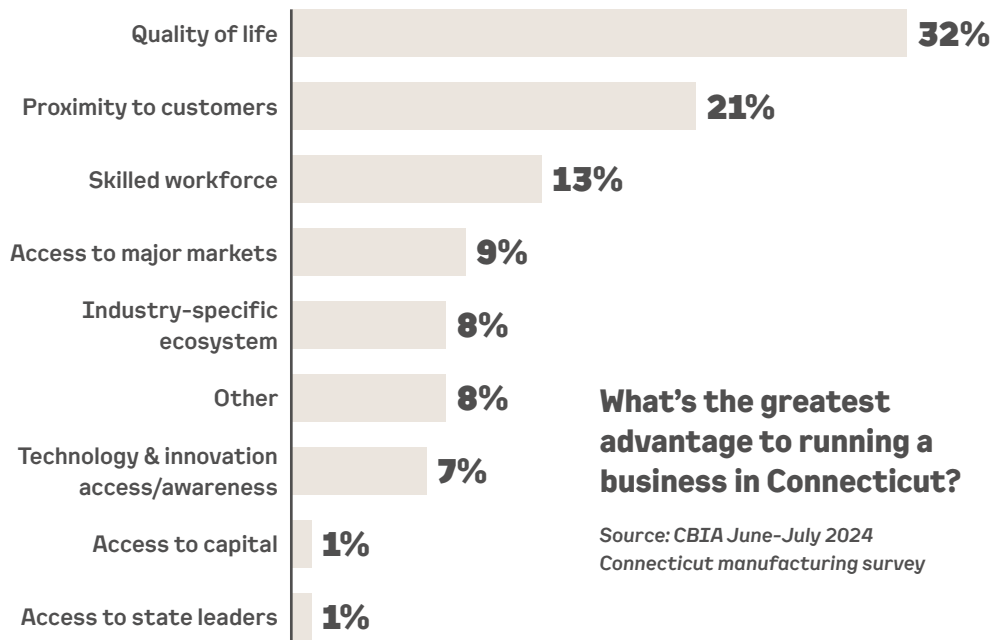
Additionally, 20% of respondents cite the cost of living as the main growth challenge, followed by uncertainty

and unpredictability in legislative decision-making (11%), high business taxes (10%), workplace mandates (9%), increasing regulatory and compliance costs (8%), other (6%), credit availability (2%), and transportation infrastructure (1%). Other respondents (6%) said the overall economy, tax environment, and city zoning restrictions are factors.

To combat workforce challenges, manufacturers are continuing to invest in their employees. Thirty-nine percent list recruitment and retention efforts as the area where they are investing the most, a significant 12-point increase over last year.

Twenty-five percent of firms say property and facilities are their greatest investments, followed by marketing and sales to new customers (18%), new technology (7%), and research and development (6%).

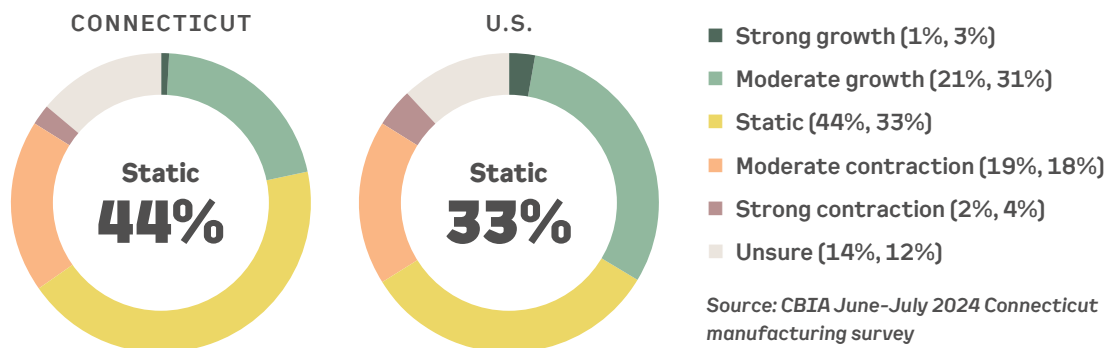
One respondent highlighted the challenge of "keeping up with rising wages and benefits," adding that their retention efforts focused on adjusting salaries.



Connecticut manufacturers have somewhat similar outlooks for the state and U.S. economies.

Of surveyed manufacturers, 44% expect static conditions for Connecticut's economy over the next 12 months, 21% predict moderate growth, 1% strong growth, 19% a moderate

What's your 12-month outlook for the Connecticut and U.S. economies?



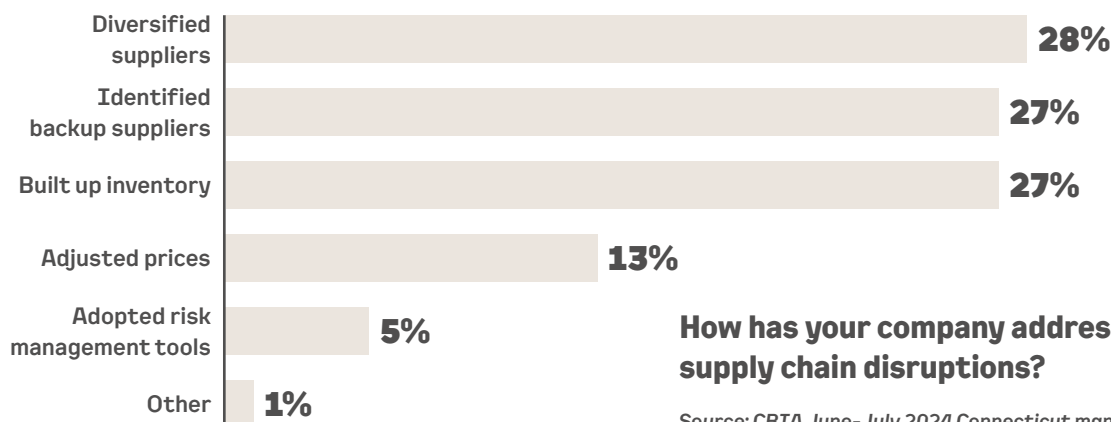
contraction, 2% a strong contraction, and 14% are unsure.

Thirty-three percent expect static conditions for the U.S. economy, 31% anticipate moderate growth, and 3% expect strong growth, while 18% believe the U.S. economy will experience a moderate contraction and 4% expect a strong contraction. The remaining 12% are unsure.

Inflation remains a significant challenge for Connecticut businesses—one that has caused manufacturers to also raise their prices and in many cases, reduce their workforce.

Of the businesses surveyed in 2024, 86% cite inflationary pressure and suggest policymakers reduce costly workplace mandates to ease the impact locally. One manufacturing leader also called for policymakers to reduce taxes for the short term to offset rising costs.

Seventy-nine percent of manufacturing companies report that supply chain issues continue to disrupt business operations. To address these challenges, manufacturers diversified suppliers (28%), identified backup suppliers (27%), built up inventory (27%), adjusted prices (13%), and adopted risk management tools (5%).



FIRST Robotics Awarded \$2.27M in Funding

Connecticut made a major investment in *FIRST* Robotics programs for the state's K-12 school system in 2024.

The Manufacturing Innovation Fund board allocated \$2.27 million over two years to support *FIRST* Robotics programs across the state under the direction of ReadyCT in partnership with NE *FIRST*.

FIRST prepares young people for a future in STEM careers through a suite of hands-on team-based robotics programs for students in grades pre-K through 12.

Critical Investment

"This investment is critical and a real win for the state's students," said ReadyCT executive director Shannon Marimón.

Over the next two years, the funds will be used to add 20 new teams to the more than 250 *FIRST* Robotics teams already in the state.

The project will help cover costs like registration fees, student summer camps, and equipment.

Three new regulation-sized fields will also be placed in innovation hubs around the state for teams to practice and compete.

NE *FIRST* executive director Michael Fantom said the partnership with ReadyCT and MIF will help reach more students, particularly in underserved school systems.

"We are creating a space where students can feel comfortable to grow, develop, and understand how the skills that they are learning in this program can open doors to numerous opportunities in their future careers," he said.

Building Career Skills

The goal is to not only increase access to STEM learning in Connecticut but also address workforce shortages in STEM industries.

Workforce & Hiring

The need to grow Connecticut's manufacturing workforce cannot be understated, and neither can the barriers hampering hiring efforts across the state.

The issue is a national one, with an April 2024 study produced by the Manufacturing Institute and Deloitte projecting that the U.S. manufacturing sector will need to fill 3.8 million jobs within the next decade.

That study found manufacturing's emergence from the pandemic shows the sector's strength, with growth

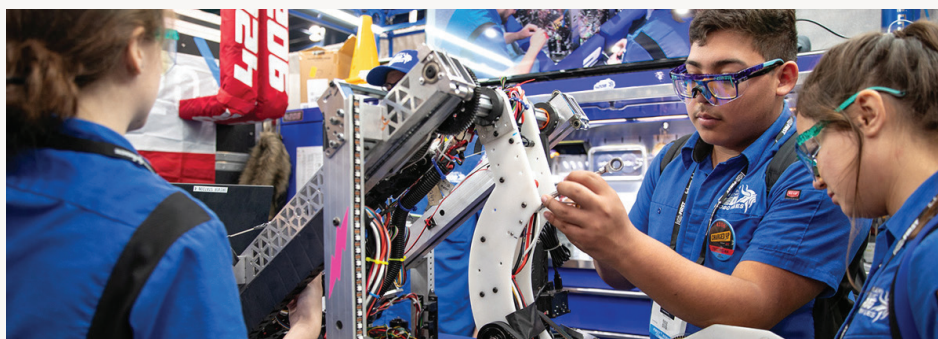
projected to continue for the foreseeable future. However, that growth demands even more skilled workers, "particularly statisticians, data scientists, logisticians, engineers, computer and information systems managers, software developers and industrial maintenance technicians."

"Pandemic-driven shifts have already created hundreds of thousands of new jobs, and now we are seeing increased demand for digital skills that need to be met or risk further widening of the talent gap," Manufacturing Institute president and executive director Carolyn Lee noted in the report.

“The *FIRST* program not only gives students technical knowledge, but also important skills that employers value including communication, teamwork, and problem-solving,” said CBIA president and CEO Chris DiPentima.

“This program enables us to train a workforce crucial to the success of our future manufacturing sector while also providing students with a fun opportunity to compete,” added chief manufacturing officer Paul Lavoie.

Hartford Public High School student Gabrielle Nieves said participating in *FIRST* helped her decide to pursue a career in engineering.



“I love the fact that I get to use my hands and work with a team to build a robot, and it’s just the best feeling when we build it and then make the robot move,” she said.

Since its founding in 1989, more than three million young people in 100 countries have participated in *FIRST* programs. The organization says 81%

of *FIRST* alumni declare a STEM major by the end of their college careers.

“When students engage in STEM learning and get involved with building and playing with robots at an early age, they become more STEM literate and demonstrate interest in exploring STEM-based careers like computer science and engineering,” said Marimón.

Demand remains strong in Connecticut, particularly in the defense, aerospace, and transportation sectors. For instance, submarine manufacturer General Dynamics Electric Boat, which added 5,300 jobs in 2023, projects that it needs to add 5,000 positions annually for the next two decades.

Based on U.S. Bureau of Labor Statistics data, Connecticut has 84,000 job openings, 20% more than pre-pandemic levels, with an estimated 8,000 of those unfilled positions in the manufacturing sector.

Despite that demand, Connecticut manufacturing employment declined 0.4% in the 12 months through August 2024. The sector has recovered only 75% of the 11,800 jobs lost to pandemic restrictions and shutdowns in March and April of 2020.

Connecticut’s overall year-over-year job growth is 0.8%, 41st best in the country. Only four of Connecticut’s 10 major industry sectors—construction, education and health services, professional services, and trade, transportation, and utilities—have recovered all pandemic losses.

The state's shrinking labor force illustrates the challenges faced by manufacturers and all employers. Since February 2020, Connecticut's labor force—those working and those actively looking for work—has declined by 28,570 people (-1.5%). Over the same period, the national labor force has expanded 2.5%, with every other New England state except New Hampshire (-0.6%) also in growth mode.

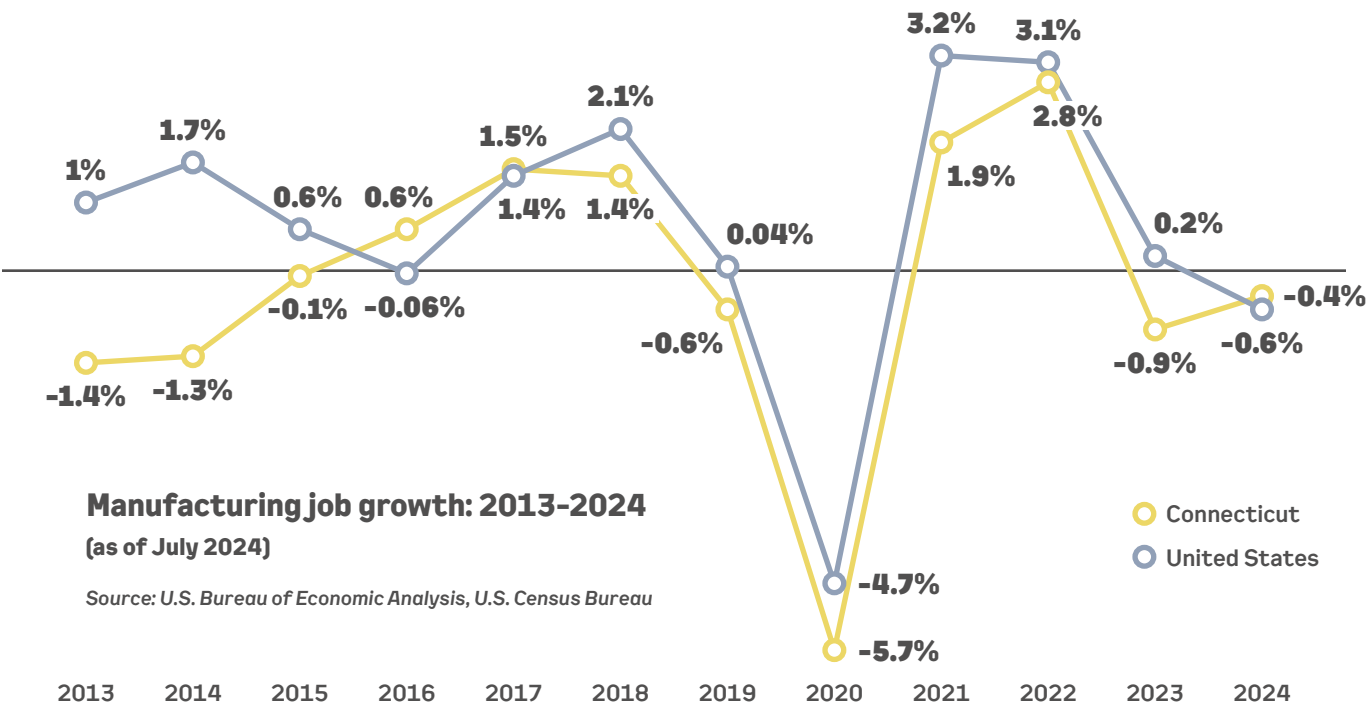
As of August, Connecticut's labor participation rate is 64.2%—20th best in the country—with unemployment at 3.4%, 20th among all states and eight-tenths of a point lower than the national average.

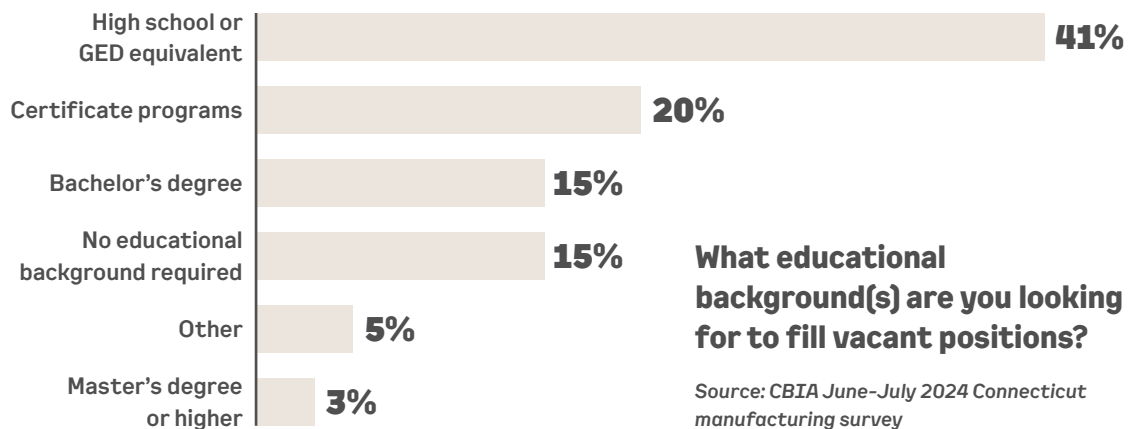
The state's voluntary quits rate for July 2024—the latest available data—is 1.7%, down two-tenths of a point and the second lowest in the region and fifth lowest in the country. The total separations rate was 3.3%, down one-tenth of a point and second lowest in

region and 12th lowest in the U.S. The hiring rate was 3.8%, third highest of the New England states and 20th best nationally.

Eighty percent of manufacturers CBIA surveyed this summer reported difficulty finding and retaining workers. Top of mind for many manufacturers is the sector's aging workforce, with many retirements looming—businesses are struggling to find qualified replacements and address lost institutional knowledge and experience.

This challenge is further compounded by the state's high cost of living, limited workforce housing, and a lack of affordable childcare options, all of which make it difficult to find and retain workers. The result is a widening gap between job openings and the available workforce, threatening long-term economic stability.





Manufacturing executives report significant challenges finding suitable employees, with 30% of those surveyed citing a lack of required skills and expertise among applicants as the main issue.

Other executives cite lack of work ethic (24%), salary expectations that exceed budget constraints (22%), competition from other employers offering higher wages (15%), and the state's high cost of living (7%) as the biggest recruiting challenges.

Manufacturers are up against outdated perceptions about the industry and its opportunities.

A walk through manufacturing facilities in Connecticut today easily showcases that manufacturing employees are a diverse group of individuals and facilities are modern, often flooded with color and bright light.

Wages are only climbing. The average annual manufacturing wage in Connecticut hit \$95,470 in 2023, a 3% increase over the previous year. This upward trajectory in wages may help attract more candidates, although addressing the underlying challenges in skill gaps, work ethic, and Connecticut's cost of living remains critical for sustaining growth and development in the sector.

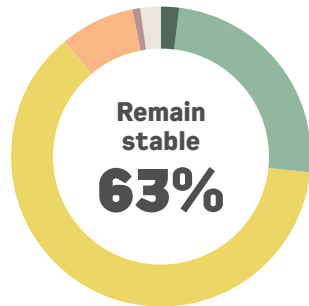
Formal education for most open positions does not go beyond high school. Most manufacturers (41%) seek employees with a high school diploma or GED equivalent diploma, 20% look for those who have completed certificate programs, and 15% of open positions do not require any educational background.

Among current manufacturing job openings, 15% require a bachelor's degree, 3% a master's degree or higher, and 5% prioritize previous experience, particularly from apprenticeship or trade schools.

Manufacturers are addressing workforce challenges by investing in several key initiatives, including flexible paid time-off policies (19%), apprenticeship and internship programs (17%), developing employee engagement and recognition programs (15%), shifting job requirements from education-based to skills-based criteria (12%), tuition reimbursement programs (11%), adding remote or hybrid work options (7%), implementing sign-on or stay-on bonuses (5%), creating student loan repayment programs (2%), and childcare reimbursements (1%).

More than one third (37%) of manufacturers are actively involved with education institutions as part of their overall workforce development strategy.

What do you expect to happen to the size of your workforce over the next six months?



- Increase significantly (2%)
- Increase somewhat (25%)
- Remain stable (63%)
- Decrease somewhat (8%)
- Decrease significantly (1%)
- Unsure (2%)

Source: CBIA June–July 2024
Connecticut manufacturing survey

maintaining competitiveness, and driving economic growth.

Only 19% of manufacturing executives believe Connecticut is doing enough to drive sector workforce development initiatives, up eight points from last year. Thirty-five percent believe

Connecticut is not doing enough, while 46% are unsure.

“There should be funding for training workers who want to learn,” one manufacturer noted.

Manufacturing firms are utilizing state workforce development programs to better align skills with industry needs. Thirty-five percent have used or plan to use Department of Labor apprenticeships, CareerConneCT (26%), Regional Sector Partnerships (15%), and the Tech Talent Accelerator (6%), while most of the remaining 19% have not used state programs.

Looking ahead, 27% of manufacturers plan to grow their workforce in the next six months, while 63% say their workforce will remain stable, and 9% expect to reduce employee counts.

Employers say they plan to add more automation, rely more on temporary and part-time employees, adopt artificial intelligence applications, and expand remote work in the future.

The Connecticut Office of Manufacturing’s Make It Here 2030 plan places significant emphasis on developing an industrial automation strategy, based on new technology adoption, to address the workforce shortage and offset rising labor, production, and materials costs.

Of those involved, 35% collaborate with vocational technical high schools, 25% engage with community colleges, 24% connect with local public and private high schools, and 14% partner with four-year institutions. Additionally, some manufacturers participate in broader workforce development programs to address specific skill needs.

Many of those programs have seen momentum build in recent years. CBIA affiliate ReadyCT’s manufacturing-related pathways within East Hartford, Bristol, Hartford, and New Britain have seen significant growth in the past three years. While introducing students to the opportunities that exist within the manufacturing industry, the pathways also provide them with formal introductions to companies who could become their employer.

Half of manufacturers surveyed in 2024 said they offer internship and/or apprenticeship programs to college students (38%), high school students (28%), recent high school graduates (28%), and recent college graduates (5%). Of those programs, 95% are paid and 3% of participants receive academic credit.

Workforce development initiatives in the manufacturing industry are crucial for ensuring a steady pipeline of skilled labor, which is essential for sustaining innovation,

“Make It Here 2030 is based on the premise that we’re never going to hire our way out of the problem, there’s never going to be enough people to do the work that needs to be done in the manufacturing sector,” chief manufacturing officer Paul Lavoie said in April.

“But in manufacturing, we have the opportunity to use technology and machines to do the work for the people we’re never going to have. It’s not a job-replacement or elimination strategy, it’s a survival strategy.”

Capitalizing on Opportunities

In early 2024, Ernst & Young and the business growth firm CONNSTEP released Innovate to Compete, a comprehensive assessment of the major characteristics of Connecticut’s manufacturing supply chains in aerospace, ship building, and medical devices.

Those three sectors employ more than 54,800 people—35% of the manufacturing workforce—and account for \$16.3 billion or 5% of the state’s GDP.

The report analyzes the sectors using four factors of supply chain resilience: innovation, in-state sourcing of manufacturing inputs, employment/workforce pipeline, and cost, weighing Connecticut’s experience against 15 other states with the largest number of workers in each area.

CONNSTEP president and CEO Beatriz Gutierrez and EY partner and principal Andrew Phillips shared the report with the state legislature’s Commerce Committee at a public hearing in February.

“The report provides a comprehensive analysis of Connecticut’s critical supply chains and recognizes that to remain competitive, our state needs to continue

“As we navigate an ever-shifting economic landscape, the resilience and ingenuity of Connecticut’s manufacturers remain pivotal to the state’s prosperity.”

Sue Martinelli, Partner, RSM US LLP

embracing product and process innovation at all levels of the supply chain,” Gutierrez told lawmakers.

The EY/CONNSTEP report notes that Connecticut is one of the costliest states in the country for businesses, with costs running 5% to 7.3% higher than benchmark states, depending on the industry.

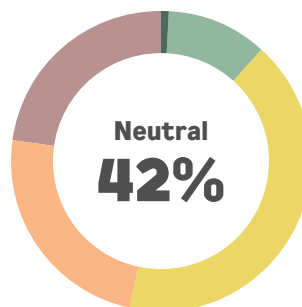
Wage costs, for instance, are 6.3% to 34.6% higher in Connecticut than benchmark states for the three covered manufacturing sectors. Connecticut’s high cost of living is also a critical factor, impacting the state’s ability to attract and retain the skilled workforce needed to meet demand.

The report also highlights Connecticut’s leadership in innovative research, ranking third nationwide in patent activity per 1,000 workers in science, technology, engineering, and mathematics fields. However, the report says the state does not fully capitalize on those research activities, ranking 27th among all states for product innovation.

“Connecticut can use its strength as one of the country’s leaders in all three of its strategic manufacturing industries, with historical significance and strong industry presence in each segment to improve this metric,” it notes.

“There are significant opportunities to intervene through investing in adoption of Industry 4.0 in the supply chain, incentivizing workforce housing, commercializing innovative research at Connecticut universities, or investing in expanded training for workers to increase the manufacturing labor pool and potentially mitigate further wage pressure for employers.”

Do you approve of the state legislature's handling of the economy and job creation?



- Strongly approve (1%)
- Somewhat approve (11%)
- Neutral (42%)
- Somewhat disapprove (24%)
- Strongly disapprove (23%)

Source: CBIA June-July 2024
Connecticut manufacturing survey

Those findings are reflected in CBIA's survey of manufacturing leaders this summer, with widespread calls for commonsense policy solutions that will allow the sector to overcome barriers and leverage the many opportunities for growth.

In CBIA's 2023 survey, manufacturing leaders revealed some new-found confidence in state lawmakers, with 17% approving the legislature's handling of the economy and job creation. This year however, 12% of survey respondents said they approve of the legislature's performance, with 42% neutral and 47% registering disapproval.

Those who expressed confidence in the legislature said they appreciated the emphasis on workforce development training and funding for small and medium sized enterprises to assist with technology deployment.

“[They're making] investments to increase opportunities for individuals to gain manufacturing trade skills,” one surveyed manufacturer wrote.

The state has invested \$95 million in the Department of Economic and Community Development-administered

Manufacturing Innovation Fund since its inception in 2015, supporting over 3,000 companies, creating more than 22,000 sector jobs, and retraining more than 29,000 incumbent workers.

In addition, in May the Lamont administration launched the Connecticut Innovation Clusters Program, a \$100 million, five-year initiative designed to accelerate innovation and grow cutting-edge industries and support next-generation technologies like AI and quantum computing in key sectors, including biotechnology, financial technology, insurance technology, and advanced manufacturing.

Surveyed manufacturing leaders who said they disapproved of the performance of lawmakers largely cited costly workplace mandates as the core of their frustration.

“No incentives to increase the economy or jobs,” one manufacturer added.

That sentiment was shared by many mid-sized manufacturing firms in Connecticut, who also feel incentives are often only offered to those the state is trying to attract to Connecticut.

Manufacturers are looking to the General Assembly to pass much-needed relief in two key high-cost areas—health insurance and energy.

When asked what should be the top policy priority for the General Assembly in 2025, surveyed manufacturers listed health insurance costs (22%), energy costs (16%), government reform/deregulation (11%), workforce development (11%), and state spending reductions (11%) as the most important issues.

Additional priorities included tax reform (8%), housing (6%), incentivizing job creation (3%), childcare (2%), immigration (2%), transportation (1%), healthcare accessibility (1%), and growing Connecticut's population (1%).

Over the last several years, the state legislature has passed on opportunities to leverage the state's new-found fiscal strength and lower Connecticut's high cost of business, which remains a significant competitive disadvantage.

For instance, this year again saw legislation restoring the pass-through entity tax credit (returning over \$60 million to small businesses), repealing sales taxes on workforce training, and a landmark, bipartisan bill that lowered the cost of healthcare for hundreds of thousands of small business employees.

None of those measures succeeded.

In September, the CBIA Foundation for Economic Growth and Opportunity released Opportunity Connecticut: Reimagining Our Workforce, Economy, and Quality of Life. The long-term strategic economic action plan was developed in conjunction with a diverse group of stakeholders, including the Connecticut Education Association, Dalio Education, the Connecticut Conference of Independent Colleges, and small and large companies.

Opportunity Connecticut features a series of recommendations, including streamlining and increasing “focus and resources on business retention functions to improve growth and retention rates, with an emphasis on better support and encouragement of legacy companies and small and mid-sized businesses.”

Other recommendations that speak specifically to the manufacturing sector include implementing policies and incentives for capital investment, aligning Connecticut's post-secondary opportunities with industry needs, increasing awareness of careers in skilled trades and manufacturing, and building awareness of options for businesses through the procurement process to make energy more affordable.

The foundation will work collaboratively with public and private stakeholders to implement long-term policies and initiatives that transcend election cycles and administrations—promoting business growth, job creation, and a vibrant economy that creates opportunities for all residents. ■

Key Stakeholders

AdvanceCT

John Bourdeaux, President & CEO
(jbourdeaux@advancect.org; 860.571.6206)

Ted Fisher, Director of Business Development, Advanced Manufacturing (tfisher@advancect.org; 860.571.6210)

advancect.org

Aerospace Components Manufacturers

Jessica Taylor, Executive Director
(jtaylor@acm-ct.org; 860.282.4239)

aerospacecomponents.org

CBIA

Chris DiPentima, President & CEO
(chris.dipentima@cbia.com; 860.244.1900)

Manufacturing Policy & Outreach:

Paul Amarone, Public Policy Associate & Advocacy Manager (paul.amarone@cbia.com; 860.244.1978)

cbia.com

Connecticut Center for Advanced Manufacturing

Ron Angelo, President & CEO
(rangelo@ccat.us; 860.282.4234)

ccat.us

Connecticut College of Technology & Regional Center for Next Generation Manufacturing

Karen Wosczyzna-Birch, Executive Director & Principal Investigator (kwosczyzna-birch@commnet.edu)

nextgenmfg.org

Connecticut Department of Economic & Community Development

Daniel O'Keefe, Commissioner, Chief Innovation Officer
(daniel.okeefe@ct.gov; 860.500.2300)

Paul Lavoie, Chief Manufacturing Officer
(paul.lavoie@ct.gov; 860.500.2300)

portal.ct.gov/DECD

Connecticut Department of Education

Charlene Russell-Tucker, Commissioner
(860.713.6543)

portal.ct.gov/SDE

Connecticut Department of Labor

Danté Bartolomeo, Commissioner
(dante.bartolomeo@ct.gov; 860.263.6000)

Todd Berch, Connecticut Apprenticeship Director
(todd.berch@ct.gov; 860.263.6085)

portal.ct.gov/dol

Connecticut Industrial Energy Consumers

860.676.7740

ctenergyconsumers.com

Connecticut Manufacturers' Collaborative

Paul Amarone, Executive Administrator

(paul.amarone@cbia.com; 860.244.1978)

Connecticut Office of Workforce Strategy

Kelli-Marie Vallieres, Chief Workforce Officer

(kelli-marie.vallieres@ct.gov)

Laura Baker, Workforce Development Specialist

& Office Manager (laura.m.baker@ct.gov)

Tracy Ariel, CareerConneCT Program Manager

(tracy.ariel@ct.gov)

portal.ct.gov/GWC/OWS-Initiatives

Connecticut Technical Education & Career System

Justin Lowe, Interim Superintendent of Schools

(superintendent@cttech.org; 860.807.2200)

cttech.org

Connecticut Tooling & Machining Association

director@ct-ntma.org; 860.314.2101

ct-ntma.org

CONNSTEP

Beatriz Gutierrez, President & CEO

(bgutierrez@connstep.org; 860.513.3204)

connstep.org

Eastern Advanced Manufacturing Alliance Regional Sector Partnership

Christopher Jewell, President

(eamainc@gmail.com, 860.859.4100)

ewib.org/eama-rsp

Goodwin University

Betsy Caraballo, Director of Workforce Development

(bcaraballo@goodwin.edu; 860.913.2283)

goodwin.edu

Innovation Partnership Building at UConn Tech Park

Michael DiDonato, Business Development Manager

(michael.didonato@uconn.edu; 203.671.8719)

techpark.uconn.edu

MakerspaceCT

Devra Sisitsky, Executive Director

(info@makerspacect.com; 860.619.MAKE)

makerspacect.com

ManufactureCT

Kate Houlihan, Executive Director

manufacturect.org

Manufacturers' Education & Training Alliance

info@eMETAL.org emetal.org

emetal.org

Manufacturing & Technical Community Hub

Marcia LaFemina, Chair

(hello@matchct.org; 475.336.2824)

matchct.org

Manufacturing Alliance Service Corporation

Cyndi Zoldy, School Director
(czoldy@mascttc.com; 203.574.8285, ext. 111)
mascttc.com

New England Spring & Metal Stamping Association

Lucas Karabin, President
(lkarabin@acmemonaco.com)
nesma-usa.com

ReadyCT

Shannon Marimón, Executive Director
(shannon.marimon@readyct.org; 860.244.1102)
readyct.org

Smaller Manufacturers Association of Connecticut

Carmen Romeo, President
(admin@sma-ct.com; 203.575.0711)
sma-ct.com

U.S. Department of Commerce, Middletown Export Assistance Center

Melissa Grosso, Director
(melissa.grosso@trade.gov; 860.638.6955)
trade.gov/connecticut-middletown

U.S. Small Business Administration, Connecticut District Office

Catherine Marx, District Director
(catherine.marx@sba.gov; 202.313.8800)
sba.gov/offices/district/ct/hartford

REGIONAL WORKFORCE BOARDS

Capital Workforce Partners (North Central Region)

Alex Johnson, President & CEO
(ajohnson@capitalworkforce.org; 860.899.3470)
capitalworkforce.org

Eastern Connecticut Workforce Investment Board

Christopher Jewell, Chair
(information@ewib.org; 860.859.4100)
ewib.org

Northwest Regional Workforce Investment Board, Inc.

Catherine Awwad, President & CEO
(catherine.awwad@nrwib.org; 203.574.6971, ext. 426)
nrwib.org

Workforce Alliance (South Central Region)

William Villano, President & CEO
(bvillano@workforcealliance.biz; 203.867.4030, ext. 234)
workforcealliance.biz

The Workplace, Inc. (Southwest Region)

Joseph Carbone, President & CEO
(203.610.8502)
workplace.org

2024

Manufacturing Innovation Fund Programs

Connecticut's Manufacturing Innovation Fund plays an important role in supporting the state's manufacturing sector by facilitating access to financial resources, technical expertise, and skilled workers for Connecticut's manufacturers.

The fund provides loans and grants for a range of programs, including workforce development, technology adoption and awareness, Industry 4.0 integration, and energy efficiency.

The fund is administered by the state Department of Economic and Community Development, with input on funding allocations provided by an advisory board.

Consulting and training offerings from CBIA affiliate CONNSTEP are also often eligible for matching funds through the fund. For more information, visit connstep.org

WORKFORCE DEVELOPMENT

Apprenticeship Program

The Manufacturing Innovation Fund supports the Department of Labor's pre-apprenticeship and apprenticeship programs in manufacturing to provide on-the-job training to employees—an essential part of enabling early-career employees to build their credentials. MIF support helps pay for third-party training resources and subsidizes wages.

This program is administered by the Connecticut Center for Advanced Technology and the Registered Apprenticeship Program is administered by the Connecticut Department of Labor.

Career Roadshows

Produced at various locations throughout the state, the roadshows are designed to introduce students to manufacturing as early as possible. Developed for middle and high school students, the events showcase the wide range of opportunities that exist. Since beginning in 2022, the roadshows have reached more than 7,300 students. Eighty-six percent of students leave saying they are interested in a career in manufacturing.

The program is administered by ReadyCT.

Engineering Internship Program

This program is intended to keep engineering graduates in-state and employed within Connecticut businesses.

It provides students in Connecticut undergraduate engineering programs with opportunities to intern with small and medium-size manufacturing companies with 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.

The program is administered by the Connecticut Center for Advanced Technology.

Incumbent Worker Training Program

This program encourages advanced skills training required to help manufacturers continue and/or become highly competitive and productive in today's global market. It provides the support necessary to help defray the costs of training employees on both new technology and updated processes. As of the end of fiscal year 2023, the MIF had committed over \$17.7 million in the program.

The program is administered by the Connecticut Department of Labor.

TECHNOLOGY AWARENESS & ADOPTION

Additive Manufacturing Adoption Program

Launched in February 2023, this program supports the adoption of additive manufacturing technologies for Connecticut manufacturers. Targeted towards small-to-medium sized manufacturers, AMAP introduces and demonstrates AM technologies, assists companies in selecting and procuring AM machine tools, and offers AM technical training opportunities.

The program is administered by the Connecticut Center for Advanced Technology.

Digital Transformation Program

With \$1 million in funding, DTP supports the adoption of next generation digital technologies that are essential to advancing the global competitiveness of Connecticut manufacturing. Through digital technology demonstrations, validation, adoption support, and technical application training, DTP aims to increase next-gen digital technology adoption across all of Connecticut's industry sectors.

The program is administered by the Connecticut Center for Advanced Technology.

Industry 4.0

This industry-driven program is intended to advance the Connecticut supply chain's global competitiveness. The initiative focuses on additive manufacturing, automation, big data and analytics, and the industrial internet of things. In addition to trainings, the program has a matching grant that helps manufacturers adopt these advancements.

The program is administered by the Connecticut Center for Advanced Technology.

Innovator Matching Program

This program is designed to implement the adoption of next-generation digital technologies. This statewide industry-driven effort provides digital technology demonstrations, validation, adoption support, and technical application training.

The program is administered by CTNext.

Manufacturing Voucher Program

This program helps manufacturers keep pace with the rising cost of state-of-the-art technologies by providing companies with access to capital to help obtain new equipment and expertise. 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. Recently, the program extended matching grants of up to \$100,000 to obtain new equipment or master new processes.

The program is administered by the Connecticut Center for Advanced Technology.

Manufacturing Ambassador's Program

MAP is an effort to organize and connect manufacturing enthusiasts while providing them with accurate information about programs that support innovation and keeping them updated on current information about industry growth.

This program is administered by the Office of the Chief Manufacturing Officer.

INCREASED CONNECTIVITY

CONNEX Connecticut

By providing an online manufacturing platform to connect all U.S manufacturers and suppliers, Connex Connecticut has provided manufacturers with a single, accurate, and searchable supply chain solution. Five hundred and thirty businesses have registered with the program since it launched in February 2023 resulting in nearly 16,000 engagements.

The program is administered by CONNSTEP.



Connecticut manufacturing has a rich legacy of innovation and ingenuity, changing the course of world history through groundbreaking inventions.

This is where Igor Sikorsky designed and flew the first helicopter. Where the first submarine took shape.

Connecticut is where—thanks to Charles Goodyear—the rubber first hit the road, and color television first flickered to life.

We have a fun side, too. Connecticut gave birth to lollipops, Frisbees, and Wiffle Balls.

That legacy of innovation continues today.

We still make helicopters and submarines. Not to mention jet engines, cutting edge electronics, sophisticated medical devices, and lifesaving medicines.

What are you going to make?

What's your legacy?

