2021 CONNECTICUT MANUFACTURING REPORT

RSM

cbia

CONNSTEP
a CBIA affiliate

ReadyCT
EDUCATION – THE ENGINE OF OPPORTUNITY

CONNECTICUT MANUFACTURING'S ECONOMIC POWER

EMPLOYEES

153,000*

Manufacturing employees in Connecticut, 10% of the workforce

MANUFACTURERS

3,796

Manufacturing companies

WAGES

$15.4 BILLION

Total 2020 manufacturing compensation

$100,662

Average manufacturing compensation in Connecticut

TAXES

$144.5 MILLION

State corporate taxes paid in 2019

$235.5 MILLION

State sales & use taxes paid in 2020

MULTIPLIERS

3.4 ADDITIONAL JOBS

What each manufacturing job creates in other parts of the economy

$29.66 BILLION

Manufacturing accounted for 10% of the state's GDP in 2020

$2.79

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

EXPORTS

$13.8 BILLION

Manufacturing accounted for 92% of all Connecticut exports in 2020

DEFENSE

$19.7 BILLION

Connecticut manufacturing defense contract spending (2019)

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.

**As of September, 2021*

MADE IN CONNECTICUT

CONTENTS

FOREWORD

Most of you reading the 2021 Connecticut Manufacturing Report do not need to be reminded of the sector's importance to the state. Manufacturing has been an integral part of Connecticut's economy for well over 200 years and it is a critical part of our future, providing well-paying career opportunities to our citizens with a wide spectrum of educational backgrounds—from high school graduates to PhDs.

Today, manufacturing is one of the top four employment sectors in the state and each manufacturing job supports more than three other jobs, according to most studies. Manufacturing wages are also significantly above the state average, and the vast majority of Connecticut manufacturing jobs provide healthcare and additional benefits.

When one considers the pay and benefits, the variety of available occupations, and the advancement opportunities presented to new workforce entrants as our older workers retire, it underscores the adage that, "Manufacturing provides more than good jobs, manufacturing provides great career opportunities."

Connecticut's manufacturing base has been described as a mile wide and an inch deep. We are not unusual in that regard—over 98.5% of manufacturing companies nationally are characterized as small businesses. Our manufacturing workforce totals more than 150,000, but that workforce is spread among almost 4,000 companies.

When looking at the actual distribution of employment at Connecticut manufacturers, many are surprised to learn that the median size manufacturer in Connecticut has only 20 to 25 employees. While many of our manufacturers are small, most excel at what they do and are highly responsive to their customers.

It is important for our policymakers to understand that the health of our small and medium-sized manufacturers dictates the health of manufacturing in Connecticut.

The unprecedented events of the past two years underscored the usual combination of grit, determination, nimbleness, innovation, and optimism that exists in the Connecticut manufacturing community.

In early 2020, Connecticut manufacturers rapidly developed and implemented new workplace procedures to keep their employees safe and productive as the pandemic washed over the state. They adapted their businesses to react to unpreceded shifts in demand, and they pivoted to produce critically needed medical equipment and supplies.

As 2020 turned to 2021, many of our manufacturers shifted from managing risk to capitalizing

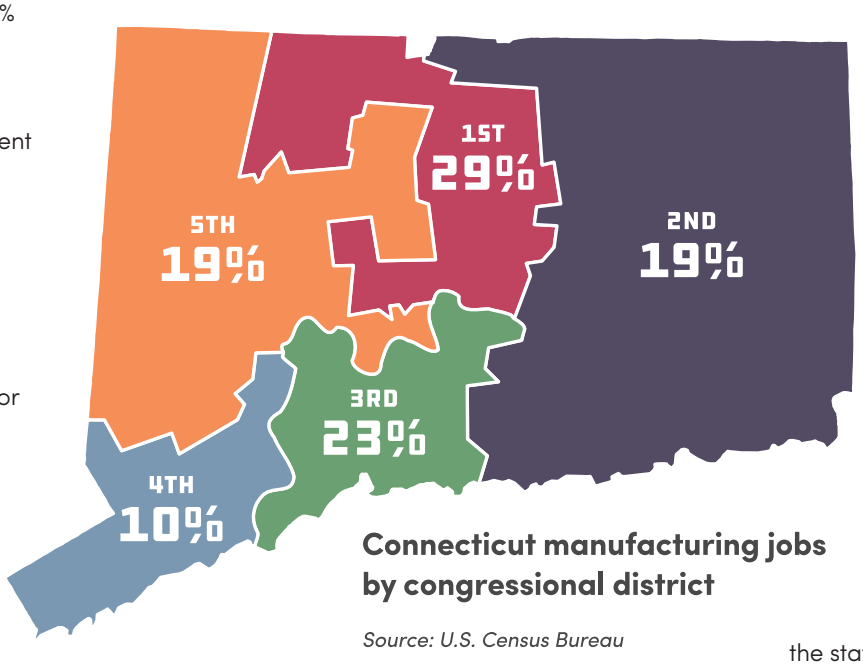
on opportunity. As they rebuilt their order books, our manufacturers made investments in their capabilities and capacity and looked to expand their workforces.

Today, less than two years since the beginning of the pandemic in Connecticut, those manufacturers who successfully competed to win new orders now find they are struggling to meet the needs of their customers.

Somewhat surprisingly, demand for skilled manufacturing labor is more than 40% above pre-pandemic levels, according to Connecticut Department of Labor surveys. As you will see in the following report, 88% of responding manufacturers have difficulty finding and/or retaining employees.

In addition, supply chain shortages are acute—from shortages of raw materials and packaging supplies, to the availability of transportation for material in and finished product out to customers. Again, Connecticut manufacturers are innovating to meet those challenges—cooperating, collaborating, and coordinating to identify new sources of talent and training opportunities for hiring candidates and finding new sources of supply for goods and services, often closer to home, to feed the needs of their operations.

While there certainly are challenges, the Connecticut manufacturing base has reasons to be optimistic.



Connecticut manufacturing jobs by congressional district

Source: U.S. Census Bureau

Progress on reducing the cost of state government and providing tax certainty should help address a major headwind issue for our businesses.

Unprecedented attention and resources are focused on workforce development with the release of the Connecticut Workforce Strategic Plan, the convening of the Office of Workforce Strategy, and the state and federal funding committed to investment in education and vocational training programs. Opportunities exist to build on the progress made in the past year reforming environmental regulations and Connecticut's unemployment insurance system.

There are numerous initiatives underway around the state to help our manufacturers identify and adopt new digital technologies, and two large offshore wind power development projects underscore the myriad of opportunities ahead for Connecticut manufacturers in clean energy.

Most importantly, the grit, determination, and innovation that allowed our manufacturing community to navigate the risks of the pandemic will remain critical attributes allowing us to capitalize on the opportunities ahead.

— COLIN COOPER
Chief Manufacturing Officer, State of Connecticut

INTRODUCTION

The 2021 Connecticut Manufacturing Report, produced by CBIA and affiliates CONNSTEP and ReadyCT—and made possible this year through the generous support of RSM—reviews the state of the sector, examines the impact of state and federal policies, and explores the outlook for the next 12 months, including growth factors, policy priorities, and hiring and investment trends.

It also captures how the state's manufacturing community is navigating coronavirus pandemic disruptions, transitioning from what essentially was a survival phase to pursuing growth opportunities.

While Connecticut has emerged as a leader in its pandemic response, a lack of certainty continues to cloud overall recovery prospects, driven by slowing vaccination rates, the impact of the Delta variant, the continuing labor shortage, and global supply chain challenges.

Connecticut's manufacturing sector shed 12,700 jobs in March and April of 2020, 8% of the pre-pandemic workforce, as the state lost an historic 292,400 jobs. Through September 2021, the manufacturing sector has recovered just 38% of those lost jobs, while the state's overall recovery rate is at 70%.

Across the country, 1.4 million manufacturing jobs were lost in the first two months of the pandemic—11% of the national manufacturing workforce. Seventy-five percent of those jobs were recovered through September 2021. The national overall jobs recovery rate is 78%.

When initial COVID-19 restrictions went into effect in March 2020, the Lamont administration declared all manufacturing essential, with most manufacturers able to keep their doors open. Remaining operational—even with limits, restrictions, and additional safety protocols—was critical for the industry and the state's economy.

The resiliency of manufacturers in the early stages of the pandemic, including the pivot to producing personal protective equipment and medical supplies, continues. The pandemic disrupted nearly all factors of business operations, forcing constant adjustments.

State and federal relief programs, including the Payroll Protection Program, the Coronavirus Aid, Relief, and Economic Security Act, and the American Rescue Plan Act of 2021, also played significant roles in mitigating further sector productivity and employment losses.

While this report reflects overall cautious optimism among manufacturing leaders, the recovery has only just begun. The takeaways and policy recommendations highlighted here provide critical insights into the state of manufacturing in Connecticut, and offer a pathway to help the industry grow back better and stronger than before.

The information and data shared in this report came from multiple sources, including a comprehensive August 4-September 8 CBIA survey of Connecticut manufacturers, numerous state and federal agencies, and interviews with private and public sector manufacturing leaders and officials.

KEY TAKEAWAYS

- 88% of manufacturers reported difficulty finding and retaining workers and 41% call the labor shortage the main obstacle to growth
- 44% expect their workforce to grow in the next six months, a 24-point jump over last year

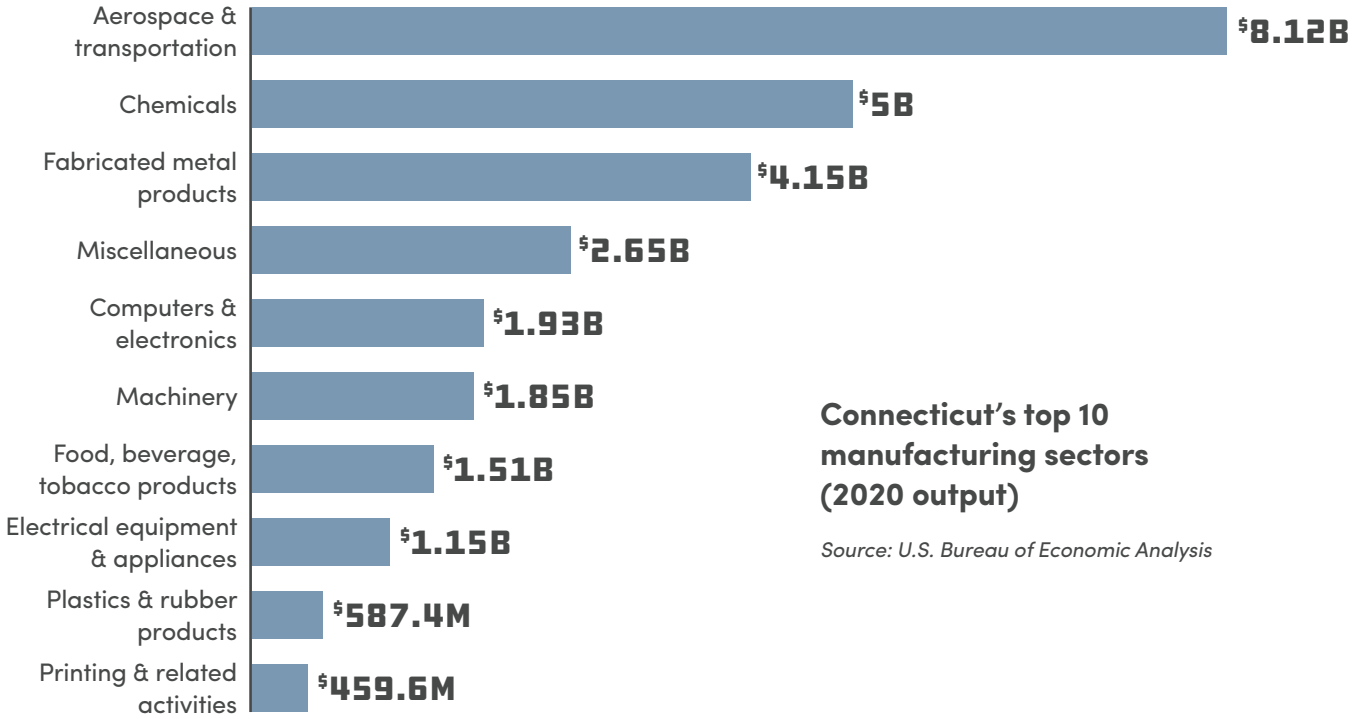
INDUSTRY AT A GLANCE

- Almost two-thirds (64%) of manufacturers reported profits in 2020, down from 76% in 2019
- Seventy percent expect a profitable 2021, with just 10% forecasting losses
- Over half (53%) see their businesses growing, up from 18% last year, while just 12% projected a decline
- Forty percent expect Connecticut's economy to grow (compared with just 10% last year), and 58% expect national growth (32%)
- 58% of manufacturers report at least 75% of their employees are fully vaccinated
- 87% applied for a federal Paycheck Protection Program loan and 14% for other U.S. Small Business Administration loans or grants

Manufacturing businesses in Connecticut are typically small, well-established companies that have operated in the state for many years. Seventy percent of those who responded to CBIA's August-September survey employ fewer than 50 employees and 84% have less than 100 employees.

The average age of surveyed companies was 58 years, with 90% in operation for more than 20 years. Only three firms have less than 10 years in operation, and 22 are more than 100 years old.

Twenty percent of surveyed firms are S corporations, 14% are incorporated, 6% are limited liability corporations, 1% are publicly held, and 1% are foreign owned. Twenty-three percent are family owned businesses, 7% are owned by women, and 4% by veterans.



Connecticut's top 10 manufacturing sectors (2020 output)

Source: U.S. Bureau of Economic Analysis

Based on U.S. Census Bureau data, aerospace and transportation make up the largest percentage of Connecticut's manufacturing workforce, responsible for 30% of sector jobs.

Chemical manufacturers represent 18% of sector employment, followed by fabricated metal products (15%), computer and electronic parts (7%), machinery (7%), food, beverage, and tobacco products (6%), electrical equipment and appliances (4%), plastics and rubber products (2%), and printing and related support activities (2%).

Nearly all (96%) manufacturers have their primary facility in Connecticut, with 82% manufacturing all products in the state, and 17% locating some production here.

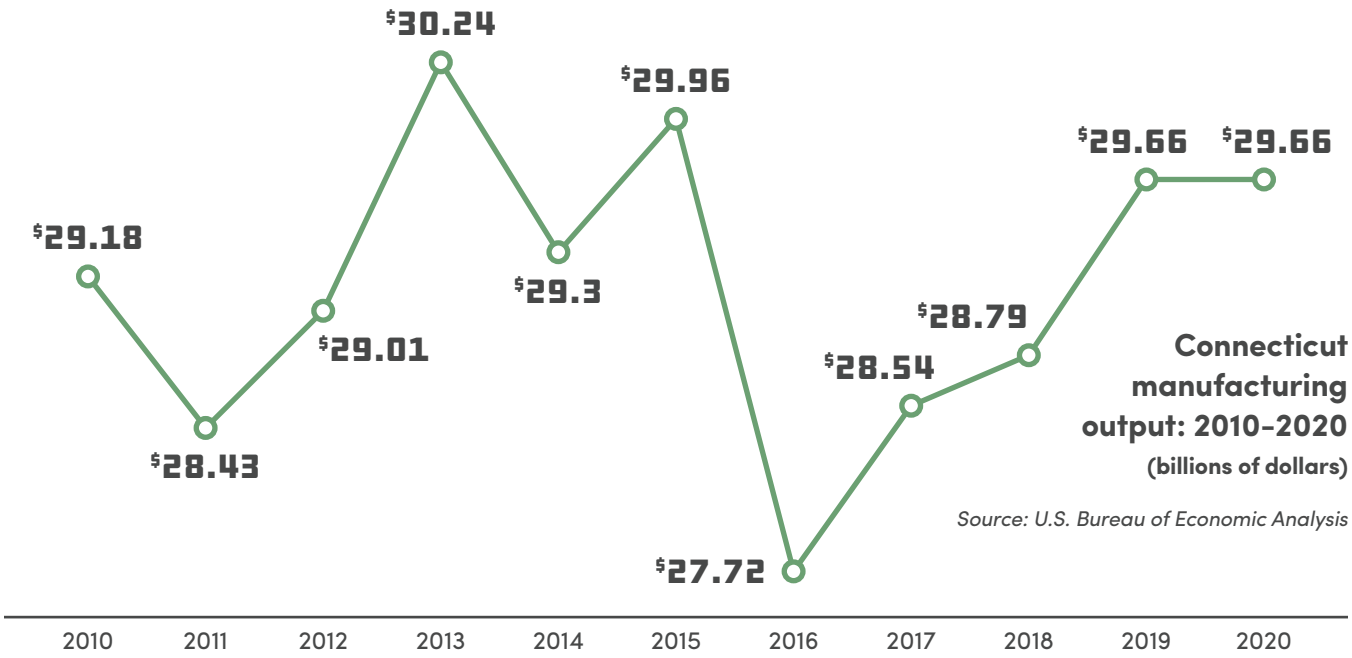
As of September 2021, the state's 3,796 manufacturers employ 153,000 workers—10% of Connecticut's workforce—and pay $15.4 billion in annual wages and benefits. That represents an average of $100,662, well above the state's $79,771 yearly per capita income.

Connecticut manufacturers pay $380 million annually in state corporate and sales and use taxes and invest almost $1.52 billion in capital expenditures each year.

Most critically, the sector drives other parts of the state's economy, creating up to 3.4 additional jobs for every manufacturing job and generating $2.79 in additional economic activity for every dollar spent.

Connecticut manufacturing's economic performance last year was the highest since 2015 and matched its 2019 output. The sector contributed $29.66 billion to the state's economic output in 2020, 10% of Connecticut's gross domestic product, including $13.8 billion in exports—down 15% from the previous year—and more than $19.7 billion in defense contracts.

Connecticut's economy contracted 6.2% in 2020, after declining an historic 31.1% in the second quarter and rebounding 32.6% the following quarter. GDP declined



Connecticut manufacturing output: 2010-2020
(billions of dollars)

Source: U.S. Bureau of Economic Analysis

How COVID-19 restrictions impacted workforce decisions

- Made no changes (29%)
- Reduced employee hours (21%)
- Hired additional employees (12%)
- Increased employee hours (11%)
- Furloughed employees (10%)
- Laid off employees (10%)
- Other (6%)
- Not applicable (1%)

Source: CBIA Aug.-Sept. 2021 Connecticut manufacturing survey

4.1% in the New England region last year while the national economy shrank 3.4%.

The state's GDP grew 5.9% in the second quarter of 2021—29th in the country—while the regional economy expanded 7.1%, with national GDP growing 6.7%.

Durable goods manufacturing grew just 0.17% in the second quarter after leading all sectors in the previous three months with 1.3% growth. Nondurable goods manufacturing grew 0.08% after contracting 0.48% in the previous quarter, the worst of the five sectors that declined in the first three months of 2021.

All but one of the state's export sectors saw declines in 2020, with pharmaceuticals the exception, as shipments of medicaments, pharmaceutical goods, bandages, and immunological products soared more than 138%.

Aerospace parts and components, the state's leading export sector, fell 30% to $4.37 billion as the pandemic decimated global commercial air travel.

Industrial machinery exports declined 6%, optical and medical/surgical instruments dropped 5%, electrical machinery fell 10%, and special classification products slipped 26%.

NAVIGATING COVID-19

Less than one-third of manufacturers (29%) made no changes to their workforce over the past 12 months because of the pandemic. Twenty-one percent reduced employee hours, 12% hired additional employees, 11% increased employee hours, 10% furloughed employees, and the same percent laid off workers.

Emergency state and federal government relief programs were a valuable resource for small and mid-sized manufacturers, as 87% applied for a federal PPP loan, with nearly all (99.5%) applications successful. Ninety-six percent of those that received a PPP loan met employee retention goals.

Of those who did not apply for a PPP loan, 74% said they required no government financing, and 13% were ineligible. Four percent accessed private sector loans and/or credit lines.

Fourteen percent of manufacturers applied for other loans or grants, including the federal Economic Injury Disaster Loan (69%), SBA Debt Relief Program (9%), and the SBA Express Bridge Loan (6%). All but 14% were successful in obtaining financing or relief through those programs.

Fifteen percent received state-provided loans and grants or financing provided by non-profits or other non-governmental organizations.

Only 21% of manufacturers utilized the federal Employee Retention Tax Credit program, a refundable tax credit equal to 70% of qualified wages. Nearly one-third of respondents (30%) were not aware of the program.

Manufacturers also operated through various health and safety challenges. As of mid-September 2021, 15% of employers reported all employees were vaccinated. Forty-three percent reported having 75%–99% of employees vaccinated, 23% had 50%–74% vaccination rates, 4% had 25%–49%, 1% had less than 25%, and 1% had none.

Very few manufacturers mandated COVID-19 vaccinations (5%), but 50% support local, state, or federal government mandates. Over one-third (36%) were opposed with 14% unsure.

Only 13% of employers have a mask mandate for all employees. Almost half (48%) mandate face coverings for unvaccinated employees, 38% do not require them, and 1% are unsure.

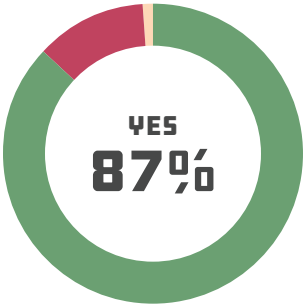
In the past three months, less than one-third (29%) of surveyed manufacturers experienced disruptions in operations due to COVID-19 cases, with 68% reporting no disruptions.

Supply chain disruptions, however, are another matter. The Institute for Supply Management's October monthly survey showed that manufacturing output grew in September for the 16th consecutive month, despite "continuing unprecedented obstacles and ever-increasing demand."

ISM reported that the average lead time for production materials increased to 92 days in September, the highest since the organization started tracking the data in 1987.

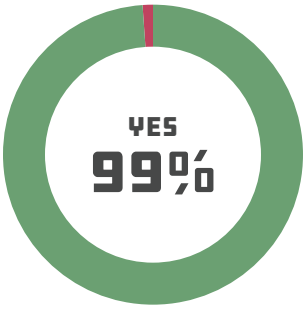
The lead time for maintenance, repair, and operating remained at 45 days, tied with June and August of 2021 as the highest since 1987. Commitment lead time for capital expenditures jumped to 154 days, up eight days over the previous month, and the longest since 1989.

"Global pandemic-related issues—worker absenteeism, short-term shutdowns due to parts shortages, difficulties in filling open positions and overseas supply chain problems—continue to limit manufacturing growth potential," the organization warned.



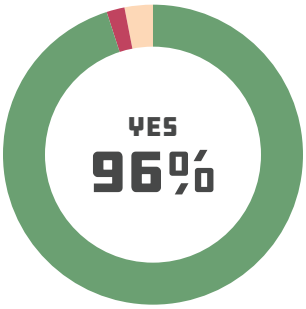
Did you apply for a PPP loan?

- Yes (87%)
- No (12%)
- Unsure (1%)



Was your application successful?

- Yes (99%)
- No (1%)



Did the loan allow you to meet your employee retention goals?

- Yes (96%)
- No (2%)
- Unsure (3%)

Source: CBIA Aug.-Sept. 2021 Connecticut manufacturing survey

STATE OF MANUFACTURING

When we surveyed manufacturers in the summer of 2020, only 47% expected to return a profit that year, 28% anticipated losses, and 11% projected to break even. The actual returns were more positive, as 64% reported a profitable 2020, 22% posted losses, and 14% broke even.

In 2019, 76% of Connecticut manufacturers were profitable, 13% broke even, and 11% saw losses. Those 2019 and 2020 financial returns match the performance of all private sector industries in both years.

When asked about the main factor that drove profits, 45% credited existing sales and customers. While the pandemic made it difficult to obtain new customers, many manufacturers had accumulated a backlog of orders dating back to 2019, and used the slowdown of new business as an opportunity to fulfill that work and maintain sales levels. Preexisting relationships were essential in keeping manufacturers operational over the past year.

One-quarter (25%) attributed changes in their business operations, including cost cutting and increasing efficiency, as the most significant profitability factor. As one manufacturer explained, "adjusting quickly to the changing environment and renegotiating every expense item" was critical.

Fifteen percent listed pandemic-related factors, such as "pivoting capabilities to produce PPE for COVID response," as the most important factor, and 7% listed government coronavirus relief assistance.

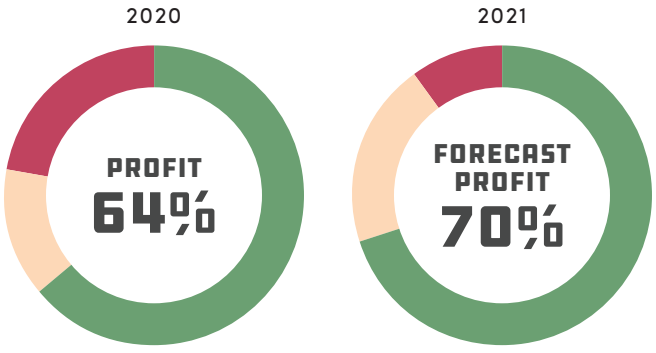
The biggest factor driving losses was the pandemic (52%), followed by loss of work (43%), which was often tied directly to shutdowns and restrictions. One respondent saw a 42% decrease in sales in the second quarter of 2020, and another cited the "loss of business and loss of employees."

For 2021, 70% of manufacturers anticipate a profit, one-fifth (20%) expect to break even, and only 10% project losses—the latter the lowest percentage in the three years of this survey's publication.

Over half (53%) of surveyed manufacturers expect their business to grow next year, a 35-point increase from last year's survey. Over one-third (35%) expect to hold steady, and only 12% forecast a contraction (down from 45% last year).

Almost all manufacturing firms in Connecticut (99%) produced at least part of their products in Connecticut in 2020, with 82% manufacturing all products here, and 17% partially siting production in the state.

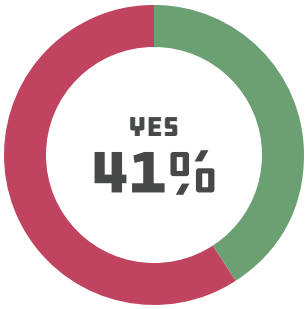
Less than half (41%) of surveyed manufacturers introduced a new product in the last 12 months—down from 45% the previous year and 53% in 2019—while 36% plan on introducing a new product in the coming year. One-third (33%) are unsure about their future production plans, and 31% do not plan on launching a new product.



Manufacturing profitability

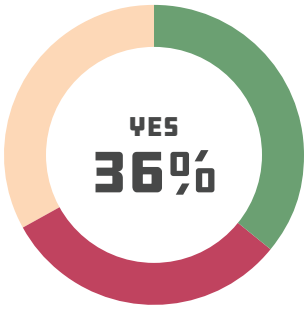
- Profit (64%, 70%)
- Break even (14%, 20%)
- Loss (22%, 10%)

Source: CBIA Aug.-Sept. 2021 Connecticut manufacturing survey



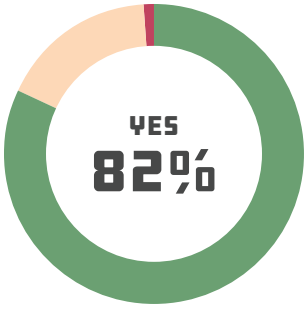
Did your company introduce a new product in the past 12 months?

- Yes (41%)
- No (59%)



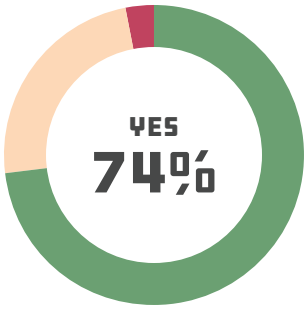
Will you introduce a new product in the next 12 months?

- Yes (36%)
- No (31%)
- Unsure (33%)



Are your products manufactured in Connecticut?

- Yes (82%)
- Partially (17%)
- No (1%)



Will your new products be made in Connecticut?

- Yes (74%)
- Partially (24%)
- No (3%)

Source: CBIA Aug.-Sept. 2021 Connecticut manufacturing survey

Of those introducing a new product, nearly three-quarters (74%) will locate all production in Connecticut, and just 24% will keep partial production in the state. That shift reflects the continuing competitive challenges posed by Connecticut's high cost of doing business, largely driven by the state's tax burden, energy costs, and workplace mandates and other regulatory compliance costs.

WORKFORCE & HIRING

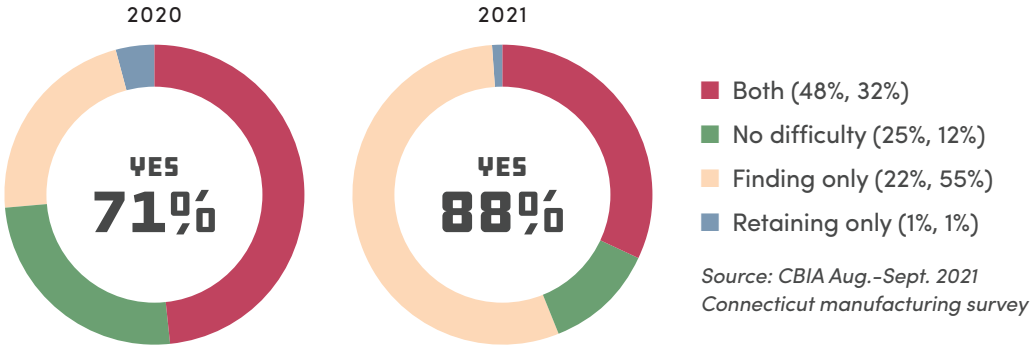
Over the past year and a half, the pandemic exacerbated difficulties finding workers in Connecticut, an issue that has hampered manufacturing growth for years. A number of factors continue to drive the shortage of skilled workers, including the current wave of sector retirements, the state's high cost of living, misperceptions about manufacturing as a career choice, and the need to continue aligning educational curricula with employer needs.

This year's survey found that more than half (55%) of manufacturers experienced difficulty finding workers, 1% had trouble retaining them, and 32% were challenged by both finding and retaining employees. Only 12% have no issue finding or retaining workers.

In addition, thirty-seven percent of employers found it difficult to bring employees who were laid off because of the pandemic back into the workforce, 37% did not, and 27% were not recalling workers.

The national debate around the impact of federal unemployment benefits has also played out in Connecticut. Those benefits expired in early September, and while states that ended federal benefits earlier experienced inconclusive results, there was an expectation among manufacturers that hiring challenges would ease somewhat in Connecticut. However, the sector only added a modest 400 jobs in September.

Is it difficult to find and/or retain workers?



Source: CBIA Aug.-Sept. 2021 Connecticut manufacturing survey

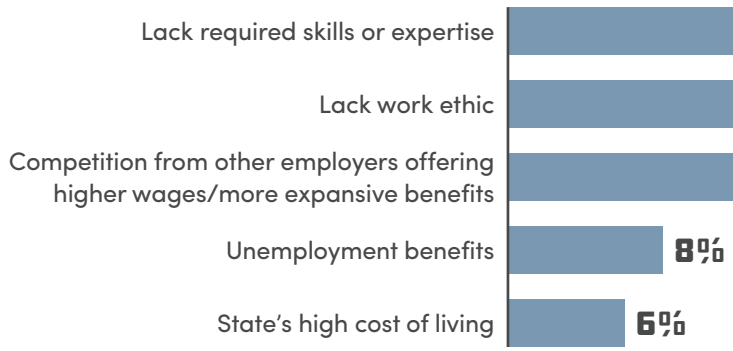
After the Connecticut Department of Labor reinstated the work-search requirement for unemployment benefit recipients—waived because of the pandemic—in May, July's initial average weekly unemployment claims declined 58% to the lowest number since February 2020. However, first time claims then jumped 19% in August, before dropping 20% in September, yet another indication that the state's recovery is fragile, with multiple factors impacting the labor market.

Manufacturers in Connecticut are dealing with an issue that has challenged employers across the country: there are thousands of unfilled job openings, yet there were 7,900 less manufacturing employees in Connecticut in September than in February 2020. The sector has recovered just 38% of jobs lost in March and April of 2020, while Connecticut has recovered 70% of all COVID-19 related job losses.

What explains this gap? Keep in mind Connecticut leads the nation in managing the pandemic and protecting public health while vaccinating 70% of the population—second only to Vermont—as of mid-October.

Thirty-six percent of those manufacturers struggling to find workers said applicants do not possess the required skills or expertise for the job, 29% report candidates lack the proper work ethic, and 18% cite competition from other employers offering higher wages and/or more expansive benefits.

Fifty-eight percent of respondents struggling to retain workers cited competition from other employers offering higher wages and/or more expansive benefits, 11% cited lack of employee engagement and recognition, and 10% blamed the state's high cost of living.



What's the main reason for your difficulty finding workers?

Source: CBIA Aug.-Sept. 2021 Connecticut manufacturing survey

Not surprisingly, employee retention initiatives—including new benefits and enhancing company culture—were the priority investment for 21% of respondents, followed by property and facilities (18%), new technology (18%), other capital assets (14%), recruiting qualified workers (10%), research and development (9%), and employee training (5%).

A continued, broadened collaboration between the public sector, manufacturers and manufacturing organizations, and educational institutions will be critical to successfully and comprehensively addressing workforce challenges.

It is also essential that manufacturers continue to present a united front. The 2018 creation of the Connecticut Manufacturers Collaborative, representing the major regional and statewide manufacturing organizations, saw a number of significant policy successes, including the appointment of the state's first chief manufacturing officer in 2019 and last year's introduction of the Office of Workforce Strategy.

This year's state budget included $20 million to replenish the Manufacturing Innovation Fund, which supports sector growth through loans and grants for a range of programs, including workforce development, technology adoption and awareness, Industry 4.0 integration, and energy efficiency.

The fund has invested $71.9 million in the sector since

'AT THE INTERSECTION OF BUSINESS AND EDUCATION'

"When you sit at the intersection of business and public education, there's a refrain we hear with great regularity," says Shannon Marimón, executive director of ReadyCT, the CBIA K-12 affiliate working to advance career-connected learning in ways that build much-needed talent pipelines in the state.

"We're told, We need more career exposure for students and workforce development efforts in our schools. It might surprise some people to learn that we hear this from both business professionals and educators alike."

To that end, and with willing collaborators in industry and in the education field, ReadyCT is rapidly expanding its programming footprint across Connecticut, with an emphasis on advanced manufacturing.

Some highlights:

- In partnership with Raytheon Technologies and Hartford Public High School, ReadyCT is supporting the Engineering & Green Technology pathway, providing students with an industry-informed curriculum and a full continuum of work-based learning experiences that culminates in paid internships.
- For the second consecutive year, ReadyCT is partnering with the State Department of Education and the Connecticut Science Center to place teams of educators at manufacturing worksite "externships" across the state, allowing participants to learn first-hand what students need to know to succeed in manufacturing and STEM-related careers.

2015, assisting more than 2,000 companies and creating or retaining about 18,000 jobs. That funding also drives significant private sector and third party investment, generating $1.70 in additional expenditures for every dollar distributed by the fund.

We need "additional funding for tech schools, small business internships, and apprenticeship programs with less red tape," noted one manufacturer. "Invest in manufacturing programs in high school, have courses in high schools also matriculate in community colleges and Connecticut college systems," said another.

A third called for "more incentive for high school level students to enter education of trades—mechanics, CDL drivers, equipment operators, soil testing."

Despite the difficulty finding and retaining employees, 44% of manufacturers plan on growing their workforce over the next six months, only 5% plan on decreasing their workforce, and 52% plan on keeping it stable.

COMPETITIVE LANDSCAPE

What are the benefits of running a manufacturing company in Connecticut? The disadvantages?

One quarter (25%) of surveyed manufacturers believe proximity to customers is the greatest advantage,

- Now entering its final phase, the Manufacturing Skills for Connecticut project is coalescing best practices from programs across the state that prepare students for careers in advanced manufacturing. A key project deliverable is the creation of an online repository which will serve as a forum for educators to collaborate and problem solve as they build high-impact manufacturing pathways.
- Again for the 2021-22 school year, the partnership with Goodwin University's Early College Advanced Manufacturing Program is giving even more students opportunities to learn manufacturing skills while earning up to 21 college credits during their senior year of high school.
- New for the 2021-22 school year, ReadyCT is now in New Britain High School offering work-based learning coordination so that students—including those enrolled in the school's Manufacturing, Engineering & Technology Academy—can secure high-quality paid internship experiences.

School districts across the state continue to reach out to ReadyCT to learn how they can bring advanced manufacturing instruction and real-world, work-based learning to their students.

The Connecticut manufacturing community is welcome to connect with ReadyCT to help inform this work and participate in creating these much-needed pathways that are developing the workforce of tomorrow.

Learn more at readyct.org.

followed by quality of life (23%), a skilled workforce (20%), access to major markets (8%), and a strong industry-specific ecosystem (6%).

One manufacturer noted a "combination of several factors combined makes Connecticut a good location for high tech manufacturing," while another cited the "proximity to key vendors."

Historically, the state's high taxes and cost of living were the main factors hampering business growth, but as noted earlier, the labor shortage has become a major issue, as manufacturers try to return their workforces back to pre-pandemic levels and build a platform for growth.

Excluding the coronavirus pandemic, the availability of skilled job applicants was the main factor hampering sector growth (41%), followed by high business taxes (16%), cost of living (14%), uncertainty and unpredictability of legislative decision-making (9%), workplace mandates (7%), and increasing regulatory compliance costs (7%).

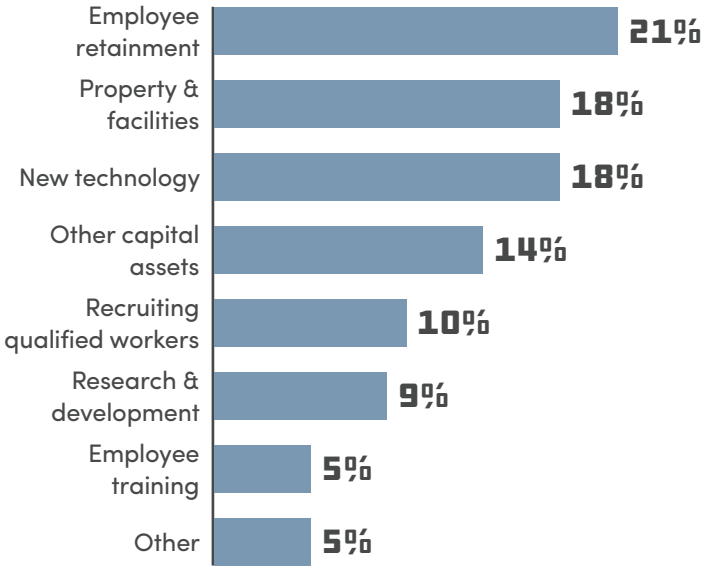
Each year, we ask manufacturers whether they approve or disapprove of the state legislature's handling of the economy and job creation. This year, 57% said they either disapprove or strongly disapprove, 30% were neutral, and 15% registered approval.

The 2021 legislative session featured a number of positive initiatives, including a new, two-year state budget with no broad-based tax increases, historic reforms to the state's unemployment system, and significant targeted investments in Connecticut's cities, workforce development, and childcare.

There was also a lack of broad support for the Labor and Public Employees Committee's latest series of costly proposed workplace mandates, indicating a shift in tone at the state Capitol, with a greater understanding among lawmakers of the role businesses play in the state's recovery.

Manufacturers were disappointed that lawmakers elected to extend the temporary 10% corporate tax surcharge, delay repeal of the capital base tax, retain the sales tax on personal protective equipment and training, not restore the pass-through entity tax credit, and not expand the apprenticeship tax credit to small manufacturers.

Where is your company making its greatest investment?



Source: CBIA Aug.-Sept. 2021 Connecticut manufacturing survey

This year's survey showed a marked shift in perceptions of Connecticut's business climate and the state's economic prospects.

Half (50%) of manufacturers said Connecticut's business climate is declining—down 13 percentage points from last year's survey. Thirty percent described it as static (30%) and 13% said it was improving (7%). While these numbers do not indicate complete confidence in the state's business climate, the change from last year is noteworthy.

CNBC's 2021 America's Top States for Business study ranked Connecticut's business climate 24th in the country this year, up from 35th in the previous report in 2019. Improvements in technology and innovation, workforce, and infrastructure, along with the state's pandemic response, drove that improved ranking.

The state received low marks for cost of living and cost of doing business—as noted earlier, both are historic impediments to economic competitiveness. The study ranked Connecticut in the top 20 in six of the 10 weighted categories it uses to measure economic competitiveness.

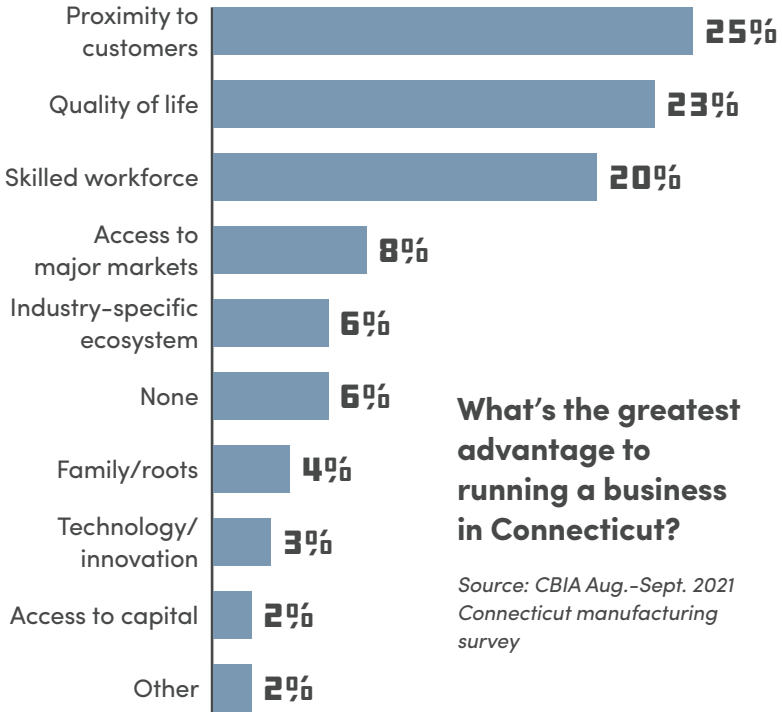
Manufacturers are optimistic about the outlook for the state and national economies. Asked about their 12 month outlook for Connecticut, 40% project growth, a 30-point increase from last year. Thirty-seven percent expect the state's economy to remain static, and less than a quarter (23%) expect it to contract, down 37 percentage points from last year.

Fifty-eight percent believed the U.S. economy will grow in the next 12 months—a 26-point increase from last year—24% expected it to remain static (23%), and only 17% projected a contraction (46%).

Forty-three percent of surveyed manufacturers said they were approached by another state in the past 12 months about relocating their facilities or have independently considered a move.

South Carolina and Texas solicited the most manufacturers in Connecticut, followed closely by Florida, North Carolina, and Tennessee. South Carolina was also the state that most companies independently considered for relocation, followed by Florida, Texas, and North Carolina.

According to survey respondents, lower taxes are the top reason to consider relocation (43%), followed by lower operational and living costs (32%), and an overall better business climate (23%). One respondent summed it up best: "Lower taxes, less regulation, and better state fiscal condition."



What's the greatest advantage to running a business in Connecticut?

Source: CBIA Aug.-Sept. 2021 Connecticut manufacturing survey

REBUILDING CONNECTICUT MANUFACTURING

As noted earlier, manufacturing leaders believe the labor shortage, high business taxes, the state's high cost of living, the costs of complying with workplace mandates and other regulatory burdens, and the uncertainty of legislative decision-making are the greatest barriers to growth in Connecticut.

So where do they want policymakers to focus their attention in next year's General Assembly session?

Thirty percent of surveyed manufacturers want state lawmakers to focus on job creation and economic development during the 2022 legislative session. Another 30% prioritized spending and pension reforms, with 18% calling for lower taxes.

Here's a sampling of how they responded, in their own words:

- "Connecticut has a spending problem, not a revenue problem."
- Government needs to be "putting financial incentives in place that will allow private employers the opportunity to build a successful workforce, and not encumber employers by adding so much red tape that small and medium-sized employers are overwhelmed."
- "Support manufacturing in the state. Every other industry will grow by itself, and the state will get more taxes."
- The legislature should be more focused on "our education system. We need to scout out the innovative thinkers and leaders and move them up the ladder."

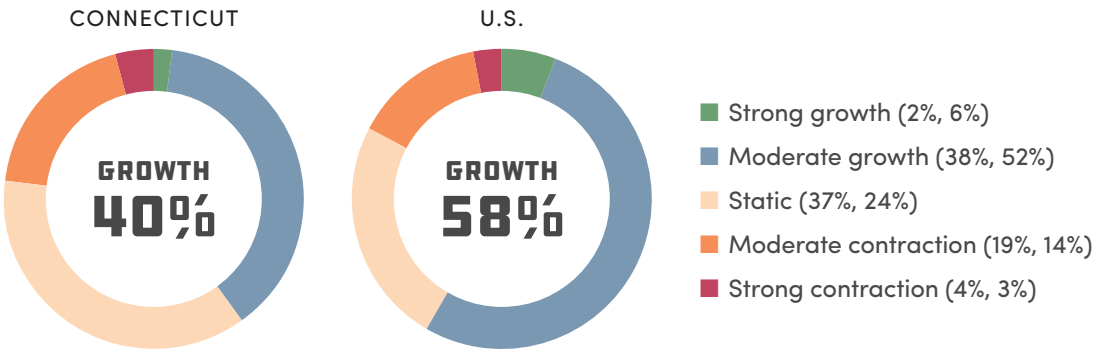
The pandemic heightened the challenges facing the manufacturing sector, particularly smaller manufacturers, who were hit hardest. Those businesses have the most to lose if we do not effectively manage the state's economic recovery.

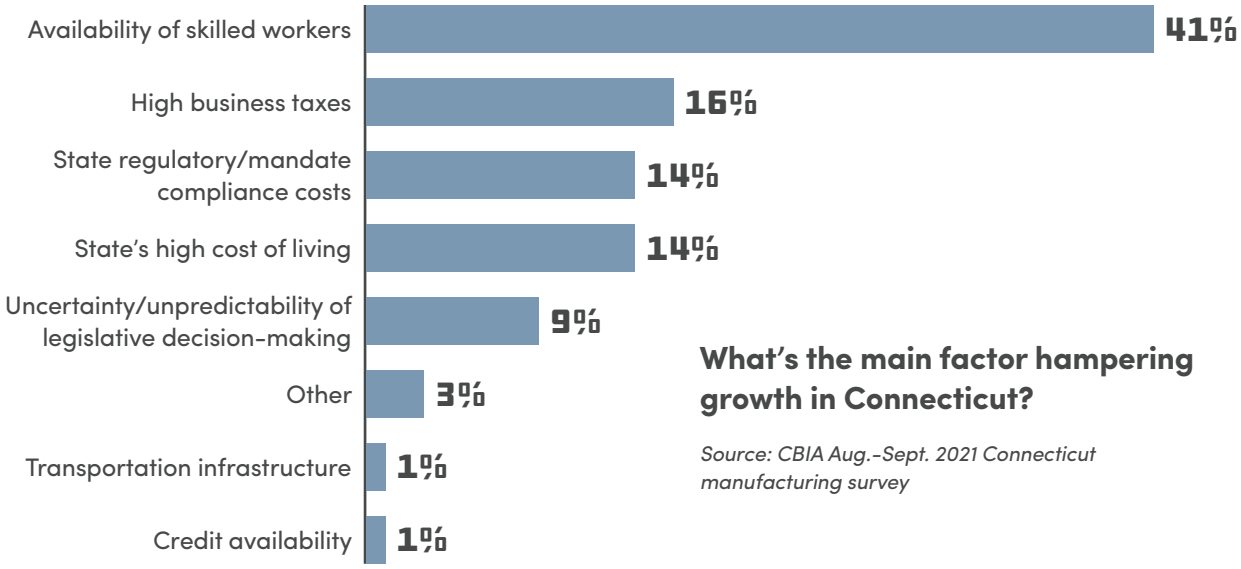
The path to rebuilding and growing Connecticut's manufacturing industry is not an easy one. While the industry has seen its fair share of setbacks, little can compare to the past 19 months, as the pandemic disrupted and transformed business models, consumer behavior, and career expectations.

Survey responses indicate that while Connecticut has shown real improvement, policymakers must continue to better understand the critical obstacles facing manufacturers and work with those employers to drive meaningful, sustained change. It is not enough to simply voice support for manufacturing; definitive action is required.

We asked manufacturing leaders if they believed policymakers were doing enough to drive workforce development initiatives—13% responded yes, 46% said

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





What's the main factor hampering growth in Connecticut?

Source: CBIA Aug.-Sept. 2021 Connecticut manufacturing survey

no, and 41% were unsure. The percentage of those uncertain about workforce policies may be a perception issue. Over the past few years, policymakers have demonstrated much greater awareness, with renewed efforts to consolidate workforce development initiatives and prioritize sector economic development, including additional state investments in both areas.

The Governor's Workforce Council is driving policy, including last year's creation of the Office of Workforce Strategy and additional funding for new and existing programs. Nonetheless, these survey responses indicate the issue needs greater attention, particularly given the additional stress brought by the pandemic.

For the next legislative session, 43% of those surveyed want lawmakers to prioritize investments in education and vocational training programs, 18% support additional unemployment reform, 14% cited lower taxes—including exempting training programs from the state sales tax—and 12% called for work incentives.

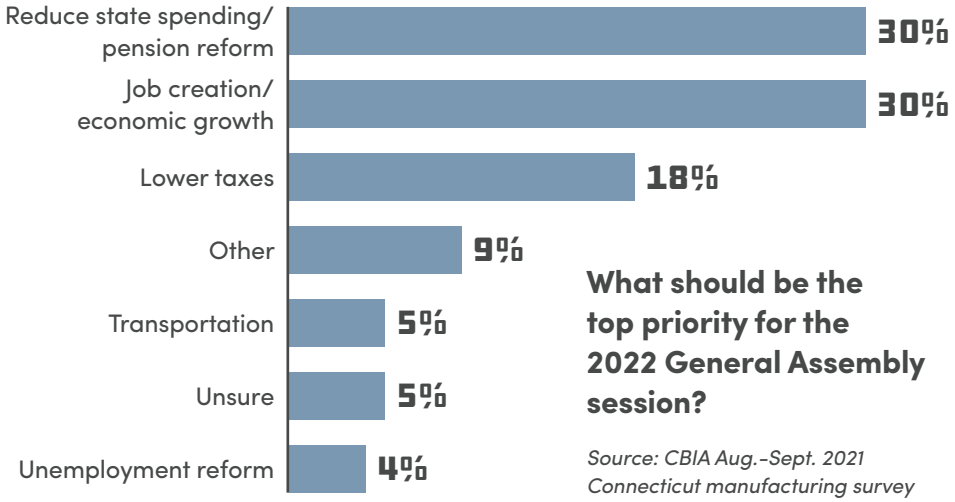
It will take real collaboration between the public and private sectors and educational institutions to address this issue in a holistic way. In the meantime, employers are not sitting on the sidelines and are involved in a number of initiatives.

For instance, New Britain-based Stanley Black & Decker announced a five-year, $25 million global effort in September to fund manufacturing and construction industry vocational training and reskilling programs.

Connecticut's job growth struggles are not new. We are one of a handful of states that failed to recover all jobs lost during the 2008-2010 recession—the state had 24,600 fewer jobs in February 2020 than in March 2008.

Policymakers spent much of the decade following the 2008-2010 economic downturn engaged in a cycle of budget deficits followed by tax hikes followed by more deficits. We saw two of the biggest tax hikes in state history in those years, yet those failed to restore fiscal health, bring back jobs, and drive economic growth—Connecticut's GDP growth trailed the region and the country for much of the last decade.

Some in the state legislature continue to ignore history by relentlessly pushing tax hikes, even though Connecticut's state and local tax burden is among the highest in the country. This year, despite the pandemic's economic impact and the availability of federal relief funds, some progressive lawmakers advocated for more than $1 billion in tax hikes.



What should be the top priority for the 2022 General Assembly session?

Source: CBIA Aug.-Sept. 2021 Connecticut manufacturing survey

Fortunately, more moderate voices in the legislature and administration prevailed, as they did on other issues impacting the state's economic competitiveness. Those voices will become increasingly more important as the state continues to chart its recovery.

Spending reforms will also help shape Connecticut's economic recovery. The reforms included in the 2017 bipartisan budget were a major factor behind the current historic balance of the state's reserve fund.

The expected looming wave of state employee retirements offers real opportunities for more substantial reforms. About 8,000 of the 30,000 executive branch employees are eligible to retire by the end of fiscal 2022, when some retirement benefit changes take effect.

The March 2021 CREATES report—commissioned by the Lamont administration to evaluate state workforce efficiency and identify potential spending reductions—outlined recommendations that total between $600 million to $900 million in "expense reduction, increased revenue, and cost avoidance."

The recommendations outlined in the report represent significant taxpayer savings, a streamlining of government, an improvement in the quality of services agencies provide, and must form an integral part of the legislature's agenda in 2022.

Connecticut must continue the fiscal discipline of recent years that provided the foundation for the state's navigation of the pandemic and a platform for rebuilding our economy, creating jobs, and generating opportunities for our communities and residents.

Policies that nurture manufacturing and improve competitiveness are the fuel needed to drive economic growth and opportunity. We must continue attracting residents and businesses, taking full advantage of the competitive advantages New York and Massachusetts are giving us through their tax policies.

The level of bipartisanship, the willingness to collaborate, and the readiness of key legislative voices to speak out on critical economic and fiscal issues that defined much of the 2021 legislative session provided broad optimism for the future.

COLLABORATION AT WORK: PUBLIC PRIVATE PARTNERSHIPS

MANUFACTURING SKILLS FOR CONNECTICUT

The MSforCT project addresses the current state of manufacturing instruction in Connecticut K-12 public schools, driving greater understanding of the reasons more students do not pursue manufacturing careers.

This two-year, $1 million federal grant program covers:

Phase 1: A comprehensive inventory and analysis of manufacturing career pathway programs and initiatives across school districts and the ways they align with manufacturers' workforce development needs.

Phase 2: An evaluation of the top 12 most impactful Connecticut school models identified in phase one, as well as two school programs from Rhode Island, to assess efficacy and define a state standard for high-impact career pathway models.

Phase 3: Establishing a web-based repository of effective career pathway programs and best practices for creating new programs that support scaling of models throughout Connecticut.

In addition to this program, a $10,000 grant helped purchase five virtual reality headsets for use with high school students to promote manufacturing.

The MSforCT project is made possible through a grant from the U.S. Department of Commerce, National Institute of Standards and Technology, Manufacturing Extension Program Competitive Awards Program. MSforCT partners include MEP centers CONNSTEP in Connecticut and Polaris in Rhode Island; CBIA; ReadyCT; and the Connecticut Manufacturers' Collaborative.

CONNECTICUT DEFENSE MANUFACTURING COMMUNITY CONSORTIUM

The Connecticut Defense Manufacturing Community Consortium fosters collaboration and accelerates the digital transformation of Connecticut's defense manufacturing community.

A $1.4 million grant from the U.S. Department of Defense's Office of Economic Adjustment funds the Digital Model Initiative, a two-year pilot program to accelerate the adoption of 3D design and manufacturing technology throughout Connecticut's defense supply chains.

Led by the Connecticut Department of Economic and Community Development, CDMCC ensures Connecticut's defense industry supply chain can support the rapid development of sophisticated, next-generation defense programs.

Initially, the initiative will work with six Connecticut small and medium-sized suppliers to implement 3D modeling, design, and production capabilities. Selected companies will be integral parts of the supply chains for helicopter, submarine, and jet engine manufacturing.

The CDMCC includes General Dynamics Electric Boat, Sikorsky Aircraft, Pratt & Whitney, the Connecticut Center for Advanced Technology, CONNSTEP, the University of Connecticut, Central Connecticut State University, Aerospace Components Manufacturers, the Naval and Maritime Consortium, DECD, and the Governor's Workforce Council.

MINORITY BUSINESS DEVELOPMENT AGENCY ADVANCED MANUFACTURING CENTER

The state of Connecticut was recently awarded a five-year, $2 million grant from the U.S. Department of Commerce's Minority Business Development Agency to operate a national MBDA advanced manufacturing center. The initiative supports Connecticut's minority-owned businesses and grows the state's economy with advanced manufacturing being a significant part of the effort.

CONNSTEP, Connecticut's Manufacturing Extension Partnership center, is working with the Connecticut Small Business Development Center and the University of Connecticut School of Business to help minority-owned manufacturing businesses access advanced manufacturing resources and provide other general assistance in order to meet challenges and take advantage of new opportunities.

The center will connect minority-owned manufacturers with experienced professionals to help them refine their business strategy and operations, assist with financial analysis, and connect them with MEP centers for deeper analysis of advanced manufacturing services.

Manufacturers will be in a better position to cut costs, increase sales, and create and retain jobs. The center will also address the unique challenges these employers face and work to provide personalized assistance.

The MBDA Advanced Manufacturing Center is supported by a number of key partners, including CONNSTEP, PRIMEX, Maine Manufacturing Extension Partnership, SBDC, UConn, and DECD.

For more information, visit connstep.org.

KEY STAKEHOLDERS

AEROSPACE COMPONENTS MANUFACTURERS

Jessica Taylor, Executive Director (860.282.4239)

aerospacecomponents.org

ADVANCECT

Peter Denious, President & CEO
(pdenious@advancect.org | 860.571.6200)

Ted Fisher, Director of Business Development, Advanced Manufacturing (tfisher@advancect.org | 860.571.6200)

advancect.org

CBIA

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

Manufacturing Policy & Outreach:
Ashley Zane, Government Affairs Associate
(ashley.zane@cbia.com | 860.244.1169)

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 Wosczyna-Birch, Executive Director
(kwosczyna-birch@commnet.edu)

nextgenmfg.org

CONNECTICUT DEPARTMENT OF ECONOMIC & COMMUNITY DEVELOPMENT

David Lehman, Commissioner (860.500.2300)

Colin Cooper, Chief Manufacturing Officer
(colin.cooper@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

Todd Berch, Connecticut Apprenticeship Director
(860.263.6085)

Statewide manufacturing employer contact:
Keri Valente (keri.valente@ct.gov | 860.263.6129)

ctdol.state.ct.us

CONNECTICUT MANUFACTURERS COLLABORATIVE

Michele Hall, Executive Administrator
(MHallCMC@gmail.com | 860.380.7904)

CONNECTICUT OFFICE OF WORKFORCE STRATEGY

Kelli-Marie Vallieres, Executive Director
(kelli-marie.vallieres@ct.gov)

Laura Baker, Workforce Development Specialist
(laura.baker@ct.gov)

Niall Dammando, Chief of Staff (niall.dammando@ct.gov)

portal.ct.gov/GWC/OWS-Initiatives

CONNECTICUT TECHNICAL EDUCATION & CAREER SYSTEM

Ellen Solek, Interim Superintendent of Schools
(superintendent@cttech.org | 860.807.2200)

cttech.org

CONNECTICUT TOOLING & MACHINING ASSOCIATION

Dee Babkirk, Executive Director
(director@ct-ntma.org | 860.604.8963)

ct-ntma.org

CONNSTEP

Beatriz Gutierrez, President & CEO
(bgutierrez@connstep.org | 800.266.6672)

connstep.org

EASTERN ADVANCED MANUFACTURING ALLIANCE

John Murphy, Executive Director
(jmurphy@eamainc.com | 860.859.4100, ext. 114)

eamainc.com

GOODWIN UNIVERSITY

Melanie Hoben, Director of Workforce Development
(mhoben@goodwin.edu | 860.913.2283)

goodwin.edu

MAKERSPACECT

Devra Sisitsky, Executive Director
(info@makerspacect.com | 860.619.MAKE)

makerspacect.com

MANUFACTURECT

Jamison Scott, Executive Director
(jscott@manufacturect.org | 860.430.4976)

manufacturect.org

MANUFACTURERS' EDUCATION & TRAINING ALLIANCE

Kris Lorch (info@eMETAL.org)

emetal.org

MANUFACTURING ALLIANCE SERVICE CORPORATION

Cyndi Zoldy, Executive Director
(czoldy@mascttc.com | 203.574.8285, ext. 111)

mascttc.com

NEW ENGLAND SPRING & METAL STAMPING ASSOCIATION

Dee Babkirk, NESMA Secretary
(d.babkirk@nesma-usa.com | 860.314.2101)

nesma-usa.com

READYCT

Shannon Marimón, Executive Director
(shannon.marimon@readyct.org | 860.244.1900)

readyct.org

SMALLER MANUFACTURERS ASSOCIATION OF CONNECTICUT

Heather Musante Mitchell, Executive Director
(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)

2016.export.gov/connecticut/

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 DEVELOPMENT BOARDS

CAPITAL WORKFORCE PARTNERS (NORTH CENTRAL REGION)

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

capitalworkforce.org

EASTERN CONNECTICUT WORKFORCE INVESTMENT BOARD

Mark Hill, President & CEO
(hillm@ewib.org | 860.859.4100)

ewib.org

NORTHWEST REGIONAL WORKFORCE INVESTMENT BOARD, INC.

Catherine Awwad, Executive Director
(catherine.awwad@nrwib.org | 203.574.6971)

nrwib.org

THE WORKPLACE, INC. (SOUTHWEST REGION)

Joseph Carbone, President & CEO (203.610.8502)

workplace.org

WORKFORCE ALLIANCE (SOUTH CENTRAL REGION)

William Villano, President & CEO
(bvillano@workforcealliance.biz | 203.867.4030)

workforcealliance.biz

2021 CONNECTICUT MANUFACTURING INNOVATION FUND PROGRAMS

Connecticut's Manufacturing Innovation Fund supports the growth, innovation, and progress of the state's advanced manufacturing sector.

The $100 million 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

INCUMBENT WORKER TRAINING PROGRAM

Administered by the Connecticut Department of Labor, this matching fund program assists manufacturing companies in providing workforce training. Total proposed training project value must be at least $10,000 (in this case, $5,000 provided by the IWT program and $5,000 company match). Maximum award is up to $50,000 per employer, per calendar year.

For more information or to apply, contact Bernice Zampano (bernice.zampano@ct.gov; 860.263.6732)

APPRENTICESHIP PROGRAM

This DOL-administered program provides on-the-job training, combined with classroom instruction, ensuring well-qualified, job-ready employees. Apprenticeships generally range from one to four years. Upon completion, DOL's Office of Apprenticeship Training provides a portable training credential. A registered apprenticeship program can help employers develop a world-class workforce and enhance productivity.

For more information or to apply, contact DOL's Office of Apprenticeship Training (dol.apprenticeship@ct.gov; 860.263.6085)

TECHNOLOGY AWARENESS & ADOPTION PROGRAMS

INDUSTRY 4.0 FOR THE MANUFACTURING SUPPLY CHAIN

This program, designed to advance the global competitiveness of Connecticut's manufacturing supply chain, provides access to no-cost education and demonstration in support of Industry 4.0 technologies. The program is designed to minimize disruption to the company's current manufacturing process.

For more information or to apply, contact CCAT's Nasir Mannan (nmannan@ccat.us; 860.282.4227).

HIGH RATE ADDITIVE MANUFACTURING

This program is designed to drive the adoption of additive manufacturing technologies within the Connecticut manufacturing supply chain across industry sectors, with a focus on small and medium-size manufacturers, including no-cost workshops introducing AM technologies, explanation of various applications and existing case studies, and demonstrations.

Manufacturers that are ready to adopt AM tools can receive assistance in selecting and procuring AM machine tools, in addition to assistance in applying for AMAP additive manufacturing grant funds.

For more information or to apply, contact CCAT's Jeff Crandall (jcrandall@ccat.us).

MANUFACTURING VOUCHER PROGRAM

This program provides companies with access to capital to help obtain new equipment and the expertise needed to become more efficient, productive and competitive.

Eligible companies may apply for vouchers up to $49,000 for the purchase of specialized equipment and expertise. Participating companies are required to provide a cash match from one-to-one to three-to-one, depending on the amount of prior awards received and the grant amount being requested.

For more information or to apply, contact CCAT's Paul Striebel (pstriebel@ccat.us; 860.282.4231) or visit ctmvp.ccat.us.

INDUSTRY 4.0 INTEGRATION VOUCHER PROGRAM

This grant program is intended to help Connecticut supply chain companies with the adoption and integration of IoT solutions. The program provides matching grants up to $20,000 for hardware, sensors, platforms, and related third-party integration services.

Project proposals that fall under any of the four areas of focus above will be considered for funding. The goal of this program is to ensure that the Connecticut supply chain is positioned to implement modern digital manufacturing tools to continue to compete favorably against any manufacturing sector in the world.

For more information or to apply, contact CCAT's Nasir Mannan (nmannan@ccat.us; 860.282.4227).

ADDITIVE MANUFACTURING ADOPTION PROGRAM

This program is designed to infuse additive manufacturing technologies into manufacturing production processes. AM is rapidly changing the way organizations design and manufacture products. As AM technologies have progressed, 3D printed parts are more commonly moving outside the research and development arena and onto the production floor. When implemented properly, AM can significantly reduce material waste, the number of production steps, the amount of inventory, and the quantity of distinct parts needed for an assembly.

For more information or to apply, contact CCAT's Paul Striebel (pstriebel@ccat.us; 860.282.4231).

ENERGY EFFICIENCY

ENERGY ON THE LINE PROGRAM

Through this program, Connecticut manufacturing facilities are eligible for up to $40,000 in grant money when working with C-PACE to implement green energy upgrades. Grant funds may be used for any project-related expenses at the sole discretion of individual recipients (e.g. capital improvements, additional equipment, cash flow optimization). To further assist in lowering the long-term cost of energy, manufacturers may also be eligible for full financing of their energy upgrades through the C-PACE program.

For more information or to apply, contact the Connecticut Green Bank's Robert Schmitt (robert.schmitt@ctgreenbank.com; 860.563.0015).

cbia

CONNSTEP
a CBIA affiliate

ReadyCT
EDUCATION – THE ENGINE OF OPPORTUNITY

REBUILDING
CONNECTICUT

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

This is where Igor Sikorksky 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?