

CONNECTICUT MANUFACTURING

Building on the Past, Creating Our Future

REPORT PREPARED BY CBIA IN CONJUNCTION WITH

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Introduction

Manufacturing in Connecticut looks very different today than it did for generations. Over many years, a dramatic transformation has taken place that has made Connecticut manufacturers more sophisticated, productive, innovative, and agile than ever before. Yet even in this “leaner” age, manufacturing remains a powerful multiplier of economic activity.

Significant global changes are now presenting new economic opportunities to states that are able to successfully combine a skilled workforce, research and development capability, and technology-driven manufacturing production.

The question is how competitive is Connecticut for manufacturing? Do we have the kind of environment that’s favorable to growing this important economic sector?

This report examines the state of Connecticut manufacturing, reviewing the state’s strengths, challenges, and how they compare with other states.

Also in the report are suggestions for the kinds of policy decisions that can nurture our manufacturers and unlock even greater private-sector innovation, investment, and job creation.

Since 2008, Connecticut has struggled to find ways to recover and rebuild from a devastating recession. Policymakers should consider that there may be no more promising way for our economy to grow—now and for decades to come—than by cultivating the state’s manufacturers.

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John R. Rathgeber
CBIA President & CEO

Maximizing Opportunity

After decades of increasing uncertainty over their future, Connecticut manufacturers could be entering a new era of opportunity presented by the intersection of several economic changes that are fueling manufacturing's resurgence in the United States.

Myriad factors are starting to shift the competitive edge back toward the U.S., including global disruptions, rising wages and higher costs in China, greater U.S. productivity, transportation costs and logistics, and concerns over intellectual property. What for a long time has been viewed as an insurmountable competitive gap between the U.S. and China is still vast—but narrowing.

While it is likely that China and other Asian locations (Thailand, Vietnam, Malaysia) will continue to produce mid-range products and electronics, production of most high-end, mission-critical products will remain in the U.S.

New growth

Because of the changes in competitive factors, U.S. manufacturing is experiencing new growth. Employment in manufacturing “has grown faster in the U.S. since the recession than in any other leading developed economy,” reported the *Financial Times*. Last year, for the first time in decades, Connecticut manufacturing saw net job growth—a performance that could have been stronger had more job candidates with the right skills been available.

One of the leading clinical indicators of U.S. manufacturing activity, the Institute for Supply Management's Purchasing Managers' Index, has indicated sustained growth in the sector in every month from mid-2009 to April 2012. The index is based on measures of new orders, production, employment, supplier deliveries, and inventories.

Many economists and business leaders believe the prospective upturn in U.S. manufacturing “is not just a bounce-back after the recession, but a sign of

“China's overwhelming manufacturing cost advantage over the U.S. is shrinking fast.”

Boston Consulting Group,
Made in America, Again, 2011

longer-term structural improvement,” added the *Financial Times*.

“Companies are adding capacity in the U.S., replacing aging equipment and even moving overseas production back from low-cost labor markets,…” reported the *Wall Street Journal*.

What’s more, some U.S. manufacturing operations that went overseas are now coming back. “You are

“Manufacturers are willing to do their fair share to help the state, but our policymakers need to help lower our costs so we have a more level playing field with competitor firms in other locations.”

Mary Planeta Fitzgerald, President,
Acme Wire Products Co. Inc.

U.S. Manufacturing: On the Rise

Source: Institute for Supply Management, April 2012

Index	Direction
PMI*	Growing
New Orders	Growing
Production	Growing
Employment	Growing
Supplier Deliveries	Faster
Inventories	Contracting
Customers' Inventories	Too Low
Prices	Increasing
Backlog of Orders	Contracting
Exports	Growing
Imports	Growing
Overall Economy	Growing

* Purchasing Managers' Index

going to see more [manufacturing] come back to the United States,” said Boeing CEO Jim McNerney,…” in part for business reasons and in part because we want to be good citizens.”

GE is moving its appliance manufacturing back to the U.S. from Mexico and China, said CEO Jeff Immelt. “When we looked at it on a cost basis, our labor is still higher, but it’s closer than it’s been in the past.”

Widespread adoption of continuous improvement initiatives (such as Six Sigma and lean) and additive manufacturing processes are honing the operations and enhancing the competitiveness of many U.S. manufacturers, including those in Connecticut.

“China leads all countries as a source of supply chain risk...but in the past year there has been a sizable increase in key supply chain risks— notably supply failure, quality failure and intellectual property infringement.”

National Association of Manufacturers and the NAM Council of Manufacturing Associations, Jan. 2010, *Manufacturing Resurgence: A Must for U.S. Prosperity*

“Our manufacturing sector has traditionally been an area of strength, and the emergence of skilled manufacturing has allowed for the creation of new products, services, companies, and jobs.”

Susan Coleman, Professor of Finance, Barney School of Business, University of Hartford

These initiatives are helping manufacturers narrow the cost gap, expand production, and realize higher sales and increased profits.

Connecticut’s opportunity

Advanced manufacturing in Connecticut is high-precision, high-productivity, high-skilled, and high-valued-added. It is the state’s greatest source of exports, a major producer of high-paying jobs, and a significant multiplier of economic activity across other sectors.

Advanced manufacturing is integrally linked to research and development, together providing a catalyst for economic growth.

In a 2011 report (*“An Economy That Works: Job Creation and America’s Future”*), the McKinsey Global Institute said American manufacturing jobs can grow if three things occur: “exports grow, some offshored manufacturing jobs are repatriated due to shifting economics, and there is strong demand in subsectors where U.S. companies have a competitive advantage.”

Connecticut exports are strong and growing; some manufacturers in the state are bringing jobs back; and our manufacturers’ products are in high demand. The question is, does Connecticut offer the supportive public policy environment, infrastructure, and economic climate that will enable manufacturers to compete and grow? Is Connecticut viewed as a viable location by other manufacturers considering new sites?

In late 2011, state policymakers recognized the value of manufacturing when the legislature adopted several programs and incentives designed to help businesses grow in Connecticut. Many of these initiatives were created for, and are now benefiting, manufacturers.

While other business sectors are very important to our economy, manufacturing is *vital* to Connecticut’s overall economic health and future.

To fully realize its potential, we must first understand the reality of manufacturing’s value to our state economy.

“As the birthplace of modern manufacturing, Connecticut now has the unique opportunity to lead the resurgence of manufacturing in America by maintaining and building upon our competitive advantage in highly skilled, high-value work.”

John J. Patrick, Jr., Chairman, President & CEO, Farmington Bank

Manufacturing Value

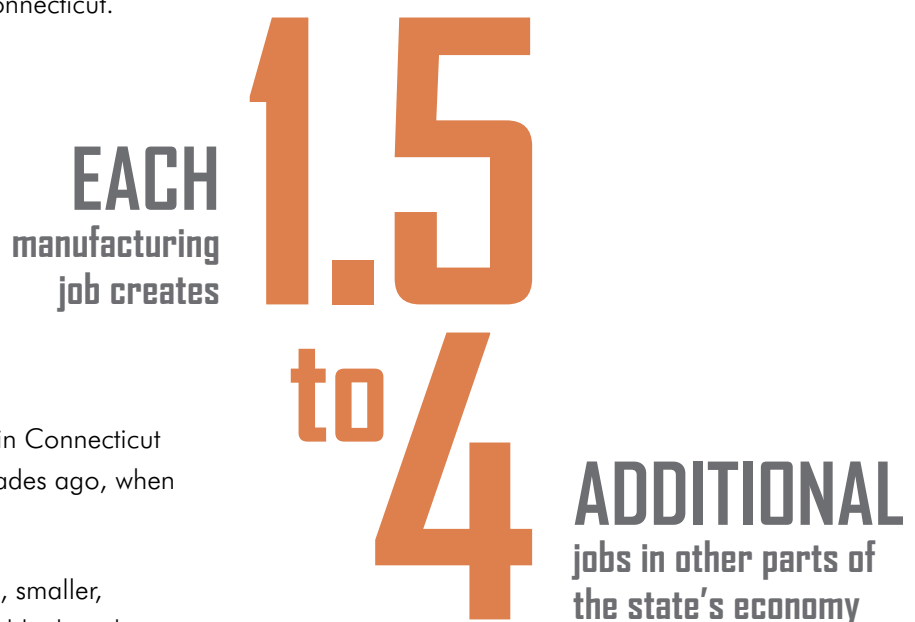
The making of Connecticut's economy is in great part the story of manufacturing. Products made here have supplied, defined, and defended the nation. Historically, Connecticut's calling card has been a heritage of innovation.

At its peak decades ago, manufacturing employed hundreds of thousands of people in Connecticut. Since then, the state has not been alone in shedding droves of mainly low-skill manufacturing jobs. Overall, factory jobs in the United States declined from a peak of 19.4 million in 1979 to 11.7 million in 2011.¹ Tens of thousands of factories in the U.S. closed, hundreds in Connecticut.

However, the profile of manufacturing in Connecticut is vastly different today than it was decades ago, when it was largely production-line-intensive.

Manufacturers today are, on the whole, smaller, leaner, more productive, and more flexible than their predecessors. Advanced technologies and process changes have transformed manufacturing so that it requires fewer yet more highly skilled workers who are able to generate more output than ever.

Here is a look at the condition and value of manufacturing in Connecticut today.



Source: RIMS II Multipliers

¹ U.S. Bureau of the Census

Jobs and Wages

There are about 5,000 manufacturing companies in Connecticut today employing approximately 166,000 people, about 10% of all jobs in the state.² Last year, manufacturers gained several hundred jobs, the first increase in years.

Manufacturing wages are high; workers in Connecticut earn more than \$14.5 billion annually, with an average salary of \$87,465—well above the state’s services sector (\$55,493) and the national manufacturing average (\$77,186, according to the National Association of Manufacturers).³

After years of job decline, Connecticut manufacturers are hiring again, or at least want to. Many of them are having difficulty finding qualified, high-skilled workers to fill open positions. And as baby boomers near retirement age, manufacturers are facing the imminent loss of many of their most skilled and experienced workers.

Economic Multiplier

Research shows that Connecticut’s manufacturing sector creates and strongly amplifies other economic activity in the state:

- ▶ Each dollar’s worth of manufactured goods creates another \$1.35 of activity in other economic sectors—twice the multiplier effect of most of the services sector.⁴

“Manufacturing’s multipliers have profound implications for Connecticut’s economy. They are huge impacts to consider in the state’s long-term economic equation.”

**Donald Klepper-Smith, Chief Economist,
DataCore Partners**

- ▶ Each manufacturing job creates from 1.5 to 4 additional jobs in other parts of the state’s economy.⁵
- ▶ Every \$1 million in additional output from manufacturers means more than \$2 million in sales—and potential tax revenue—in other industries.⁶
- ▶ Each year, manufacturers purchase more than \$21 billion in goods and services from other state businesses.⁷

Tax Revenues

The value of manufacturing also extends to the state and local tax revenues it generates annually, including:

- ▶ More than \$295 million in industrial real property taxes⁸

“A strong manufacturing sector is not just about jobs; it’s about higher wage jobs.”

The Case for a National Manufacturing Strategy, April 2011, The Information Technology & Innovation Foundation

² U.S. Bureau of the Census, U.S. Bureau of Economic Analysis; ³ National Association of Manufacturers, U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics; ⁴ National Association of Manufacturers; ⁵ RIMS II Multipliers; ⁶ Connecticut Economic Resource Center; ⁷ Ibid.; ⁸ Connecticut Office of Policy and Management, and CBIA calculations

- ▶ More than \$250 million in sales and use taxes⁹
- ▶ More than \$69 million in corporate taxes¹⁰
- ▶ More than \$1.2 billion in personal income tax (management and employees).¹¹

Considering all these impacts, from jobs to taxes, it's safe to say that the state's public sector is also affected by the health of Connecticut's manufacturing sector. It is therefore prudent for policymakers to be aware of, and concerned about, the health and competitiveness of manufacturers in the state.

“Global economic shifts have once again positioned manufacturing for growth, but state leaders must do all they can to ensure that this critical sector is able to expand here.”

Douglas Fisher, Manager, Economic Development & Community Relations, Northeast Utilities

Business Health and Outlook

According to the results of the 2011 Survey of Connecticut Businesses (CBIA/Blum Shapiro), most Connecticut manufacturers saw profitability in 2011, and many expected slow to moderate growth in 2012. By the end of 2012, more manufacturing companies were expecting their business conditions to be good, or better, than those who anticipated worsening conditions.

Each year, manufacturers purchase more than

\$21 BILLION

IN GOODS & SERVICES

from other state businesses.

Source: Connecticut Economic Resource Center

⁹ Connecticut Comptroller's Office, and CBIA calculations; ¹⁰ Connecticut Department of Revenue Services; ¹¹ Connecticut Comptroller, Department of Revenue Services, and CBIA calculations

Connecticut's Strengths

Connecticut's manufacturing strength comes from a variety of factors, including productivity, product diversity, export strength and the world-class companies located here. It also relies on the state's skilled workers, location, and quality of life.

Productivity



In the 2011 Manufacturing and Logistics Report Card of Ball State University, Connecticut earned a B+ for productivity and innovation. The study defined the measure as

the value of manufactured goods along with access to inventions and innovators.

Connecticut's grade was on par with Massachusetts, but better than North Carolina, New Jersey and New York, which each received C grades, and New Hampshire, which scored a C-.

Productivity is one of the major reasons U.S. manufacturing is rebounding. Productivity is an attribute that characterizes the potency of an economic sector as well as its likely impact on others. Connecticut's manufacturing workforce is rated sixth-highest in the U.S. for value-added production.¹²

Technology and process changes enhance productivity, and advanced, high-tech manufacturing is growing in

Connecticut. As Connecticut manufacturers increase their productivity, they are more able to expand their sales and markets, increase R&D innovation, and create more jobs. This expansion also benefits other economic sectors in the state.

Many Connecticut manufacturers have successfully applied continuous improvement strategies such as Lean and Six Sigma techniques to eliminate waste in their operations and increase productivity and value. This has been instrumental not only in helping manufacturers counter the state's high costs of doing business, but also making them more adaptive and competitive.

Overall, each \$1 million in additional output from Connecticut manufacturing means more than \$2 million in sales in other industries and an additional 8.3 jobs.¹³

On average, each Connecticut manufacturing worker creates added value of \$278,654, significantly higher than the national average of \$261,261.¹⁴

Almost \$26 billion (or about 11%) of Connecticut's gross state product comes from manufacturing.¹⁵

"The value of manufactured goods per worker—productivity—is critical to the long term performance of a [business] and the industry as a whole," said Ball State University in its Report Card.

¹² U.S. Commerce Department, Annual Survey of Manufacturers U.S. Bureau of the Census; ¹³ MAC Index; ¹⁴ Annual Survey of Manufacturers, U.S. Bureau of the Census;

¹⁵ U.S. Bureau of Economic Analysis

In addition, Federal Reserve Chairman Ben Bernanke has said that productivity growth is “perhaps the single most important determinant of living standards.”

R&D/Manufacturing Connection



Connecticut ranked ninth in the U.S. in the Milken Science and Technology Index that measures states’ ability to support these growing industries.

Milken’s ranking is based on public investments in research and development (R&D), a well educated and skilled workforce, and the risk capital available to help convert R&D into viable technology products and services.

Among Connecticut’s major competitors, according to Milken, Massachusetts is ranked first, Virginia eighth, New Jersey 11th, and North Carolina 13th.

R&D in the U.S. tends to congregate close to manufacturing in order to bring innovation to life. Connecticut’s manufacturing concentration—ranked 17th in the U.S.—presents the state as a viable location for growing R&D.¹⁶

In fact, the National Science Foundation (NSF) ranked Connecticut first in the U.S. for business-performed R&D as a percentage of private-industry output (2008). “A high value for this indicator indicates that the businesses within a state are making a large investment in their R&D activities,” said the NSF.

According to the National Association of Manufacturers (NAM), competing high-tech companies often cluster in relatively small geographic locations. While that might seem odd, says NAM, one study has found that R&D performed by competitors actually complements a firm’s own R&D.

“Companies investing in R&D not only create spillovers, but take advantage of spillovers from others. Thus, the benefits of proximity explain why companies in the same industry often cluster in high-tech centers where they can best take advantage of spillovers despite concerns of product market rivalry.”

Spillovers are benefits that flow from R&D to other economic sectors. They give entrepreneurs “the ideas that generate new businesses, perhaps out of an idea or ideas gained during a past job, perhaps from academic research or reading journals,” says NAM.

Connecticut has a burgeoning concentration of R&D and is investing heavily in the biosciences industry and seeking to establish the state as an R&D-intensive corridor.

Exports



Connecticut is ranked eighth in the U.S. for exports per capita, and fourth in the U.S. for exports to the EuroZone.¹⁷

Exports continue to be one of the state’s strongest

“Manufacturing, R&D, and innovation go hand-in-hand.”

The Information Technology & Innovation Foundation (ITIF), *The Case for a National Manufacturing Strategy*, April 2011

¹⁶ DataCore Partners; ¹⁷ Ibid.

“When our manufacturing clients have thoughtfully, diligently, and methodically expanded across national boundaries, they have discovered a wealth of opportunities. Manufacturing accounts for 87% of Connecticut’s total exports, so it is essential to strengthen and encourage relationships between Connecticut manufacturers and the world markets.”

James F. Kask, CPA, Partner, J.H. Cohn LLP

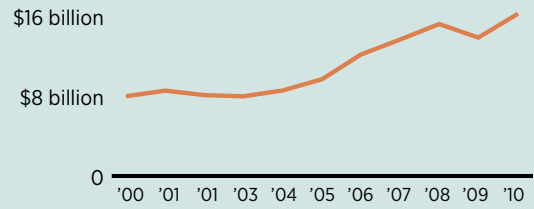
sources of economic growth, particularly during the most recent recession and its immediate aftermath.

Connecticut is home to about 2,000 companies that export goods to foreign countries, according to the U.S. Department of Commerce. CBIA’s 2011 International Trade Survey found that more than half (56%) of the exporters surveyed said that exporting helped them weather the recession and/or better position them for a stronger recovery.

Manufacturing accounts for 87% of Connecticut’s total exports. Over the last decade, sales of manufactured goods by Connecticut companies to overseas markets nearly doubled, from about \$8 billion in 2000 to more than \$16 billion in 2010. (Manufacturers’ share was \$14 billion in goods exported in 2010.) During

¹⁸ Connecticut Department of Economic & Community Development, U.S. Bureau of Economic Analysis

Connecticut Export Growth Since 2000



Source: Bureau of Economic Analysis

that time, exports’ share of GSP rose from 4.9% to nearly 7%.¹⁸

Exports currently support, directly and indirectly, 500,000 jobs in Connecticut, including 24% of the state’s manufacturing jobs (versus an average 22% nationally). For every \$1 million in new exports, says the state Department of Economic and Community Development, 13 additional jobs are created.

“Exports are key to Ulbrich Stainless Steels and Special Metals’ success as with many Connecticut companies. We shipped our products to 54 countries last year and see continued growth in this area.”

Chris Ulbrich, Chief Operating Officer, Ulbrich Stainless Steels and Special Metals, Inc.

“Access to top talent through high quality colleges and universities is a major advantage for Connecticut. We regularly partner with students from Yale to work on projects that help us maintain a leadership position in sustainability.”

Donald R. Droppo Jr., President & CEO,
Curtis Packaging

Skilled Workers



While Connecticut manufacturers are finding it difficult to hire enough skilled workers (See “Challenges: Skilled Workers, p. 17), outside perceptions of the state’s workforce quality remain strong.

The 2011 CNBC Best States for Business Survey ranked Connecticut third in the nation for education quality. The state also placed ninth for education climate in the 2011 Business Facilities State Rankings.

The availability of talent, access to university laboratories, and collaborative opportunities with nonprofit research entities all play a critically important role in location decisions by manufacturers.

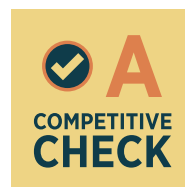
In the National Science Board 2012 study of factors impacting high-tech manufacturers, Connecticut placed high in advanced degrees conferred, R&D as a percentage of gross state product, percentage of engineers in the workforce, and other science and

technology measures in the larger economy.

Companies depend on a pipeline of skilled workers to operate their technologies, engineer innovation and drive productivity gains. Connecticut’s highly skilled workforce has been and continues to be considered a major asset by manufacturers. A survey of Connecticut manufacturers in 2011 found high degrees of satisfaction with the quality of job candidates coming from the state’s institutions of higher education.¹⁹

There are serious concerns about the state’s ability to keep that pipeline filled, however, especially in keeping or attracting high quality engineering talent. State policymakers, businesses, institutions of higher education and school leaders are focusing on improving the quality of public education in the state. Passage of significant education reform legislation in 2012 was a positive step in closing the state’s achievement gap and providing young people with the skills they need to lead productive lives.

Diversification



Connecticut’s manufacturers produce a remarkably diverse range of products. Connecticut received an “A” grade for Diversification from the 2011 Manufacturing and Logistics Report produced by Ball State University. Connecticut was one of only five states to receive top honors, along with Virginia, South Carolina, Washington, and Mississippi.

The state is a leader in the transportation field, most notably in the production of aircraft engines, helicopters, and nuclear submarines. Connecticut also is near the top in such skill-intensive technical fields as metalworking, electronics, and plastics.

¹⁹ 2011 CBIA Connecticut Manufacturing Workforce Survey

“Connecticut has long been a hub of manufacturing activity. The depth of our manufacturing network and strength of our skilled workforce are essential to achieving ongoing success.”

Scott Livingston, President & CEO, Horst Engineering & Manufacturing Co.

The state is now working to bolster its position in the biopharmaceutical industry.

An expansive portfolio of products is considered economically advantageous for a state, allowing it to benefit from multiple areas of growth and making it less vulnerable to any single industry downturn.

The report said that while there are risks and rewards associated with economic diversification, “states which have a high proportion of manufacturing activity in a single sector typically suffer higher volatility in employment and incomes over a business cycle.”

Location and Quality of Life

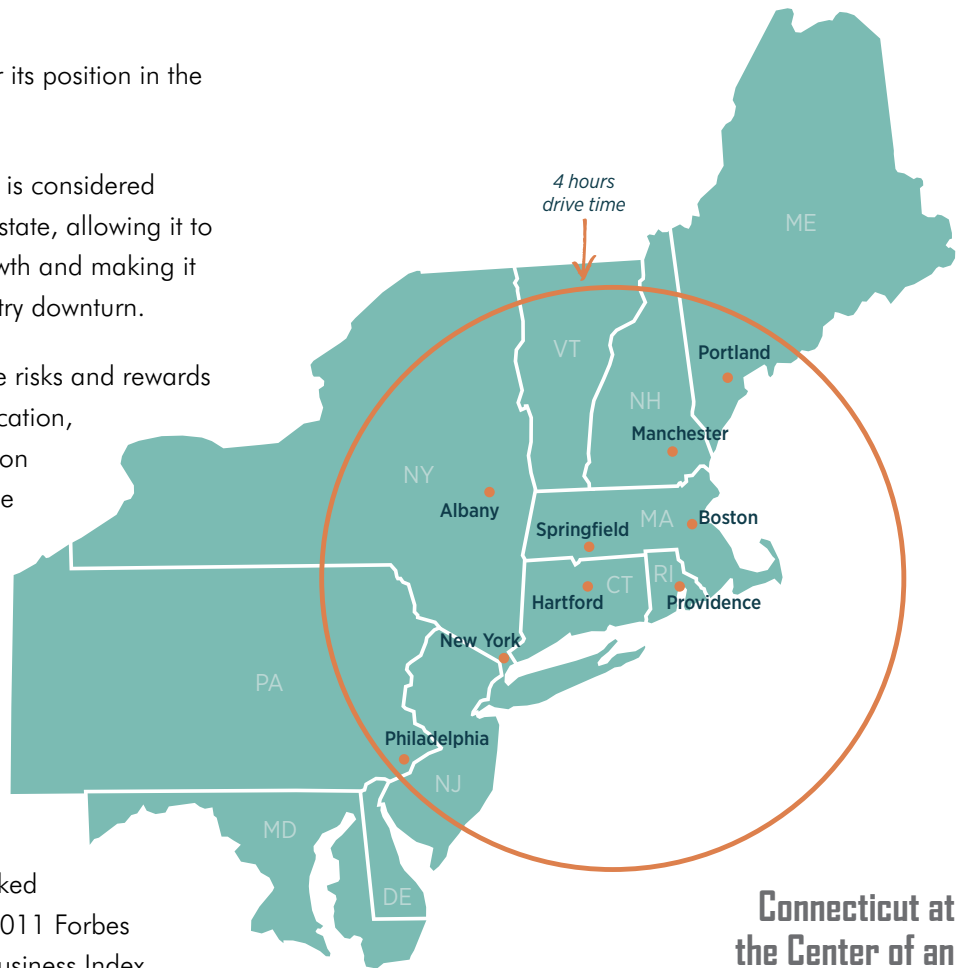


Connecticut ranked second on the 2011 Forbes Best States for Business Index, quality of life scale.

Another top calling card for businesses is the state’s proximity to customers and location in the Northeast corridor, positioned between New York and Boston.

Because of Connecticut’s long heritage of manufacturing, the state has a mature “ecosystem” supporting it, led by world-class companies. The state has a rich network of manufacturers—from small shops to midsize suppliers to multi-national corporations—that are interdependent and constantly creating mutually beneficial strategic partnerships.

Manufacturers also cite the quality of life in the state as an asset to their business.



Connecticut at the Center of an Economic Powerhouse

Source: Connecticut Economic Review

C BIA/DataCore Partners Manufacturing Competitiveness Index

If Connecticut's manufacturing base is as critical to our overall economic strength and employment as research suggests, then we must have a diversified and vibrant manufacturing environment in the state.

It therefore makes sense to develop tools and quantitative performance benchmarks to assess in relative terms how we're doing against key competing states. Are we gaining or losing ground?

The first CBIA/DataCore Partners Index provides a tool to help objectively measure the performance of Connecticut manufacturing. From a policy perspective, it also helps identify areas for improvement in order to maximize economic activity.

The index considers 9 critical measures that help define the health of the state's manufacturing sector. It then defines where Connecticut places among the 48 contiguous states.

Over time, this annual score will provide a framework for explaining and evaluating Connecticut's relative climate for manufacturing. The index should also promote discussion on what public policy initiatives could facilitate growth in the state's manufacturing sector.

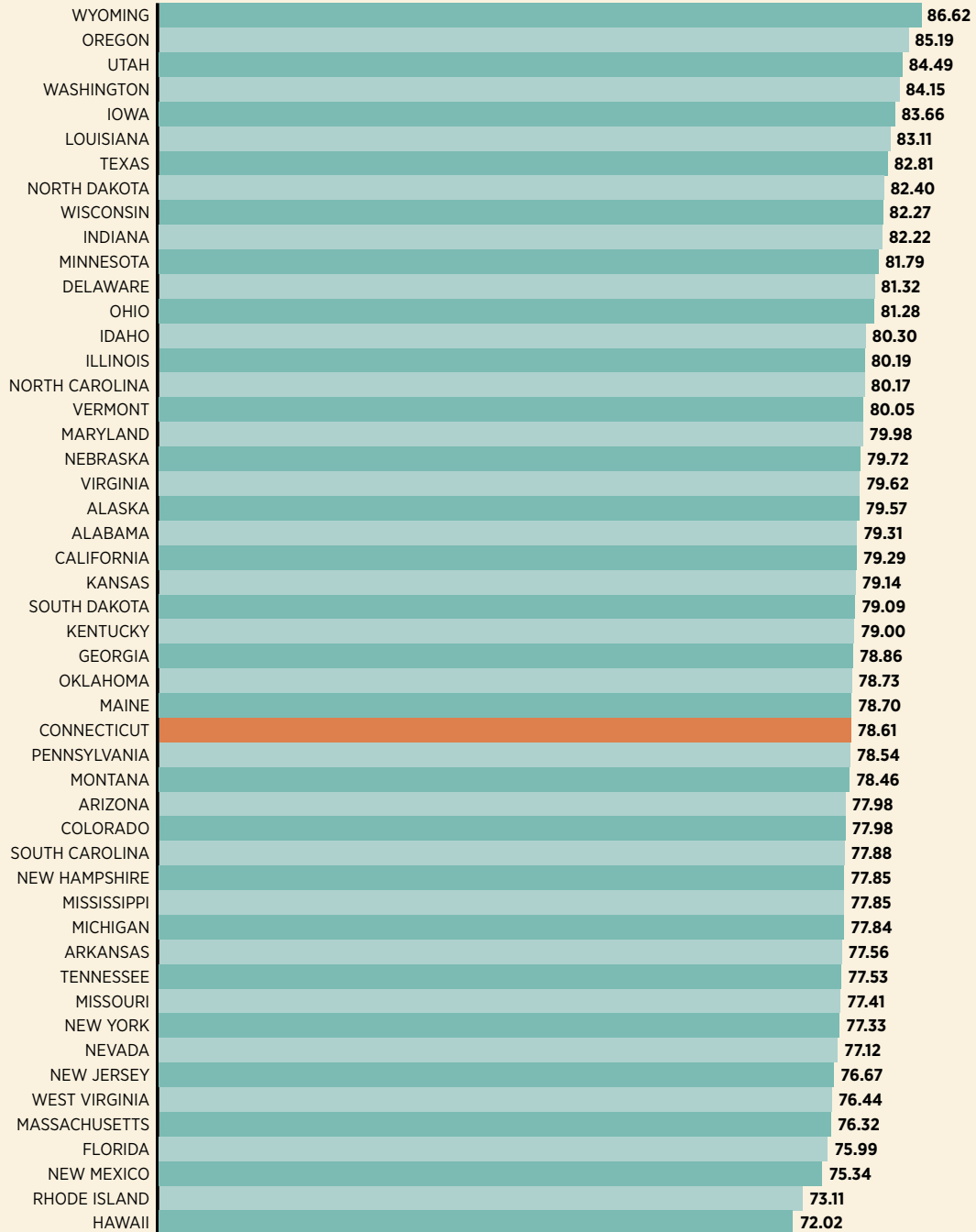
Index Rankings

The measures included in the competitiveness index and Connecticut's rank among the states are:

- ▶ Value added per manufacturing production worker (6)^a
- ▶ Exports per capita (business services and manufacturing exports) (8)^b
- ▶ State Technology & Science Index (9)^c
- ▶ Manufacturing Location Quotient (17)^d
- ▶ Employment: 10-Year Percent Change (19)^e
- ▶ Gross State Product: 10-Year Percent Change (21)^f
- ▶ Costs for Industrial Electricity (41)^g
- ▶ State and Local Business Taxes on New Investment (38)^h
- ▶ State and Local Debt as Percentage of State and Local Spending (42)ⁱ

^a U.S. Commerce Department, *Annual Survey of Manufacturers*; ^b 2011 Morgan Quitno, U.S. Commerce Department; ^c Milken Institute; ^d Bureau of Labor Statistics, U.S. Labor Department, DataCore calculations; ^e Bureau of Labor Statistics, U.S. Labor Department; ^f U.S. Commerce Department; ^g U.S. Commerce, Department of Energy; ^h Council on State Taxation/Ernst & Young, 2011; ⁱ usgovernmentspending.com, 2012

Overall State Rankings



Connecticut's Overall Ranking

Overall, Connecticut ranks 30th with a 78.61 score in the first CBIA/DataCore Partners Manufacturing Competitiveness Index. The index indicates that the state is not as competitive as it could or should be for manufacturing. However, the differences between Connecticut and other states also indicate that even modest improvement would significantly improve our position.

Certain factors—such as productivity, skilled workforce, and exports—place Connecticut high in the U.S. In other categories, such as costs—taxes, energy, and long-term debt—the state places much lower.

Our score places the state ahead of competitor states such as Massachusetts, New York, New Jersey, Pennsylvania, South Carolina and Florida.

However, Connecticut's score is behind other competitors such as Indiana, North Carolina, Wisconsin and Virginia.

“The economic multipliers clearly show that our entire state economy benefits from having a strong, diverse and competitive manufacturing sector in Connecticut. The question is, are we gaining or losing ground?”

**Donald Klepper-Smith, Chief Economist,
DataCore Partners**

More Competitive, More Jobs

As Connecticut's manufacturing competitiveness increases, so would the potential for long-term job creation in the state.

Every one-point rise in the CBIA/DCPMCI, for example, could produce a 0.46% increase in 10-year total non-farm job growth. This would equate to a long-term gain of almost .05% in a state's employment base.

Holding onto Connecticut's top rankings and making progress on the others will improve the state's environment for manufacturers and increase the likelihood of the sector contributing more jobs to the economy.

Methodology

The CBIA/DCPMCI is derived from a series of algorithms that assign “competitiveness points” for 9 economic measures important to the health of an individual state's manufacturing sector. While dozens of viable manufacturing indicators were considered, DataCore selected 9 variables that were diverse, comprehensive, and replicable in future years for further performance monitoring. The most recent data available was collected for all 50 states for comparative purposes and analyzed, assigning competitiveness points ranging from a low of 65 to a high of 100. Equal weights were given to all data variables. The total manufacturing competitiveness index was derived by averaging all competitiveness measures, creating a rank ordering that allows for ready comparison among states.

Connecticut's Challenges

While Connecticut historically is a very favorable location for manufacturing, several factors impacting manufacturers should concern state policymakers. None of these issues is insurmountable, and prudent public policy can address all of them.

Costs

Manufacturing costs in the U.S. are on average about 20% higher than those of our most significant global competitors, and many business costs in Connecticut are higher than the U.S. average.

Costs add up—for wages, benefits, healthcare costs, energy costs, and certain taxes (including for unemployment compensation)—to make it more difficult for manufacturers to do business in Connecticut.

Energy costs and reliability are extremely critical issues to manufacturers because of the great resource demands of the manufacturing process. A recent MIT study, financed by the National Science Foundation, showed that newer manufacturing techniques tend to use more energy than some of the older methods. Connecticut's commercial and industrial electricity costs are the 10th highest in the U.S.

Connecticut's corporate taxes have been structured

to support manufacturing and exports in the state, and the impact of sales and use tax policy on manufacturers is mixed. All too frequently, however, policymakers fail to realize that many of Connecticut's small and midsize manufacturers are S corporations,

State and Local Business Tax Competitiveness Index: Taxes on New Investment by Selected Industries

Source: Council on State Taxation/Ernst & Young, April 2011

	Weighted by Capital Investment	
	ETR*	Rank
Maine	3.0%	1
Virginia	5.4%	6
New Hampshire	5.4%	7
New York	7.1%	23
50-state-median	7.3%	
New Jersey	7.5%	28
Massachusetts	8.2%	32
North Carolina	8.6%	34
South Carolina	8.9%	37
Connecticut	8.9%	38
Rhode Island	11.5%	49

*Effective tax rate

“We sell our products nationally; in order for us to compete, our inputs of materials, labor and capital have to be price-competitive and on a level playing field with manufacturers in other states.”

**A. Donald Janezic, Senior Vice President,
Finance and Administration, RC Bigelow Inc.**

which means their business taxes are paid through the personal income tax. Consequently, when the state raises the personal income tax, thousands of small businesses—many of which are manufacturers—feel the impact.

State tax policy should encourage, not discourage, new business investment. Much new investment in manufacturing goes to support research and development—often the purview of entrepreneurs, small businesses, and other innovators.

Connecticut’s long-term obligations for public-sector employee retirement benefits are also a considerable concern for businesses in the state. State fiscal uncertainty makes business leaders hesitant to plan operations, create jobs, and make other investments several years out.

“Connecticut schools look at manufacturing as a less desirable career path, and there are too few programs to prepare students for the great opportunity it really offers.”

**Dennis Chalk, President & General Manager,
Marmon Specialty Wire & Cable Group/RSCC**

Skilled Workers

Finding skilled workers, especially high-quality engineers, is one of the biggest challenges facing manufacturers today.

Asked what is most important to their companies’ success over the next three to five years, 68% of U.S. manufacturers surveyed said a “highly skilled, flexible workforce.”²⁰

According to the DECD, Connecticut manufacturers have approximately 1,000 job openings for which they cannot find suitable candidates. Manufacturing jobs that are expected to grow are mainly in high-skill, advanced manufacturing.

Yet manufacturers perceive that the state’s education system is not geared to meet the jobs challenge. In many cases, schools are failing to impart basic skills,

“Future American workers are more likely to be manipulating ideas, numbers and designs than bending metal.”

**Bloomberg
Businessweek,
Feb. 17, 2012**

²⁰ Deloitte and The Manufacturing Institute, 2011

including computing and communication, let alone the ability to read a micrometer or problem-solve in a fast-paced work environment.

While Connecticut manufacturers rate a highly educated workforce as one of the state’s greatest assets, nearly half of them are having trouble finding qualified workers, and 26% are not confident they will (26% more say they are “unsure”).²¹

Connecticut needs to do a better job of aligning high school-level vocational training with the state’s institutions of higher education. Students should start earlier to acquire the skills they will need for careers in the field of advanced manufacturing. It is very encouraging that this particular alignment is a priority of the state’s Chancellor of Higher Education.

Compounding the problem are the anticipated retirements of many baby boomers, a group that includes some of manufacturing’s most skilled workers. A continuous pipeline of qualified, capable workers is essential to the success of Connecticut manufacturers and to the state’s ability to attract more manufacturing.

U.S. manufacturers considering relocation have indicated that their most important consideration for selecting a business location is access to qualified talent.

Infrastructures

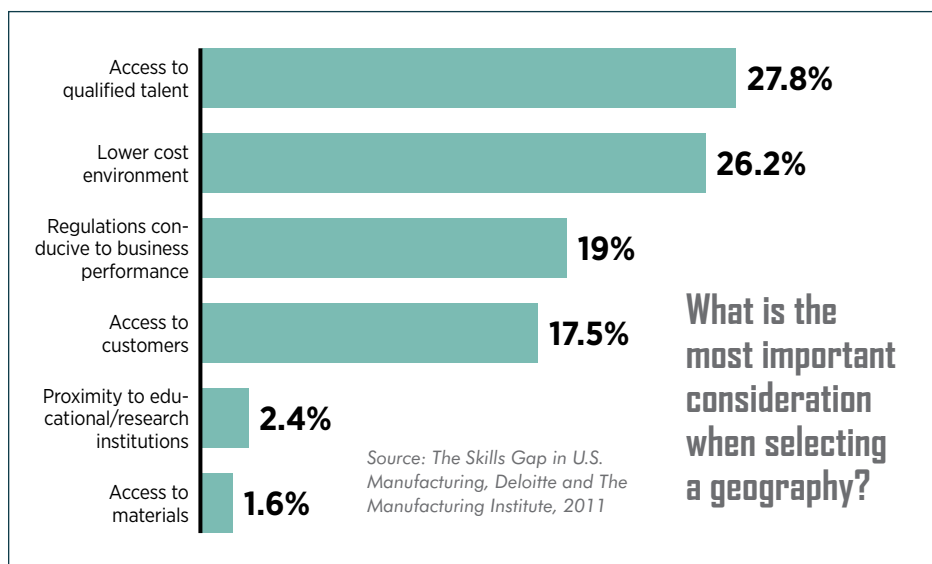
Connecticut’s systems of roads, rails, seaports and airports are in need of, in many cases, significant repair. The state lacks direct access to international air travel and our seaports will not be able to accommodate the larger ships that will travel through the expanded Panama Canal by 2014.

Nearly 20% of respondents to the 2011 Fairfield County Business Survey (CBIA and the Stamford Chamber of Commerce) identified problems with the region’s transportation infrastructure as the single greatest challenge to operating a business over the next five years.

It’s also critically important to improve and “harden” the state’s energy transmission and distribution systems so that they can better withstand major natural crises

such as those experienced in 2011. An uninterrupted flow of sufficient energy is a top priority of Connecticut manufacturers.

Connecticut also lacks significant available land that’s served by water, sewer, natural gas and requisite electricity for manufacturing. This, plus restrictive local policies and state regulatory hurdles, constrains manufacturing growth.



Note: Subset of respondents that stated they were considering moving, 11% of total.

²¹ 2011 Survey of Connecticut Manufacturers, CBIA and BlumShapiro

Federal Regulations

While outside the purview of Connecticut policymakers, the actions of certain federal agencies have the potential to adversely affect manufacturers in the state.

The federal Environmental Protection Agency (EPA) has been pursuing several regulatory policies that would impose more stringent controls on factories and energy power plants (such as Boiler MACT, Utility MACT, Cement MACT). If the EPA is successful, the tougher regulations would increase the costs of compliance as well as the overall cost of energy.

The National Labor Relations Board is also promoting several initiatives favoring labor organizations and facilitating their formation in the workplace. These policies will increase the cost of doing business and serve as barriers to job creation and investment.

“The need to improve our business climate is at hand for our policymakers. This issue is crucial to the future of manufacturing jobs in Connecticut.”

Richard Laurenzi, Chair, President, Prospect Machine Products Inc., and Chair, CBIA Manufacturers Council

State Regulatory and Business Climate

Recent actions have given Connecticut businesses reason for optimism when it comes to improved relations with state government and the state’s willingness to facilitate economic development with a greater sense of urgency. State agencies are streamlining how they conduct business with developers and industries, and improvements have been made in the responsiveness of state government to businesses. For example, the state Department of Energy and Environmental Protection is doing much to cut approval times for development projects and unlock business investment in brownfields.

However, much more needs to be done to change perceptions nationally. Many national indices rate Connecticut low for its business climate. In Forbes’s Best States for Business, Connecticut placed 35th in the U.S., ranking high for quality of life (2nd), relatively high for economic climate (17th) and labor supply (19th), but low for regulatory environment (42nd) and business costs (47th).

America’s Top States for Business 2011 (CNBC) ranked Connecticut 40th for business friendliness, 45th for cost of doing business, and 43rd for infrastructure.

In addition, Connecticut’s reputation as a staunchly pro-union state, reinforced by recent legislation (such as mandatory paid sick leave and minimum wage increases) and administrative actions, also has a negative impact on the state’s ability to attract manufacturing jobs and investments.

Manufacturing Strategy

Becoming a more competitive state, says Michael Porter of the Harvard Business School, requires understanding the “different but interrelated roles” of business and government: “Only businesses can create jobs and wealth; the state’s role is to offer the most productive environment possible for business.”²² What must Connecticut do to fulfill this role and create an environment in which manufacturing can grow?

Talent development



The most important natural resource for manufacturers is a skilled workforce.

No other issue concerns Connecticut manufacturers more. Policymakers can address this critical need by:

- ▶ **Elevating** the manufacturing industry in the eyes of educators, parents, and students. Manufacturing must not be seen as a “second-choice” career path but as a challenging, promising and opportunity-filled option for young people
- ▶ **Better** preparing young people by increasing the focus on science, technology, engineering and mathematics (STEM) courses
- ▶ **Expanding** access to manufacturing through student internships, apprenticeships and job shadowing as well as externships for educators

“The higher the level of education attained by our citizens, the greater will be our state’s overall economic prosperity. We need to focus on promoting STEM careers to continue our ability to compete globally.”

Bob Sobolewski, President & CEO, ebm-papst Inc.

- ▶ **More** closely aligning curricula at all levels (high school, technical schools, community colleges, and colleges and universities) to meet the specific needs of industry
- ▶ **Leveraging** the resources of Connecticut’s technical high schools and community colleges to close the gap between employment skills and job opportunities
- ▶ **Working** with manufacturers and the state’s Department of Labor and higher education system also can provide the bridge current and displaced workers need to learn new technologies

²² Connecticut Competitiveness: Creating a State Economic Strategy, Professor Michael Porter, Harvard Business School, Sept. 2011

Research and development



Research, product development and manufacturing expansion are closely interrelated. R&D is a major fuel for Connecticut manufacturers; removing barriers will produce the combined effect of more R&D and increased manufacturing activity to bring new products to life. State policymakers can:

- ▶ **Create** a more business-friendly environment by reducing business costs, better aligning tax policy, and removing regulatory barriers in order to encourage new business investments
- ▶ **Restore** to 100% the state's research and development tax credit
- ▶ **Encourage** the flow of financing to startups and growing companies through angel investors, venture capital, and other sources
- ▶ **Improve** the state's education system to ensure a continuous, highly skilled talent base

“As Connecticut’s manufacturing sector grows and succeeds, so does the state’s entire economy. We must all support this sector by providing the financing, public policies and skilled workforce that will enable us to grow our legacy as a great center for manufacturing.”

David S. Blitz, Executive Vice President, Director of Commercial Banking, Farmington Bank

- ▶ **Encourage and develop** networks, or clusters, of manufacturers, exporters, and other innovators to increase communication, collaboration and critical mass
- ▶ **Help** companies connect to and collaborate with research schools in the state to accelerate the development of intellectual property and research breakthroughs

Business costs



Every manufacturer faces myriad costs in the production and marketing of its products and services, and in many cases Connecticut's costs are among the highest in the U.S. Wherever possible, state government should work to reduce business costs by:

- ▶ **Making** energy costs more competitive by continuing to diversify the state's fuel sources; expanding access to natural gas; setting financially feasible renewable energy goals; and hardening the state's energy infrastructures
- ▶ **Keeping** labor costs competitive by avoiding government overreach into private-sector workplaces, particularly through policies that unduly raise costs or cause new administrative burdens
- ▶ **Leveraging** tax policy to enable manufacturers to grow their operations, workforces, and product offerings
- ▶ **Keeping** the size and cost of state government within taxpayers' means in order to avoid additional tax increases that will harm our economy
- ▶ **Rejecting** efforts to push employers' healthcare costs higher through more insurance mandates, cost-shifting to the private sector or government expansion

Export Support/Transportation Infrastructures



Exports have been one of the state's most promising areas of economic growth, even during the recovery from the recession.

Upgrading our airports, seaports, railways and highways is critical to supporting Connecticut's manufacturers and exporters. Policymakers must make strategic decisions to help grow exporting and improve the connectivity between manufacturers and state, regional, national and international markets. The state should:

- ▶ **Develop** additional financing options for manufacturers to expand to overseas markets
- ▶ **Expand** access to information about export regulations, foreign markets, and other variables associated with international trade
- ▶ **Use** objective, economic-based analyses to evaluate, prioritize and implement transportation projects
- ▶ **Develop** and follow a strategic plan to improve the condition of Connecticut's roads and highways
- ▶ **Encourage** the efforts of the Connecticut Airport Authority to maximize Bradley International and the state's other airports
- ▶ **Modernize** Connecticut's rail systems, including parking facilities and rail freight

Regulatory Policy



Regulatory policy has been a barrier to industry growth in Connecticut, but recently the state has taken action to improve how

Top 5 Factors Driving Global Manufacturing Competitiveness (2010)

- 1 Talent-driven innovation
- 2 Cost of labor and materials
- 3 Energy cost and policies
- 4 Economic, trade, financial, and tax systems
- 5 Quality of physical infrastructure

Source: 2010 Global Manufacturing Competitiveness Index, Deloitte and U.S. Council on Competitiveness

government does business with the private sector. There is now a greater understanding of the link between regulatory policy and economic growth. Overall, policymakers should continue to improve the state's regulatory climate by:

- ▶ **Conforming** state and federal regulatory policies to increase certainty and consistency
- ▶ **Focusing** on compliance assistance to help manufacturers understand and comply with myriad state and federal regulations
- ▶ **Expanding** the use of lean practices within state agencies to increase efficiency and promote timely decision-making
- ▶ **Making** sure that legislative and regulatory proposals to "transform" state cleanup laws are consistent with Connecticut's priority of growing the economy and creating jobs while protecting public health

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Connecticut Business & Industry Association

CBIA is Connecticut's largest business organization, with 10,000 member companies. Our public policy staff works with state government to help shape specific laws and regulations to support job creation and make Connecticut's business climate competitive. Our councils, committees, and roundtables give our members forums in which to become involved in the legislative and regulatory processes.

One of CBIA's most important functions is to provide our members with information that can help them better manage their businesses. We conduct training seminars and workshops; arrange for consulting services; and hold conferences on environmental regulations, health and safety, human resources, compensation and benefits, taxes, energy, and healthcare. Our free telephone consulting service gives members access to our experienced staff of professionals on a wide range of business topics.

Many CBIA members take advantage of our employee benefits plans, discount programs, and group purchasing opportunities. These include innovative health and dental insurance programs as well as other insurance lines, retirement plans, a COBRA

continuation program, an eyewear savings plan, group energy purchasing, and member discounts on everything from packaging materials to background checks.

Visit cbia.com.

DataCore Partners/ Don Klepper-Smith

Don Klepper-Smith has been a professional economist for thirty years and served as Chairman of Connecticut Gov. M. Jodi Rell's Economic Advisory Council between 2007 and 2010. A long-time observer of the region's economy, he has been quoted regularly by various media sources for his perspective and insights on the national and state economies. Don is also a researcher, developing and directing strategic planning initiatives on behalf of his clients in order to help them make better business decisions.

DataCore Partners specializes in evaluating consumer markets, assessing the generators of consumer wealth, and providing valuable perspectives on business conditions as they relate to credit markets and employment growth.

Farmington Bank

Farmington Bank, a wholly-owned subsidiary of First Connecticut Bancorp, Inc. (NASDAQ Global Market: FBNK), is a well-regarded community bank in Connecticut. Farmington Bank, established in 1851, is known for its personalized customer service, diversified consumer and commercial product offerings, and strong ties to the communities it serves throughout central Connecticut. Leading Farmington Bank is a seasoned team of respected banking executives. The Farmington Bank Community Foundation, the charitable arm of First Connecticut Bancorp, Inc., provides ongoing financial support for non-profit organizations and community programs. First Connecticut Bancorp, Inc., and Farmington Bank are headquartered in Farmington, Connecticut.

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Connecticut Light & Power Company

The Connecticut Light and Power Company (CL&P) has been part of everyday life in Connecticut for more than 100 years, providing safe and reliable electric service to homes, neighborhoods and businesses. With 1.2 million customers in 149 cities and towns, CL&P is an active member in the communities it serves, offering programs in energy conservation, economic development and environmental stewardship. Yankee Gas Services Company (Yankee Gas) is Connecticut's largest natural gas distribution company, delivering safe, reliable natural gas service to approximately 202,000 customers in 71 cities and towns. Yankee Gas is expanding Connecticut's energy options and increasing customer choice by extending the availability of clean, efficient natural gas throughout the state.

Visit cl-p.com.

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J.H. Cohn LLP is among the leading accounting and business consulting firms in the United States. Since 1919, the firm's philosophy has remained constant: to provide a highly personalized approach to each client, with intelligent guidance and solutions driven by technical and industry expertise that positively affect client profitability and growth. J.H. Cohn has cultivated a reputation for strategic insight, proactive leadership, unwavering integrity, and a genuine concern for clients and their businesses.

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For more information about J.H. Cohn's Manufacturing and Distribution Industry Practice, please contact James F. Kask, CPA, J.H. Cohn partner, at jkask@jhcohn.com or 860.633.3000, or Umberto Santaniello, CPA, J.H. Cohn partner, at usantaniello@jhcohn.com or 413.233.2302.

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