

MANUFACTURING

SECTOR SNAPSHOT

ADVANCEST

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All data current as of September 2025.



ABOUT ADVANCECT

OUR MISSION

AdvanceCT is a nonprofit economic development organization that drives job creation and new capital investment in Connecticut through business attraction, retention, and expansion work.

ECONOMIC DEVELOPMENT

Economic development is the lifeblood of Connecticut's economy, and AdvanceCT plays a critical role in the state's business attraction and business retention efforts. We work to attract corporate investment and to support existing businesses as they expand. AdvanceCT works in close partnership with public and private organizations across the state to ensure new and existing businesses have the support they need to thrive in Connecticut.

WHAT WE DO

We focus on inclusive business development and business retention work in close collaboration with the Connecticut Department of Economic and Community Development, other economic development organizations throughout the state, and the private sector.

LEARN MORE AT **ADVANCECT.ORG**





ADVANCED MANUFACTURING IN CONNECTICUT

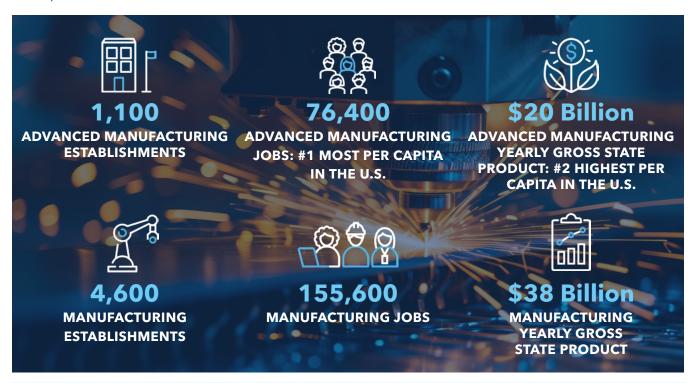
Connecticut is home to a concentrated ecosystem of globally renowned companies, supported by a highly educated workforce with extraordinary engineering talent.

Central to this network are 3 core capabilities at which Connecticut excels: product design and development, process development, and precision manufacturing with extremely low tolerances. The state produces some of the most technologically advanced products in the world and specializes in high value added production.

Original Equipment Manufacturers (OEMs) based in the area supply critical solutions and technologies to the aerospace, defense, and semiconductor industries. Complementing this, highly productive suppliers lead in process development, with a proven history of revolutionizing advanced manufacturing technologies to meet evolving industry demands.

The ecosystem is also powered by a high concentration of research and development labs and top-tier research universities that fuel technological advancement. These institutions serve as critical engines of innovation, providing research capabilities and a steady pipeline of talent and ideas to support industry needs.

Companies are drawn to Connecticut for highly technical and precise manufacturing processes requiring an exceptional level of quality control. In Connecticut, you have access to a workforce that represents a best-in-class talent pool.



Connecticut is known for advanced technologies for extreme precision, multiple generations of skill and know-how, and a workforce dedicated to quality and productivity.



Connecticut: A Manufacturing Powerhouse

Our state's highly-connected manufacturing ecosystem is driven by key employers in high-tech industries, and supported by thousands of companies in the supply chain.



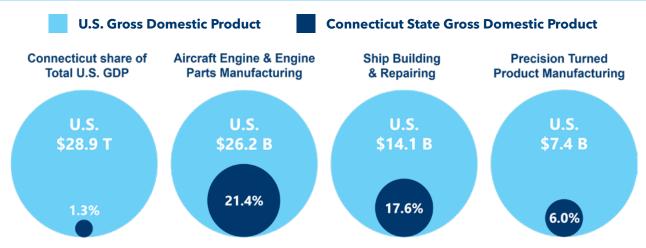
Company	Industry	Revenue ('24)	CT Jobs
ASML	Semiconductors	\$30.6 billion ¹	3,20012
Collins Aerospace	Aerospace & Defense	\$28.3 billion ²	Not available
Pratt & Whitney	Aerospace & Defense	\$28.1 billion ³	11,00013
Stanley Black & Decker	Tools & Accessories	\$15. billion⁴	1,70014
Amphenol	Electronic Connectors	\$15.2 billion ⁵	Not available
OTIS Worldwide	Elevator Systems	\$14.3 billion ⁶	1,00015
Electric Boat	Shipbuilding	\$10.4 billion ⁷	15,000 ¹⁶
Sikorsky	Aerospace and Defense	\$6.9 billion ⁸	7,50017
TRUMPF	Machine Manufacturing	\$6.0 billion ⁹	500 ¹⁸
Kaman Aerospace	Aerospace & Defense	\$775.9 million ¹⁰	Not available
Pursuit Aerospace	Aerospace & Defense	\$678.9 million ¹¹	Not available

SOURCE: 1.45.4PITCHBOOK, FY 2024. ^{2,3}RTX, SEC 10-K, FY 2024. ⁷GENERAL DYNAMICS, SEC 10-K, FY 2024. REVENUE FOR NUCLEAR SUBMARINE PRODUCT; THE PORTION ATTRIBUTABLE TO ELECTRIC BOAT WAS NOT SPECIFIED. ⁸LOCKHEED MARTIN PUBLIC COMMENTS BY JAY MALAVE, CFO ON DEC. 3, 2024 – TRANSCRIPT ACCESSED IN PITCHBOOK, ^{9,10}PITCHBOOK, FY 2023 – ACCESSED MAY 2025. ^{19,10}THE REGISTER CITIZEN. 2025. ^{19,10}NORWICH BULL FITIN. 2025. ^{19,10}HARTFORD BUSINESS. JOURNAL. 2025.



Advanced Manufacturing National Contribution

Connecticut represents an outsized portion of key U.S. advanced manufacturing production.



SOURCE: LIGHTCAST, 2024 - Q3 2025; ADVANCECT CALCULATIONS.

HISTORY OF INNOVATION

THEN: NOW:

Yale student David Bushnell invented the prototype of all **modern submarines** in 1775. Named the Turtle, the submarine's first torpedo attack upon an enemy warship was in September 1776.¹

Electric Boat now makes the world's most advanced nuclear submarine in Groton, Connecticut and earned the largest shipbuilding contract in Navy history of \$22 billion in 2019.²

Danbury company Unimation invented the **first industrial robot**, the Unimate, in 1962. Patentowner George Devol and the "father of robotics" Joseph Engelberger developed the robot that would be **used by large car makers across the globe.**^{3,4}

The Connecticut Center for Advanced Technology (CCAT) supports the next generation of robotics by partnering with companies to develop, test, and integrate robotic systems across industries statewide.⁵

Wilton was home to the first optical lithography machine invented by Perkin-Elmer in 1972. The Micralign used mirrors instead of lenses to create the Offner relay system that would drastically increase the number of working chips on a wafer.⁶

ASML is now the only manufacturer of **EUV** machines used to create **the world's most** advanced microchips in Wilton, Connecticut, with customers that include Nvidia, Intel, and TSMC to name a few.⁷



ADVANCECT



Quality Talent

Connecticut's advanced manufacturing ecosystem is built on innovation and specialized talent, ensuring that companies have access to a workforce with the skills necessary to drive innovation and position them competitively.

Connecticut's highly educated workforce is backed by top-tier research universities, providing a steady pipeline of talent that delivers innovation, a competitive position, and ideas that carry companies into the next generation.

The large number of companies that choose to locate their R&D facilities in Connecticut is a testament to the assets and skill across the state – there is a reason the top OEMs and supply chain companies choose Connecticut to develop their mission-critical products and processes – Connecticut keeps them competitive.

HIGH CONCENTRATIONS OF VITAL MANUFACTURING OCCUPATIONS IN CT



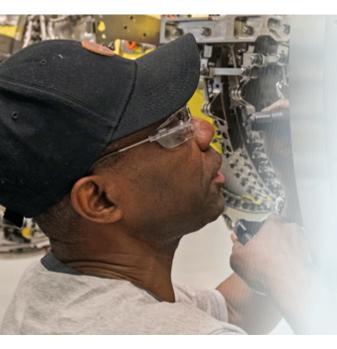
Connecticut has 39% more engineers than the national average.



Connecticut has 1.7x the national average for computer numerically controlled tool operators and programmers.



Connecticut has 1.9x the national average for machinists and 2.9x for tool and die makers



A TOP STATE FOR CONCENTRATION OF SPECIALIZED MANUFACTURING TALENT

#1

marine engineers and naval architects

#3
echanica

mechanical engineers

#3
tool and die makers

#5
machinists



More Talent, More Output

Top 10 Advanced Manufacturing Jobs

Miscellaneous Assemblers and Fabricators 3.800

Industrial Engineers 3,000

Machinists 3,000

Inspectors, Testers, Sorters, Samplers, and Weighers 3,000

First-Line Supervisors of Production and Operating Workers 2,700

Electrical, Electronic, and Electromechanical Assemblers* 2,600

Mechanical Engineers 2,500

Architectural and Engineering Managers 2.100

Software Developers 2,000

General and Operations Managers 1,700 Occupation at least 50% higher concentration in CT than the U.S. average



Connecticut's \$266,400 output per advanced manufacturing worker is the fifth highest of any state.

SOURCE: LIGHTCAST, 2024 – Q3 2025 RELEASE; ADVANCECT CALCULATIONS.
*EXCEPT COIL WINDERS, TAPERS, AND FINISHERS, JOBS ROUNDED TO NEAREST HUNDRED



Educational Pipeline



Connecticut's **robust engineering pipeline** provides ample opportunity to hire new talent.

Graduates From Key Engineering Programs, 2019-2023

School	Mechanical Engineering	Electrical and Electronics Engineering	Industrial Engineering
UCONN	1040	507	209
University of New Haven	253	189	173
UNIVERSITY OF HARTFORD	284	122	N/A
Yale	203	156	N/A
Fairfield UNIVERSITY	211	70	29
CENTRAL CONNECTICUT STATE UNIVERSITY	244	N/A	N/A

SOURCE: LIGHTCAST, 2023 – Q3 2025 RELEASE.



Deep Bench of Research and Development Talent

Connecticut has a heavy concentration of companies whose R&D facilities are located in the state. While low value-added operations such as assembly may be undertaken elsewhere, those requiring scientific and engineering skill and in-depth industry expertise are sited in Connecticut.





in the U.S. for patent creation rate¹



in the U.S. for private R&D investment per capita, 53% higher than the national average²

Connecticut is a Top State for Engineering and Science Talent³

Occupation	Concentration (compared to nat'l average)	
Marine Engineers and Naval Architects	840% more	
Nuclear Engineers	520% more	
Mechanical Engineers	69% more	
Chemical Engineers	68% more	
Materials Engineers	60% more	
Aersoapce Engineers	52% more	
Industrial Engineers	50% more	
Electrical and Electronics Engineers	33% more	
Medical Scientists	29% more	

SOURCE: ¹U.S. NEWS & WORLD REPORT, 2025. ²NATIONAL SCIENCE FOUNDATION, 2022 – RELEASED SEP 2024; U.S. CENSUS BUREAU, 2022; ADVANCECT CALCULATIONS. ³LIGHTCAST, 2024 – Q3 2025 RELEASE; ADVANCECT CALCULATIONS.



Research And Development Facilities



Revolutionary R&D continues to drive **global innovation** across industry sectors.



- 250+ engineers in Rocky Hill, Connecticut; major expansion underway (announced March 2025)¹
- Expertise in engine design and R&D in both commercial and military aviation, as well as third-party engineering services to customers in the aerospace and industrial gas turbine industries²



- Technology Research Center main campus East Hartford, CT
- 85% of staff hold advanced degrees; average 175 patents per year.
- Innovation hub focusing on complex, integrated systems; advanced materials; model-based digital thread; artificial intelligence; electrification and sustainability; and disruptive technologies³



- U.S. headquarters in Rocky Hill, Connecticut
- Arburg Technology Factory equips injection molding machines to customer specifications, and develops bespoke turnkey systems
- Award-winning apprenticeship program⁴

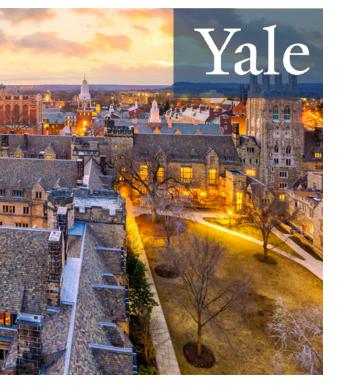


- Two locations in Connecticut Rocky Hill and Stamford
- OEM Application Center enables full solutions to be provided to customers, especially within the industrial assembly sector.
- Advanced technology and automation allows for rapid design and evaluation of process, with virtual demonstrations⁵



Science, Engineering, and Research: Yale University

Connecticut universities contribute to the exceptional engineering and research know-how in the state.



Historic Investment in Science and Engineering

- Upper Science Hill Development represents one of the largest capital commitments in university history²
- Multiple large-scale construction projects will provide state-of-the-art spaces and facilities for innovation and collaboration around a variety of topics from clean drinking water to Al³
- The first project in the Upper Science Hill Development, the new Physical Science and Engineering Building, broke ground in September 2024⁴

Over \$150 Million in Artificial Intelligence Initiatives⁵

- Expanding research infrastructure
- Building expertise: hiring 20 faculty, a large portion in the School of Engineering & Applied Science (SEAS)

"Yale must lead the **future of science and engineering**. We must continue to **drive innovation** and **train future leaders** in the burgeoning quantum revolution. And we must use our expertise and convening power to help create a robust quantum tech ecosystem for New Haven and Connecticut." 1

- Provost Scott Strobel



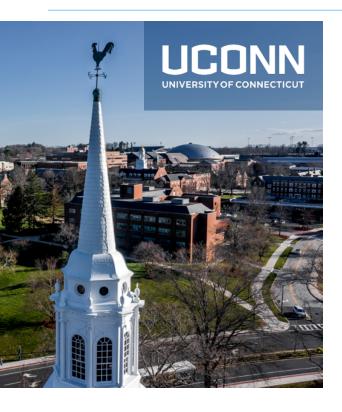
In FY2025, Yale's entrepreneurial activity included:6

- 10 faculty-led spinouts
- 83 new license deals
- 267 invention disclosures
- 176 patents issued

SOURCES: ¹YALENEWS, OCT 2024. ²YALE UNIVERSITY, ACCESSED DEC 2024. ³YALENEWS, FEB 2023. ⁴YALENEWS, OCT 2024. ⁵YALENEWS, AUG 2024. ⁴YALE VENTURES 2025 ANNUAL REPORT. ACCESSED SEP 2025.



Science, Engineering, and Research: University of Connecticut



- UConn is the **largest producer of STEM graduates** in Connecticut
- UConn is a Carnegie Foundation R1 research university, a distinction held by only 4.8% of U.S. institutions of higher education
- UConn's Technology Incubation Program (TIP) has helped facilitate over \$1.4B¹ in funding for cutting edge startups since 2003

SOURCE: 1UCONN TIP, 2025

Educational Partnerships For Specialized Engineering Talent

CASE STUDY



UCONN

Pratt & Whitney Institute for Advanced Systems Engineering (PW-IASE)

\$75.8 million partnership between **Pratt & Whitney** and **UConn Center for Advanced Engineering Education**.

Created a hub for world-class research and project-based learning

Program offerings include a 1-year certificate program for engineering degree holders focused on urgently needed areas of analytical systems engineering, including:

- Requirement analysis
- Architecture selection and optimization
- Model-based design and development
- System design flows

SOURCE: UNIVERSITY OF CONNECTICUT, ACCESSED APR 2025



Employer-Centered Training Programs





Low- To No-Cost Programs Available For A Wide Range of Specialties

Programs target beginner talent through semi-skilled talent and can range from short term to a 4-year degree. Some programs can be completed in as little as 5 weeks.

Specialties include:

- Computer Numerical Control Machinist
- Industrial Service Technician
- Robotics and Automation
- Design and Engineering
- Plastics Injection Molding

- Manufacturing Technology
- Logistics
- Welding and Metal Fabrication
- Manufacturing Management

SOURCE: ¹GOODWIN UNIVERSITY, 2025. ²WORKFORCE ALLIANCE, 2025. ³EASTERN CT WORKFORCE INVESTMENT BOARD, 2025. ⁴NORTHWEST REGIONAL WORKFORCE INVESTMENT BOARD, 2025. ⁵CONNECTICUT TECHNICAL EDUCATION AND CAREER SYSTEM. 2025. °CT STATE COMMUNITY COLLEGE. 2025.



ADVANCECT



Multi-Modal Transportation



Connecticut has the location and infrastructure connectivity to deliver products to the client quickly and efficiently. Strategically located on the Eastern Seaboard, with easy access to major metros such as New York, Boston, Montreal and Toronto, the state is at the center of North American commerce.

Whether a company ships its product by air, sea, rail, or road, they can get it there faster from Connecticut. Connecticut supports some of the most advanced supply chains in the world, from semiconductors to fighter jets. And Connecticut companies often find the suppliers they need, not across the world, but right in their own backyard.

BY WATER

There are **three deep water ports** in Connecticut: Bridgeport, New London, and New Haven, the **third largest port** in New England.¹

BY ROAD

I-95 and I-91 connect Canada to Florida, and I-84 connects to Massachusetts and New York. Our state is **fifth highest in the nation for overall highway cost-effectiveness and condition**.²

BY RAIL

Connecticut's freight is handled by CSX, Housatonic Railroad, Naugatuck Railroad, PanAm Southern Railway, and Providence & Worcester Railway, serving **interstate and intrastate transportation**.

AIR

Bradley International Airport has over **3.3 million sq ft dedicated to cargo operations** and nearly 350 million pounds of cargo annually.³

SOURCE: ¹U.S. DEPARTMENT OF COMMERCE, 2024; ADVANCECT CALCULATIONS. IMPORTS PLUS EXPORTS BY WEIGHT. ²REASON FOUNDATION, 2023. ³CONNECTICUT AIRPORT AUTHORITY, 2025.



Unbeatable Location



Situated between New York and Boston, Connecticut's location is a strategic advantage.



Within 500 miles of Connecticut are...

- states comprising over 29% of the U.S. population,
 29% of U.S. business establishments, 30% of U.S. jobs, and 33% of U.S. GDP¹
- Canadian provinces with 66% of Canada's population,
 62% of Canada's businesses, and 66% of Canada's employment²

SOURCE: ¹U.S. BUREAU OF ECONOMIC ANALYSIS, 2023-2024; U.S. BUREAU OF LABOR STATISTICS, 2023; ADVANCECT CALCULATIONS. ²STATISTICS CANADA, 2023-2024; ADVANCECT CALCULATIONS.



Connecticut's Elite Supply Chain

ASML

ASML is the world's largest supplier of photolithography machines for semiconductors with a ~90% market share.

Morningstar, October 2024

AIRBUS

A small state with a massive presence in the aviation industry. Every Airbus aircraft has significant U.S.-made content, and Connecticut is THE number one supplier state to Airbus.

- Robin Hayes, Chairman & CEO, North America, Airbus



It [Connecticut's aerospace and industrial complex] is a national asset, what we have here. It would take generations to replicate, if it could even be replicated.

- Shane Eddy, President, Pratt & Whitney

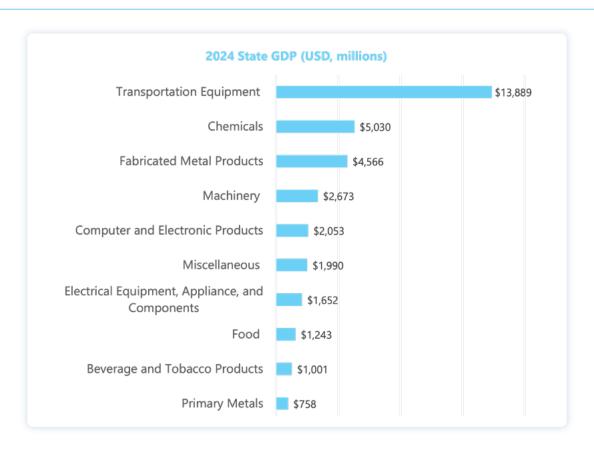


After searching the world for companies that can meet our precision and reliability needs, we often find that the best partners are our neighbors right here in Connecticut.

- Boris Leven, CEO, Mott Corporation









Output for manufacturers in the state was over \$38 billion

Manufacturing generates 10.3% of Connecticut's state GDP

SOURCE: LIGHTCAST, 2024 – Q3 2025 RELEASE; ADVANCECT CALCULATIONS.



From Sikorsky helicopters to Pratt & Whitney engines, Connecticut has long been a focal point for aerospace leadership and innovation.



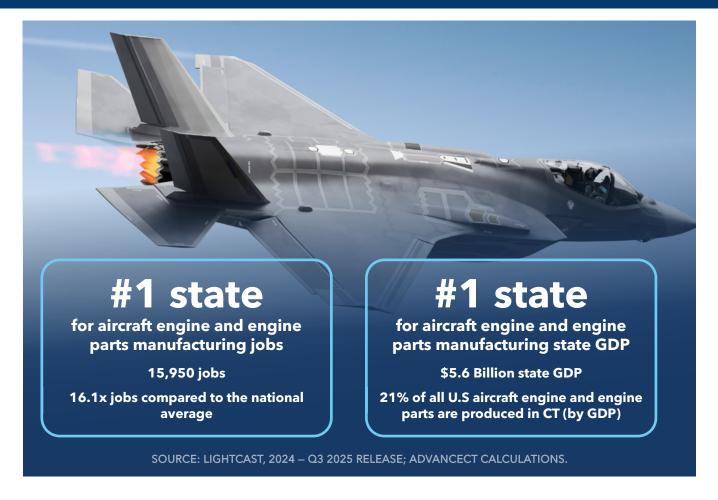
#1 state for defense contract spending per capita – over **\$24B total** in 2023¹



33% of Connecticut exports are **aerospace products** and parts²

SOURCE: ¹U.S DEPARTMENT OF WAR, FY 2023 – OCT 2024 RELEASE; U.S. CENSUS BUREAU, PEP, 2023; ADVANCECT CALCULATIONS, ²U.S. DEPARTMENT OF COMMERCE. INTERNATIONAL TRADE ADMINISTRATION, 2024.

LEADING THE WAY IN AIRCRAFT ENGINE MANUFACTURING





Demonstrated Strength in Aerospace and Defense

Connecticut aerospace and defense companies rely on the deep industry knowledge that can only be accessed in a state with more than 100 years of problem-solving, partnering, idea generation, and a deep-seated legacy of engineering excellence.



#1

IN THE U.S. FOR CONCENTRATION OF AEROSPACE & DEFENSE MANUFACTURING EMPLOYMENT¹

250

AEROSPACE AND DEFENSE MANUFACTURING ESTABLISHMENTS IN CONNECTICUT⁷

49,300

AEROSPACE AND DEFENSE MANUFACTURING JOBS IN CONNECTICUT⁸

HOME TO STRONG AEROSPACE & DEFENSE METROS

#1

Highest total jobs in aircraft engine and parts² (Hartford, CT MSA)

#1

Highest GRP in aircraft engine and parts³ (Hartford, CT MSA)

#1

Highest employment concentration in shipbuilding & repair⁴ (Norwich, CT MSA)

#2

Highest productivity in shipbuilding & repair⁵ (Norwich, CT MSA)

#2

Highest total jobs in shipbuilding & repair⁶ (Norwich, CT MSA)

SOURCES: 'LIGHTCAST, 2024 – Q3 2025 RELEASE. BASED ON AIRCRAFT; GUIDED MISSILES AND SPACECRAFT; SHIPBUILDING; ARMORED VEHICLES; SMALL ARMS AND AMMUNITION; COMMUNICATIONS EQUIPMENT; DETECTION, NAVIGATION, AND GUIDANCE INSTRUMENTS; AND SURGICAL APPLIANCES MANUFACTURING. 2-3.4.4.6LIGHTCAST, 2024 – Q3 2025 RELEASE; ADVANCECT CALCULATIONS. RANKINGS BY MSA. 5LIGHTCAST, 2024 – Q3 2025 RELEASE; ADVANCECT CALCULATIONS. RANKINGS BY MSA, AMONG METROS WITH AT LEAST 1,000 INDUSTRY JOBS. 7.8LIGHTCAST, 2024 – Q3 2025 RELEASE. BASED ON AIRCRAFT; GUIDED MISSILES AND SPACECRAFT; SHIPBUILDING; ARMORED VEHICLES; SMALL ARMS AND AMMUNITION; COMMUNICATIONS EQUIPMENT; DETECTION, NAVIGATION, AND GUIDANCE INSTRUMENTS; AND SURGICAL APPLIANCES MANUFACTURING.

Semiconductor Equipment Manufacturing





The semiconductor industry runs on Connecticut innovation and the groundbreaking companies that have originated and furthered complex technologies.



Perkin Elmer invented the first optical lithography machine in Connecticut, paving the way for ASML's domination of the EUV market.¹

ASML

ASML is the world's only producer of EUV (Extreme Ultraviolet) lithography technology used to make semiconductors.²

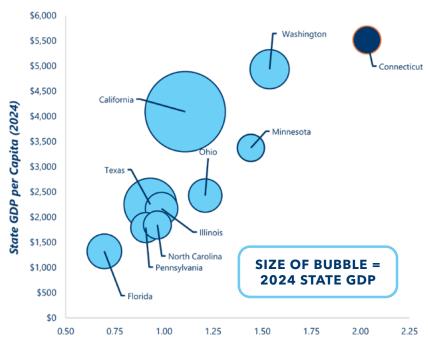




High Productivity, Greater Value

The Connecticut advanced manufacturing ecosystem generates some of the most high-tech products and processes in the world. Yet this groundbreaking technology, dedicated talent, and premium location are all accessible at very competitive prices relative to other advanced manufacturing hubs.

ADVANCED MANUFACTURING LEADERS COMPARISON



Employment Concentration (2024)



Compared to other manufacturing hubs, Connecticut's advanced manufacturing sector is:

- Most geographically concentrated
- Most productive
- On par in size even with larger states
- Known for tackling the most difficult production challenges; precision high value manufacturing

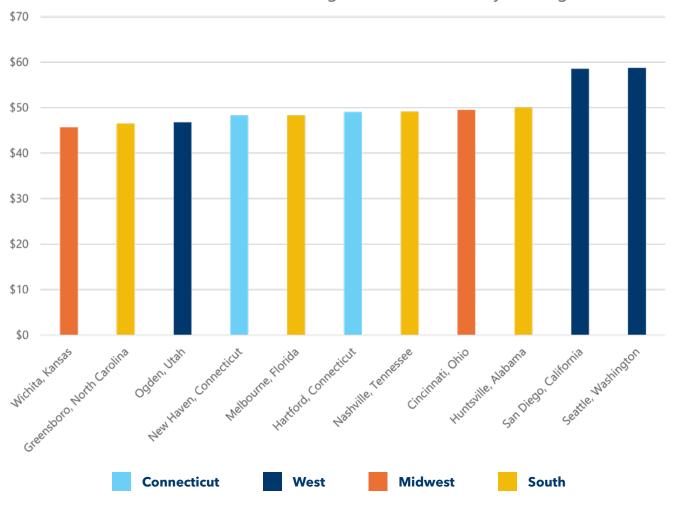


Nationally Competitive Talent Cost



While Connecticut boasts an **exceptionally skilled workforce**, its **wages are on par** with other geographies.





SOURCE: LIGHTCAST, 2024 - Q3 2025 RELEASE. CITIES REPRESENTED BY MSA DATA.

Competitive Prices

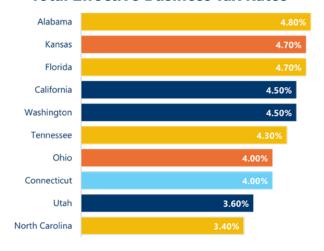
Industrial Property Asking Rents¹





Not only is Connecticut an advanced manufacturing industry leader, but it also has some of the **lowest** industrial property rents across the country.

Total Effective Business Tax Rates²





Connecticut's competitive tax rates are **lower than "low-cost" states**.

Connecticut

West

Midwest

So

South

SOURCE: LIGHTCAST, 2024 - Q3 2025 RELEASE. CITIES REPRESENTED BY MSA DATA.



ADVANCEST



Connecticut is Investing in Advanced Manufacturing

The State of Connecticut recognizes the critical role of manufacturing in our state and national economy and invests heavily in its manufacturing companies and workforce through financial incentives, workforce programs, export support, and other services. As part of its committment to fostering strong supply chains and a robust ecosystem, Connecticut also invests in the education system and career pathways for our future manufacturing workforce.



Embedded Manufacturing Leadership¹

- The only state with a Chief Manufacturing
- Ensures aligned policy, incentive design, and industry voice in government strategy
- Drives execution on workforce, capital access, and supply chain goals



Scalable Workforce Pipeline²

- 32,700+ students in manufacturing education programs
- 23,000+ jobs created/retained via Manufacturing Innovation Fund
- Target: 235,000 jobs by 2033, 20% GDP growth by 2029³



Strategic State Investment^{4,5}

Investment in modernization, capacity growth, and workforce readiness

- Includes \$25M Supply Chain Iniative for equipment and process upgrades
- Prioritizing aerospace, defense, and precision manufacturing sensors



Industry Connectivity & Supplier Networks⁶

CONNEX - digital platform connecting manufacturers & suppliers

- Accelerates procurement and sourcing
- Enhances in-state supply chain resiliency
- Free & secure for manufacturers operating in CT



Statewide Support for Manufacturing

Organizations across the state work together to promote manufacturing in Connecticut.





Venture Capital

Collaboration of CT Manufacturers







Business Growth Consulting

World-Renowned Talent and R&D





Business Attraction, **Expansion & Retention** Technological Advancement





State Support

Business Advocacy

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LEARN ABOUT CONNECTICUT'S KEY INDUSTRIES AT ADVANCECT.ORG













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