ADVANCED MANUFACTURING
SECTOR SNAPSHOT 2022
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ABOUT ADVANCECT

OUR MISSION

AdvanceCT strives to build a place where business, government, higher education and nonprofits come together to implement high impact and inclusive economic development solutions to advance the overall competitiveness of Connecticut.

ECONOMIC DEVELOPMENT

AdvanceCT is a private nonprofit corporation that drives job creation and new capital investment in Connecticut through high-impact economic development including business attraction, retention, and expansion.

WHAT WE DO

AdvanceCT works in close cooperation with the Connecticut Department of Economic and Community Development (DECD), the private sector, and various state, regional, and local partners to promote Connecticut as a place to do business. Our team is dedicated to ensuring that industries expand, residents thrive, and businesses feel at home in our state.

LEARN MORE AT ADVANCECT.ORG
INDUSTRY OVERVIEW

75,000
ADVANCED MANUFACTURING EMPLOYEES

1,057
ADVANCED MANUFACTURERS

$18+ Billion
YEARLY STATE GROSS DOMESTIC PRODUCT

SOURCE: LIGHTCAST, 2020; ADVANCECT CALCULATIONS

ADVANCED MANUFACTURING IN CONNECTICUT
Connecticut is known for advanced technologies for extreme precision and multi-generations of skill and know-how.
Connecticut Outpaces Advanced Manufacturing Leaders

**High Productivity, Greater Value**

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

- **Most Productive**
- **Most Geographically Concentrated**
- **On Par in Size Even with Larger States**
Connecticut Leads the Way

**#1 state for**
Aircraft Engine and Engine Parts Manufacturing

**#2 state for**
Ship Building and Repairing

**IN BOTH JOBS AND STATE GDP**

SOURCE: LIGHTCAST, 2020; ADVANCECT CALCULATIONS. 6-DIGIT NAICS LEVEL INDUSTRIES.

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**Aircraft Engine & Engine Parts Manufacturing**

- Nearly **17,000 jobs** and **over $6 billion State GDP** (2020)
- **Over 18x more jobs** than the national average (2020)
- **29% jobs growth** and **52% State GDP growth** (2014-2019)

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**Ship Building & Repairing**

- Nearly **12,000 jobs** and **over $1.6 billion State GDP** (2020)
- **Over 10x more jobs** than the national average (2020)
- **35% jobs growth** and **31% State GDP growth** (2014-2019)
Advanced Manufacturing National Contribution
Connecticut represents an outsized portion of key U.S. advanced manufacturing production.

The Heart of Advanced Manufacturing in Connecticut

Top 5 ZIP Codes = 32,480 Jobs (2020)

<table>
<thead>
<tr>
<th>ZIP Code - Town</th>
<th>2020 Jobs</th>
<th>2020 LQ*</th>
</tr>
</thead>
<tbody>
<tr>
<td>06340 - Groton</td>
<td>11,756</td>
<td>20.75</td>
</tr>
<tr>
<td>06614 - Stratford</td>
<td>7,574</td>
<td>20.29</td>
</tr>
<tr>
<td>06032 - Farmington</td>
<td>5,880</td>
<td>8.97</td>
</tr>
<tr>
<td>06111 - Newington</td>
<td>3,301</td>
<td>8.53</td>
</tr>
<tr>
<td>06457 - Middletown</td>
<td>3,051</td>
<td>5.56</td>
</tr>
</tbody>
</table>

*Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. Ex: An LQ of 1.5 indicates a 50% higher concentration relative to the nation.
MANUFACTURING TALENT

#3 most educated workforce in the U.S.
(WALLETHUB, 2022)

CONNECTICUT HAS QUALITY TALENT...

40% more engineers than the national average
INCLUDING 4.6X MORE NUCLEAR & 2.2X MORE AEROSPACE ENGINEERS

1.3x the national average for data and math scientists.

2.3x the national average for machinists and tool and die makers.

...AT COMPETITIVE WAGES

Median Wages by Occupation

More Talent, More Output

Top 10 Advanced Manufacturing Jobs (2020)

- Machinists: 3,851
- Assemblers and Fabricators: 3,685
- Industrial Engineers: 3,636
- Inspectors, Testers, Sorters, Samplers, and Weighers: 3,045
- Electrical, Electronic, and Electromechanical Assemblers: 2,825
- Mechanical Engineers: 2,761
- Software Developers and Quality Analysts: 2,426
- Supervisors of Production and Operating Workers: 2,370
- Architectural and Engineering Managers: 1,644
- Aerospace Engineers: 1,471

Occupation has more than 50% higher concentration in CT than the U.S.

75,000 advanced manufacturing workers producing over $18 billion in state GDP

Output per worker is nearly $250,000

SOURCE: LIGHTCAST, 2020; ADVANCECT CALCULATIONS.
The Talent You Need to Succeed

STEM completions in Connecticut up 64% since 2010
(LIGHTCAST, IPEDS, 2020; U.S. DHS)

Connecticut’s Workforce

#1 state for college readiness
(U.S. NEWS & WORLD REPORT, 2021)

#3 state for employees with advanced degrees
(U.S. CENSUS BUREAU, ACS 5Y, 2020)

#4 state for knowledge jobs
(INFORMATION TECHNOLOGY & INNOVATION FOUNDATION, 2020)

#5 most patents issued per capita
(U.S. PATENT AND TRADEMARK OFFICE, U.S. CENSUS BUREAU, 2020)

#5 for science & engineering doctorates in the workforce
(NATIONAL SCIENCE FOUNDATION, 2021)
Strong Educational Pipeline for Manufacturing Skills

Over 6,000 yearly completions in advanced manufacturing fields
SIGNIFICANTLY OUTPACES U.S. IN TRANSPORTATION AND MATERIALS MOVING
(CT +155%; US -24% SINCE 2014)

Over 3,000 yearly completions in engineering related fields
COMPLETIONS GROWING SINCE 2014

SOURCE: LIGHTCAST, 2020; ADVANCECT CALCULATIONS.
## CONNECTICUT FOREIGN TRADE ZONES

Foreign trade zones were created to encourage activity and value-add at U.S. facilities by allowing delayed or reduced duty payments.

Connecticut has four foreign trade zones and 72 opportunity zones. **Connecticut’s FTZs cover almost the entire state:**

<table>
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<th>Zone Name</th>
<th>Location Details</th>
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<tr>
<td>Bridgeport #76</td>
<td>Fairfield County, Litchfield County, New Haven County (Milford, Orange, Ansonia, Derby, Seymour, Oxford, Beacon Falls, Southbury, Middlebury, Naugatuck, Waterbury, Wolcott)</td>
</tr>
<tr>
<td>New Haven #162</td>
<td>New Haven, North Haven</td>
</tr>
<tr>
<td>New London #208</td>
<td>New London County, Two tribal lands</td>
</tr>
<tr>
<td>Windsor Locks #71</td>
<td>Hartford County, Litchfield County, Middlesex County, Tolland County, Windham County</td>
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</tbody>
</table>

#13 for production activity of FTZ’s  
*(FOREIGN TRADE ZONE BOARD, 2020)*
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.

BY WATER

BY ROAD
Highway I-95 & I-91 connect Canada to Florida. I-84 connects Connecticut to Massachusetts and to New York State.

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
Commercial flights available from Bradley International and Tweed New Haven Regional Airport.

Sikorsky Memorial Airport and Danbury Municipal Airport also serve the state.


Not only is Connecticut an advanced manufacturing industry leader, it also has some of the lowest industrial property rents across the country.
Connecticut: A Manufacturing Powerhouse
Driven by key employers in high-tech industries, and supported by thousands of companies in the supply chain.

<table>
<thead>
<tr>
<th>Company</th>
<th>Industry</th>
<th>Revenue (’21)$</th>
<th>CT Jobs$</th>
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<tr>
<td>Electric Boat</td>
<td>Ship Building</td>
<td>$10 billion</td>
<td>10,000</td>
</tr>
<tr>
<td>Collins Aerospace</td>
<td>Aerospace &amp; Defense</td>
<td>$18.4 billion</td>
<td>4,000</td>
</tr>
<tr>
<td>Pratt &amp; Whitney</td>
<td>Aerospace &amp; Defense</td>
<td>$18.2 billion</td>
<td>8,300</td>
</tr>
<tr>
<td>ASML</td>
<td>Semiconductors</td>
<td>$22 billion</td>
<td>1,700</td>
</tr>
<tr>
<td>Stanley Black &amp; Decker</td>
<td>Tools &amp; Accessories</td>
<td>$15.6 billion</td>
<td>500</td>
</tr>
<tr>
<td>Amphenol</td>
<td>Electronic Connectors</td>
<td>$10.9 billion</td>
<td>300</td>
</tr>
<tr>
<td>Sikorsky</td>
<td>Aerospace &amp; Defense</td>
<td>$5.4 billion$</td>
<td>7,000</td>
</tr>
<tr>
<td>Perkin Elmer</td>
<td>Diagnostics &amp; Research</td>
<td>$5.1 billion</td>
<td>500</td>
</tr>
<tr>
<td>OTIS Worldwide</td>
<td>Elevator Systems</td>
<td>$3.6 billion</td>
<td>400</td>
</tr>
<tr>
<td>Kaman Aerospace</td>
<td>Aerospace &amp; Defense</td>
<td>$709 million</td>
<td>1,000</td>
</tr>
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SOURCES: 1) DATA AXEL, 2022. 2) 2021 FINANCIAL DISCLOSURES: ELECTRIC BOAT; STANLEY; KAMAN; AMPHENOL; PERKINELMER; OTIS; COLLINS AND P&W; ASML.
Highest Tech

Connecticut companies remain at the cutting edge of technology, producing some of the world’s most advanced equipment and materials.

ASML is the world’s only producer of EUV (Extreme Ultraviolet) lithography technology. This tech is enabled by lasers made at Connecticut’s Trumpf.

Electric Boat is building the new, Columbia-class nuclear submarine, the most advanced submarine in the US Navy.

Pratt & Whitney recently received ARPA-E money for the development of HySIIrE, its experimental hydrogen jet engine.
Support for Manufacturing Statewide
Organizations across the state work together to promote manufacturing in Connecticut.

CONNECTICUT IS INVESTING IN ADVANCED MANUFACTURING

In 2019, Connecticut created the Chief Manufacturing Officer position. This position actively collaborates with Connecticut manufacturers to develop policies that improve Connecticut’s competitiveness.

In 2020, the Governor’s Workforce Council was created to set strategy and policy recommendations to maintain a highly-trained and competent workforce. The Office of Workforce Strategy is working to implement the key components of the GWC strategic plan.

Connecticut Community Colleges continue to lead the way in workforce development, with 10 campuses across CT offering Advanced Manufacturing certificates.
Higher Education in Connecticut

School of Engineering & Applied Sciences (Seas) Expansion

**ANNOUNCED FEB 2022:**
- 30 faculty slots to SEAS across six departments
- New Physical Science and Engineering Building (PSEB)
- Renovations of existing facilities
- Separating from the Faculty of Arts and Sciences (FAS) into its own distinct organizational structure

**$5 Million Roberts Innovation Fund**

**ANNOUNCED APRIL 2022:**
- Focus on new technologies in AI, blockchain, computational modeling, and more
- Working with Yale Ventures, the Fund will help faculty commercialize new ideas and bring them to market

Yale Investing in Engineering

“Recruiting and retaining a diverse community of world-class faculty is one of the university's top priorities. Because the quality of our faculty is so critical, we are devoting substantial resources to support its excellence across many different disciplines.”

- President Peter Salovey and Provost Scott Strobel

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UConn is the **largest producer of STEM graduates** in Connecticut

UConn is a Carnegie Foundation **R1 research university**, a distinction held by only 3% of U.S. institutions of higher education

UConn’s Technology Incubation Program (TIP) has helped facilitate **over $900M in funding for cutting edge start ups** since 2003
FOR MORE INFORMATION, CONTACT:

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Director, Business Development, Advanced Manufacturing
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tfisher@advancect.org

LEARN ABOUT CONNECTICUT’S KEY INDUSTRIES AT ADVANCECT.ORG