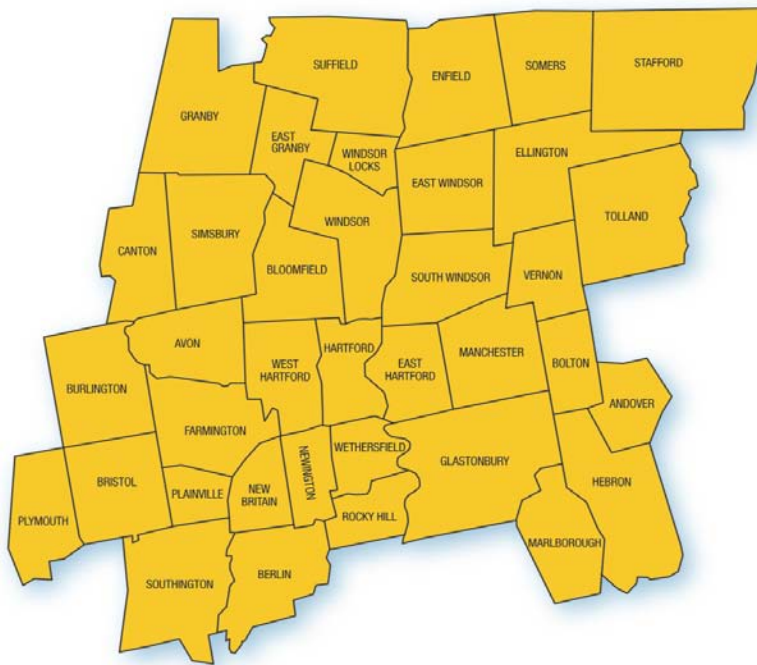




**Capital Workforce Partners**  
**Advanced Manufacturing Business Plan**  
**2011 – 2012**

*Serving 37 Towns and Cities in North Central Connecticut*



***Jobs for People, People for Jobs***

**Capital Workforce Partners**  
**Advanced Manufacturing Business Plan**

**Table of Contents**

<b>I.</b>	<b>Executive Summary.....</b>	<b>3</b>
<b>II.</b>	<b>Capital Workforce Partners Mission Statement.....</b>	<b>4</b>
<b>III.</b>	<b>Background.....</b>	<b>4</b>
<b>IV.</b>	<b>Environmental Scan.....</b>	<b>5</b>
<b>V.</b>	<b>Employer Needs.....</b>	<b>14</b>
<b>VI.</b>	<b>Action Plan.....</b>	<b>16</b>
<b>VII.</b>	<b>Emerging Sectors.....</b>	<b>20</b>
<b>VIII.</b>	<b>Political Support.....</b>	<b>20</b>
<b>IX.</b>	<b>Linkages/Leverages.....</b>	<b>20</b>

# Capital Workforce Partners Business Plan

## Advanced Manufacturing

### I. Executive Summary

Advanced Manufacturing in Connecticut is well positioned to grow, remain competitive and provide skilled job opportunities in the state.

Capital Workforce Partners' (CWP) Advanced Manufacturing industry sector encompasses large companies in Aerospace, Defense and Biomedical manufacturing. The larger Connecticut manufacturers, Pratt and Whitney, Sikorsky and UTC have many local companies in their supply chain to produce precision parts; most companies in the North Central Region produce a component of the finished product. The Spring and Precision Tool manufacturing companies in the North Central Region also play a vital role in the manufacturing of parts.

Some of the Manufacturing workforce trends are new to the industry and present a challenge and others are being addressed by training and education. The aging workforce, need for succession planning, increase use of temporaries and working in teams across a multi generational workforce are a few examples of the new workplace trends. Capital Workforce Partners has provided training opportunities for the existing workforce through the Incumbent Workforce Training Program, which provides a 50% match for training funds. The Career Competencies, developed by CWP in partnership with the business community, prepares the student and young adult through a school to career strategy for job opportunities.

The key Plan Initiatives are as follows:

1. Upgrade the skills of existing workers to meet certification and required skills;
2. Look at alternative avenues to fill open positions with skilled new hires;
3. Increase employer engagement in a manufacturing marketing campaign to middle/high school students and creating a talent pipeline;
4. Align available programs as a seamless approach to benefit employers.

CWP will continue to work in partnership with educational institutions, business and industry associations, local and state agencies and partner organizations to broker services to manufacturers in order to strengthen the talent in advanced manufacturing to address business needs. Our outreach, marketing strategy and training efforts will be targeted to in school youth, dislocated workers and manufacturing employees requiring increased skills to meet the demands of manufacturing.

## **II. Capital Workforce Partners Mission Statement**

CWP leverages public and private resources to produce skilled workers for a competitive regional economy through skill enhancements and career development opportunities.

In support of the mission statement, CWP will take the lead to support Advanced Manufacturing skilled workers through Incumbent Worker Training and On the Job Training programs. The hiring of skilled workers will be extended through partnerships at CTWorks One Stops and Community College programs. A proactive approach to marketing to middle/high school students will be studied and implemented with employer involvement.

## **III. Background**

### **CWP Advanced Manufacturing Industry Sector Initiative**

CWP's focus on Advanced Manufacturing will help prepare the workforce of today and tomorrow with skills training and education to meet the challenges of their positions and the business customer.

CWP is responsible for coordinating a regional workforce system that meets the changing employment and training needs of employers and job seekers in support of the economic growth and vitality of Connecticut's North Central Region.

#### **All Advanced Manufacturing Initiatives:**

1. Strengthen the region's talent pipeline.
2. Gain a solid understanding of employer needs, and determine avenues to meet those needs.
3. Develop a mechanism to promote manufacturing careers.
4. Develop a way to navigate through the workforce system to determine available resources.
5. Increase ways to support employer recruiting needs; connect manufacturing community with (CWP) (ad other) resources to enhance recruitment processes and hiring needs.
6. Continue to evolve CWP web based information with timely and accurate information.
7. Implement job matching system that matches skilled workers with employer needs.

CWP will work through action steps to meet outcomes addressing employer challenges in the workplace.

## **IV. Environmental Scan**

### **Economic Environment**

When looking at the regional profile of the North Central Region, it is necessary to look at environmental developments within a broader context. The U.S. unemployment rate fell from 9.8% in November 2010 to 8.8% in April 2011 as the number of unemployed persons decreased by 556,000 to 14.5 million. Job growth is slowly returning, but the unemployment rate remains pervasively high. Nationally, employment peaked in January 2008 and bottomed out in February 2010. During its 25-month employment recession, the U.S. has lost 8,750,000 jobs (–6.3%). The current modest recovery is headed in the right direction, but economic growth has been insufficient to significantly reduce the high unemployment rate.

### **Labor Market Overview**

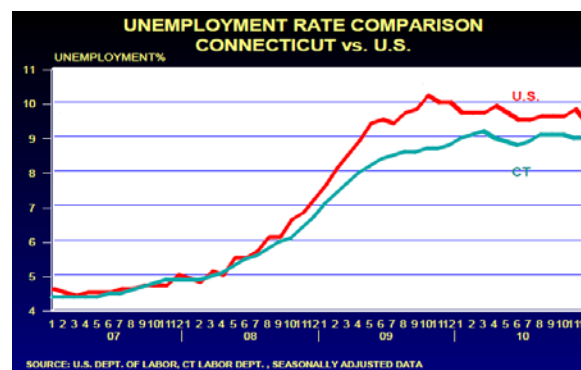
The Labor Market Overview shows the environment in which CWP is operating. It shows how CWP's focus, strategies, and initiatives address the economic challenges facing the region and why it has identified specific sectors of focus, i.e., Green Construction/Technology, Allied Health, and Advanced Manufacturing. The multipliers in Advanced Manufacturing, in particular, are substantial. For every manufacturing job in the state, there are approximately another 1.5 indirect jobs that are dependent as a result.

Because of a decline in employment, slow job growth, and a structurally shifting landscape in the employment market, job seekers need development and long-term support to help their transition back to work and career advancement, in addition to retaining their current jobs. It is imperative that Connecticut keeps the jobs it currently has within the state. Job growth is slowly returning, and some sectors have shown shifts over the past several years as growth in certain areas, e.g., healthcare, has outpaced others. Manufacturing appears to be slowly improving. According to the June 2011 report from the Department of Labor Office of Research, the manufacturing sector experienced some growth throughout much of 2010 after years of a long and steady decline. This sector has added 1,400 jobs since last May, and now employs 167,100 workers. Over-the-year gains were seen in both the durable goods and nondurable goods industries that comprise the manufacturing sector.

### **Unemployment**

#### U.S. and Connecticut

- The U.S. unemployment rate hit a 26-year high in October 2009 at 10.2% (seasonally adjusted). As of December 2010, the U.S. unemployment rate was 9.4%; Connecticut's unemployment rate was 9.0%.

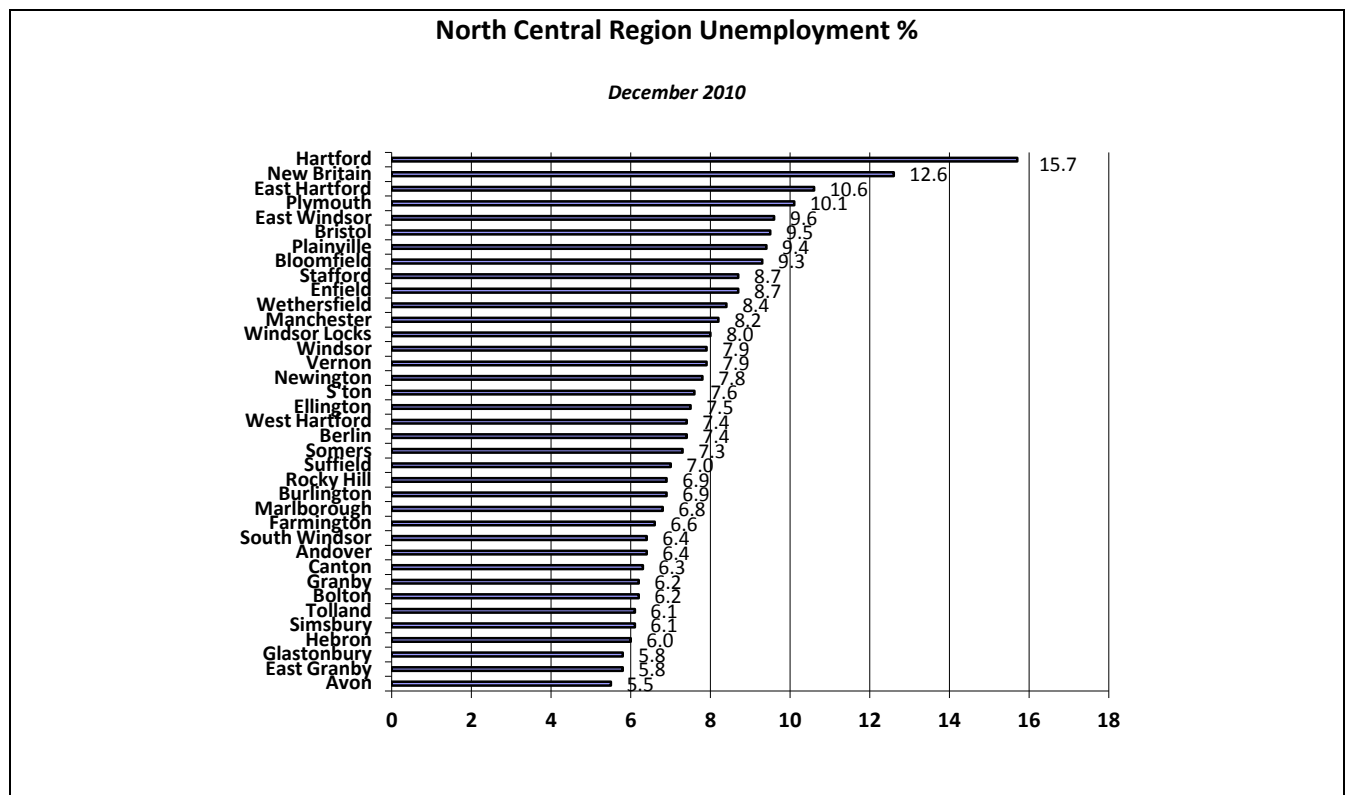


- The rates in the graph below show the official unemployment rates. U-3 is the official unemployment rate. A broader measure of unemployment (U-6) includes two important groups that the official rate does not: “discouraged” workers and workers forced into part-time work seeking full time jobs. When this group is included, the unemployment rate rises by an additional seven percentage points.



### North Central Region Unemployment

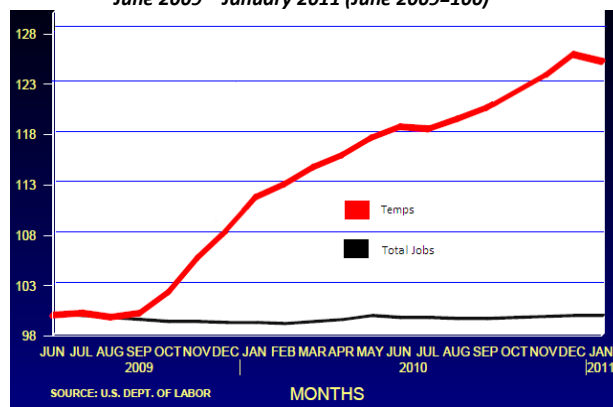
- The unemployment rate as of February 2011 was 9.8% (not seasonally adjusted), unchanged from January.
- In February 2011, eight municipalities had unemployment rates above 10% - Hartford (16.8%), New Britain (13.5%), Plymouth (11.9%), East Hartford (11.7%), Bristol (10.6%), Plainville (10.6%), Bloomfield (10.5%) and Stafford (10.2%).
- Of the 51,550 unemployed workers, the top five municipalities of Hartford, New Britain, Bristol, Manchester and East Hartford accounted for about 45% of the region’s total.



## Temporary Workers

- Manufacturing companies have increased the use of temporary workers for hiring support. This arrangement affords the company the option to assess the workers skills for an indefinite period of time before making a full time job offer as well as filling the need for an increase in short term production orders.
- The growing trend towards “temp workers” does not appear to be a short-term phenomenon. Employers may find benefits to having a portion of their labor force being designated as “just in time” employees”, in a similar way that manufacturers employ “just in time inventory” procedures.
- The use of temporary workers also allows employers to minimize benefit costs.
- Since June 2010, temporary employment in the U.S. has surged by 441,000 jobs, a rise of 25%.
- In contrast, the overall number of jobs dropped by 228,000, or 0.2%.
- The widespread use of “temps” is apt to continue because it provides flexibility to employers in a dynamic economy.

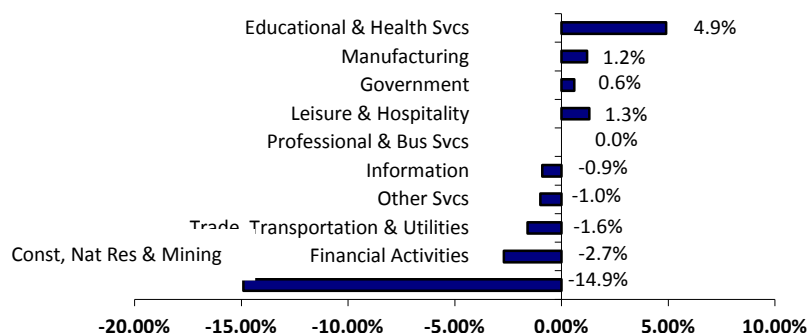
**US Temporary Workers vs. U.S. Total Non-Farm Employment**  
*June 2009 – January 2011 (June 2009=100)*



## Sector Trends

- Coming off a retraction through the recession, Manufacturing has shown resilience and growth over the past year (up 1.2% over December 2009). This is significant since manufacturing is the backbone in recovering from the recession.
- From December 2009 to December 2010, total non-farm employment in the Hartford Labor Market Area declined by 1,900 jobs (from 541,000 to 539,100). Total job losses for the area since the beginning of the recession at the end of 2007 total 25,400.
- As has been consistent over the past several years, education and health services saw an increase at 4.9%.

**Hartford Labor Market Area - % Change in Non-Farm Employment by Sector**  
*(December 2009 to December 2010)*



## V. Definition Advanced Manufacturing

Advanced Manufacturing generally includes high tech products, processes, lean, green, and flexible manufacturing and innovative technology to improve products and/or processes to meet the ever-changing needs of the customer within short delivery times.

Advanced Manufacturing companies that exist today, make extensive use of computers, high precision, and information technologies by highly skilled workforce.

Advanced manufacturing comprises a significant segment of Connecticut's economy, representing more than two-thirds of all state manufacturing jobs, and over half of the state's manufacturing gross domestic product (GDP).

Individuals interested in advanced manufacturing must have a knowledge base in mathematics, technology, computers, some engineering, production and manufacturing processes. Skills should include good oral and written communications, critical thinking, quality control, operation monitoring and the ability to work in a team environment. (O\*Net OnLine)

CT's international dominance in the aerospace industry, led by United Technologies Corporation's Sikorsky, Hamilton Sundstrand, and Pratt & Whitney divisions, is widely recognized. CT also has a large concentration of companies in other key advanced manufacturing sectors, including fuel cells, lasers, and medical instruments. (*Reexamining Advanced Manufacturing in a Networked World*, Deloitte, December 2009)

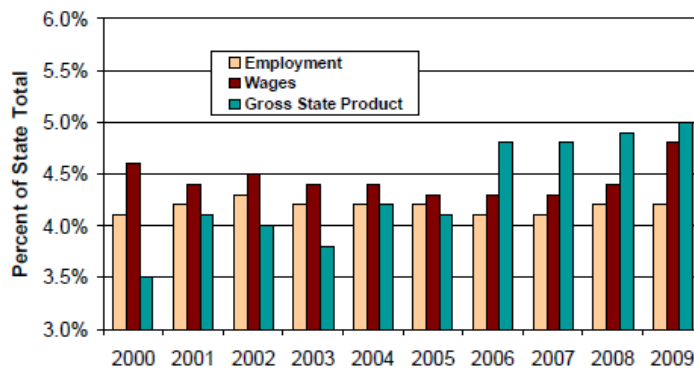
Employers in the region based on the east of Hartford are predominately in the aerospace supply chain while in the west; there is a strong association of spring manufacturers. Precision tools as well as companies making parts for the biomedical industry are located throughout the region. Large to small manufacturing companies are part of the supply chain in the North Central Region, many designing innovative parts for local and overseas companies.

## VI. CT Manufacturing Sector Profiles

### Connecticut's Aerospace Industry

- Connecticut's aerospace industry is among the most productive in the world and has been the backbone of state manufacturing industry sector.
- Worker productivity in Connecticut's aerospace industry doubled between 2000 and 2009, increasing from \$82,870 to \$167,150 (Moody's)
- In 2009 the nearly \$7 billion in exports from the aerospace industry in Connecticut accounted for 56 percent of all manufactured goods exported from the state (WISERTrade)
- Many firms within the state sell to aerospace companies in Connecticut. In 2009 there were estimated \$11.4 billion sales from Connecticut firms to in-state aerospace companies (IMPLAN).
- Because of a long and rich history in the aerospace industry in the state and the strong interconnectedness of the companies in this industry, each aerospace job supports another 2.5 jobs in the state (IMPLAN).
- Nearly \$6.7 billion (2010) of Connecticut's Gross State Product is estimated to originate from the state's aerospace industry. This accounts for 5 percent of the state's total productivity (IMPLAN).
- In the fall of 2010 the U.S. Department of Defense has awarded a \$1 million grant to help maintain the region's pool of skilled aerospace workers and to boost the state's aerospace industry. An Aerospace and Defense manufacturing institute is being created at the Connecticut Center for Advanced Technology. ([www.cerc.com](http://www.cerc.com))

The Aerospace industry in Connecticut accounts for between 4 and 5 percent of the State's total economy.



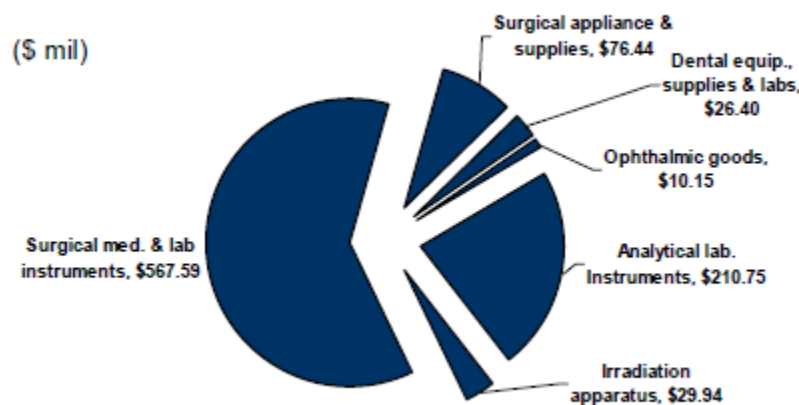
Source: Moody's Economy.com

## Connecticut's Medical Device Industry

- Connecticut has a diverse and highly trained medical device precision manufacturing industry sector. The technology used to produce medical devices requires a highly skilled and well-trained workforce.
- Wages in Connecticut in this industry averaged more than \$65,200 in 2008. Employees in Connecticut's medical device manufacturing companies earned an 11% premium over the workers in the state's manufacturing industry.
- Connecticut employees earned 8% more than the national average of employees in the same industry.
- More than 2,000 of Connecticut's employees in the highly technical apparatus and instrument manufacturing industries within the medical device sector earned an average of \$96,250 in 2008.
- Wages in Connecticut's medical device manufacturing industries increased by 57% between 1998 and 2008. This increase significantly exceeded the 35% increase observed for all manufacturing industries in the state, indicating that the workforce and their companies are globally competitive.
- Nearly 30% of Connecticut's medical device manufacturing companies employ between 20 and 100 workers. Companies in this range are often leaders in innovation and growth. Nationally, only 17% of medical device companies are this size. (www.cerc)

The medical device industry is globally competitive, exporting products outside the U.S.

### Medical Device Exports from Connecticut by Industry, 2008



Source: IMPLAN, 2008 Data

## Connecticut's Spring Industry

- Capital Workforce Partners continues to work with a number of spring companies in the region, providing Incumbent Worker Training in the past and at present.
- There are approximately 11 spring companies in CWP's region providing products and offer services in the supply chain to multiple industry businesses. One local spring company experienced double-digit growth because of commitment to provide customers with the highest possible quality product delivered on time.
- The spring industry has a broad range of experience working with the military, aerospace, defense, medical, plastic injection molding, electronics sectors, firearms, office and consumer products with many types of material and shaped wires worked for specialty needs.
- Skilled CNC machinists continue to be sought for a variety of positions, inclusive in the spring/wire industry. The wireforms and springs used today come in an unlimited array of shapes & configurations; these wireforms are manufactured on CNC wireforming machines with no special tooling.

## Connecticut's Precision Tool Industry

- Approximately 12 companies have a strong presence in CWP's Region. Tool and Die is now called *Precision Manufacturing*, an essential to Advanced Manufacturing.
- The technology, engineering and manufacturing in this industry sector are used to build components for airframes, aircraft engines, power generators, defense systems and medical devices.
- Despite the decline in some manufacturing areas, job prospects for precision toolmakers are excellent. Learning the skill through education, on the job training, earn up to \$65,000 a year. ([www.careerbuilder](http://www.careerbuilder))
- The skilled artisans learn their trade through a combination of academic coursework and hands-on instruction, with a substantial period of on-the-job training that is functionally an apprenticeship. Mechanical engineers and precision machinists work in close consultation.

## Bureau of Labor Statistics, Industries at a Glance

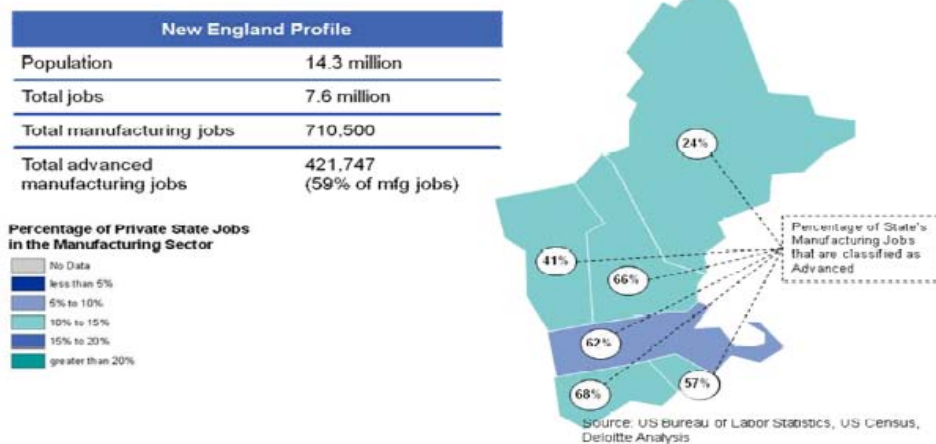
Advanced Manufacturing comprises a significant portion of CT's economy, representing more than two-thirds of all state manufacturing jobs, and over half of the state's manufacturing GDP. As stated earlier, CT has a large concentration of companies in other key advanced manufacturing sectors, including fuel cells, lasers and medical devices. Connecticut's industries and Occupation Forecast 2014 states the following..."The best employment prospects lie in innovation-based occupations such as: CNC programmers and machinists, mechanical engineers and tool and die makers which manufactures have found to be very difficult to fill..."

In this area, Advanced Manufacturing represents the aerospace, medical device, machine products and tooling industries and electronics and precision equipment. Targeted occupations associated within these subsets of Advanced Manufacturing include machine operators, machinists, CNC operators, set-up and programmers, machine maintenance, machine repair, electro-mechanical repair, welding technician, electronics technician and quality control inspectors which are in alignment with the Connecticut's industries and Occupation Forecast 2014.

In an April 2010 report, commissioned by Capital Workforce Partners and Klepper-Smith, it clearly states that Advanced Manufacturing in the region provides a greater number of jobs per capita that are available nationally. After three years of persistent decline in employment, CT is beginning to experience growth in manufacturing, reinforcing the need for a highly skilled regional workforce.

Although low skilled production manufacturing declined during the recession, the number of high skilled Advanced Manufacturing jobs actually grew. From 1998 to 2007 high skilled manufacturing jobs in CT increased by 42% (Deloitte, December 2009).

The map below provides a general overview of the impact of Advanced Manufacturing on each of the six New England states. Advanced manufacturing jobs account for over half of the jobs in four of the six new England states. Connecticut ranks top percentage of state's manufacturing jobs classified as Advanced at 68% on New England States.



## Employment Opportunities in Advanced Manufacturing

From 1998 to 2007 (latest data available), the number of jobs in Connecticut's Advanced Manufacturing sectors increased from 73,372 in 1998 to 104,386 in 2007 (US Census County Business Patterns). In many of these industries, advanced technology employment is still more concentrated than the nation. For example, concentration in Connecticut employment in medical devices is 2.1 times more than in the nation. Concentration in employment in fuel cells is 3.0 times more in Connecticut than in the nation. In many advanced technology industries, wages in Connecticut are higher than the nation and grew faster than the nation in the period from 1998 to 2007. In the fuel cell industry, wages are 27 percent above the nation and have grown 13 percentage points faster than the nation. In one of the industries that use lasers, and are part of the medical device manufacturing group (analytical laboratory instrument manufacturing), wages are almost twice as high in Connecticut as in the nation. In that industry, wages per employee have grown by 121 percentage points more than the nation from 1998 to 2007.

The table below provides sample advanced manufacturing occupations and their related growth projections from 2006 to 2016 for the North Central Region (the latest regional data available).

### Occupational Growth Projections Hartford Region, 2006-2016

Occupation Title	Total Annual Openings	New Openings Growth Rate
First Line Supervisors/Managers – Production/Operations	50	1.0%
Aircraft Structure, Surfaces and System Assemblers	9	7.0%
Computer-Controller Machine Tool Operators	18	9.7%
Numerical Tool and Process Control Programmers	4	4.9%
Machinists	68	4.0%
Tool and Die Makers	16	0.5%
Plating and Coating Machine Setters, Operators Metal/Plastic	18	8.7%
Welders, Cutters, Solderers, and Brazers	26	7.6%

Sources: CT DOL North Central Occupational Forecast

The top five most difficult positions to fill in Connecticut are:

- 1) CNC programmers (87 percent)
- 2) Tool and die makers (85 percent)
- 3) CNC machinists (89 percent)
- 4) CAD/CAM technicians (78 percent)
- 5) Engineers (64 percent)

(CBIA survey 2011)

## **V. Employer Needs**

Through CWP sponsored focus groups, company visits and general feedback from the manufacturing community, it has been concluded that employers have the following concerns:

- *Pipeline Development:* Few young people consider manufacturing a viable career choice, unaware of the skills needed and the clean work environment in advanced manufacturing.
- *Connecting with Technical/High Schools:* Employers find it difficult to connect with the 'right person' in a local technical and or high school to begin building a relationship with the school, teachers within manufacturing areas.
- *Career Awareness:* Manufacturing has an outdated negative image, as "declining," "dirty," "low pay," etc. Consequently, few highly skilled workers/students seriously consider manufacturing.
- *English as a Second Language:* The manufacturing workforce has a number of workers where English is not their first language. The English language is a challenge for some; good communication, quality control and working in a team environment are critical.
- *Basic Skills and Competencies:* Manufacturers experience difficulty finding and hiring workers with basic skills of the trade, solid understanding of math, a strong work ethic, and technical skills. The need for basic skills is critical to obtain a solid foundation and take on more advanced manufacturing projects; this concept is in strong agreement with teaching and mentoring staff at local community colleges as well as in the business community.
- *Incumbent Worker Training:* Manufacturers are in the need for supportive training programs. Production demands to produce products in a short time period and cost restraints often impact employee training.
- *Aging Population:* Due to the economy, a longer life span and financial need, many individuals are choosing to work longer and retiring at a much later age. This is good for some companies keeping skilled labor; however, the skill level is difficult to replace if no succession planning is in place or if the company is having difficulty finding the skilled person. Work ethic, soft skills, leadership, critical thinking and communication skills are lacking in applicants. At a CWP focus group, manager said all decisions do not have to be made at the top of the organization.
- *Succession Planning:* Predominately, smaller manufacturing companies have been operating to meet production and quality standards and have done little to evaluate the skills, experience

and opportunities for growth of their employees. An assessment and a matrix outlining employee's skills, development areas and cross-functional skills are critical but at a minimum.

- *Generational Differences:* Employees working as a team in the work environment and communicating with each other has its challenges with a diverse workforce. In manufacturing it becomes more difficult with production carried through different shifts.

## **VI. Action Plan**

### **Mission**

CWP will take the lead in advancing the skills of Advanced Manufacturing workers through Incumbent Worker Training grants and On-the-Job Training programs. The hiring of skilled workers will be extended through partnerships at CTWorks One Stop Center and Community College programs. A proactive approach to outreach to middle and high school students will be studied and implemented with strong employer involvement.

### **Need**

Manufacturing companies face multiple issues in today's workplace. Many of the workplace trends and issues are different from the past. This plan proposes to meet some of the challenges in the manufacturing sector by

- preparing skilled employees to meet the necessary innovation and production standards
- to help change an old manufacturing perception to a clean, lean and highly technical environment.
- create talent pipeline.

### **Initiatives:**

1. Strengthen the region's talent pipeline in advanced manufacturing.
2. Gain a solid understanding of employer needs, and determine avenues to meet those needs.
3. Develop a mechanism to promote manufacturing careers.
4. Develop a way to navigate through the workforce system to determine available resources.
5. Increase ways to support employer recruiting needs; connect manufacturing community with CWP (and other) resources to enhance recruitment process and hiring.
6. Continue to evolve CWP web-based information with timely and accurate information.
7. Implement job matching system that matches skilled workers with employer needs.

### **Action Steps and Outcomes:**

**Initiative #1:** Strengthen the region's talent pipeline in advanced manufacturing.

<b>Action Steps</b>	<b>Outcomes</b>
<p>i. Through incumbent worker training ensure the continual skills upgrade and career advancement opportunities for advanced manufacturing workers.</p> <p>ii. Align training with industry certifications and employer needs.</p> <p>iii. Secure funding to provide additional IWT opportunities through grants or other resource development avenues.</p>	<ul style="list-style-type: none"><li>• 250 workers complete incumbent worker training.</li></ul>

**Initiative #2:** Gain a solid understanding of employer needs, and determine avenues to meet those needs.

Action Steps	Outcomes
<ul style="list-style-type: none"> <li>i. Develop approach to strengthen relationship between CWP and employers.</li> <li>ii. Host focus groups and/or other forums to identify need and develop plan to meet those needs.</li> <li>iii. Become embedded in advanced manufacturing network.</li> <li>iv. Align available programs as a seamless approach to benefit employers.</li> </ul>	<ul style="list-style-type: none"> <li>• Three key needs identified and initiatives developed to address them.</li> </ul>

**Initiative #3:** Develop a mechanism to promote manufacturing careers.

Action Steps	Outcomes
<ul style="list-style-type: none"> <li>i. Develop plan to create awareness and attractiveness of advanced manufacturing careers.</li> <li>ii. Coordinate with community colleges, schools, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Awareness increased in five municipalities in the region.</li> <li>• Information and career awareness of industry to young adults and high schools will be increased through partnerships with schools and manufacturers.</li> <li>• Partnered with at least two entities to market and promote manufacturing careers.</li> </ul>

**Initiative #4:** Develop a way to navigate through the workforce system to determine available resources.

Action Steps	Outcomes
<ul style="list-style-type: none"> <li>i. Develop campaign to inform manufacturers of CWP’s capabilities.</li> <li>ii. Determine method to connect with manufacturers and communicate services and available resources.</li> </ul>	<ul style="list-style-type: none"> <li>• In conjunction with CWP communications, linkages of viable resources and broker services which address manufacturers needs established.</li> </ul>

**Initiative #5:** Increase ways to support employer recruiting needs; connect manufacturing community with CWP (and other) resources to enhance recruitment process and hiring.

Action Steps	Outcomes
<ul style="list-style-type: none"> <li>i. Become a conduit/resource for employers to tap into.</li> <li>ii. Advise employers to:               <ul style="list-style-type: none"> <li>a. Use employer company website to post positions; make career opportunities visible on Home Page, young adult friendly, etc.</li> <li>b. Source resumes on websites, e.g. Monster, Career Builder, etc.; register on CT Job Central site.</li> <li>c. Post resumes on websites – use template; if no response or inappropriate response,</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Tangible options to source and hire skilled workers.</li> <li>• Material created which outlines CWP business services and recruiting options in the North Central Region to hair a skilled workforce.</li> <li>• At least three recruiting options identified.</li> </ul>

change wording, focus, etc. d. Participate in local college recruitments, volunteer time on projects, build name recognition, etc.	
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**Initiative #6:** Continue to evolve CWP web-based information with timely and accurate information.

Action Steps	Outcomes
i. Work closely with CWP communications to update current developments and activities.	<ul style="list-style-type: none"> <li>• CWP website refreshed.</li> </ul>

**Initiative #7:** Implement job matching system that matches skilled workers with employer needs.

Action Steps	Outcomes
i. Working with DOL, build technology to match unemployment insurance recipients with employer openings. ii. Set guidelines for hiring support, e.g., permanent, full time. iii. Determine best avenues to fulfill needs. iv. Develop promotional material to support.	<ul style="list-style-type: none"> <li>• System developed to better match skilled workers with employer needs.</li> <li>• A collaborative effort between CWP, CTWorks and Department of Labor developed; policies and procedures in place that match skilled workers to open positions focusing on employer needs.</li> <li>• At least two job matching opportunities pursued.</li> </ul>

## CWP Programs

### **Incumbent Worker Training Program**

The Incumbent Worker Training (IWT) Program makes grants available to businesses in the North Central Region to upgrade the skills of employees in CWP's advanced manufacturing sector.

Employers complete an application explaining how the proposed training will assist the company to build a talent pipeline of workers. The justification statement shows how the training will increase employees' skills and open up opportunities for advancement within the company and/or how training will upgrade worker skills to allow for salary increases due to greater productivity, and/or how training will upgrade employee skills and job classifications within the next 12 months. The grant is applied for 50% of the total cost of training; employers match the other 50% of the cost. During the 2010-2011 contract year, 33 companies received funding through the IWT Program.

### **On the Job Training**

On the Job Training (OJT) is a workforce development program to encourage employers to train new employees with limited skills for a position. A new employee goes through a learning curve; during this time, the employer may incur training costs in training the less skilled new employee to obtain a level of proficiency. OJT provides an incentive to the employer to consider a motivated candidate who needs extra training in order to be productive.

### **Skills for Manufacturing and Relation Technologies, SMART Program**

The Connecticut Community College System's SMART Grant was funded by the U.S. Department of Labor Community - Based Job Training grant in 2008. The project is administered from Three Rivers Community College. CWP plays an integral part in the SMART Program assigning a staff member as a Manufacturing Career Advisor for Central Connecticut, including Greater Hartford, Enfield and Farmington areas. Scholarships, possible internships and mentors support student success and advancement through the levels of the program. The career advisor and mentor work closely with students and industry partners for internships and job opportunities.

### **CTWorks, One-Stop Career Centers**

CWP partners at CTWorks offer individuals career guidance, job placement and business services from a team of career agents, job developers and business services consultants in partnership with the Department of Labor. In Connecticut alone, 80,000 residents received assistance ranging from help with resumes and interviewing skills and training – obtaining certifications and job placement. Many businesses received support from the One-Stop with services from recruiting assistance to specialty training, tax credit programs and rapid response team for staffing adjustments.

## **Employer Engagement**

CWP will take the lead with the manufacturing community to be involved in the marketing and industry awareness with future workforce starting in middle schools and continuing to the upper levels of education. This can be accomplished in several ways:

- sponsoring robotics competitions or other school activities as they relate to STEM (science, technology, engineering, and math)
- participate on local school advisory boards,
- volunteer as a guest speaker in classrooms,
- offer job shadowing for students, guidance counselors and teachers
- become a career mentor,
- donate goods to the classroom(technical high schools could potentially use older equipment)
- partake in a school career fairs or business sponsored fairs for young adults
- make a cash donation as a scholarship for advanced education in the industry
- extend an invitation for a field trip, show the company's work environment (lean and green) and products manufactured in the facility, how the products made fit the final product.
- produce a short film/video on the company for community cable channel or classroom, showcasing products of interest to young adults (e.g. parts made for helicopters), the business environment before and after a lean program, and what it's like to work in manufacturing.

CWP will lead the way to build relationships with local resources and explore alternative recruiting options with manufacturers and:

- Community college manufacturing programs
- CTWorks programs and database of job seekers
- CWP Programs, On the Job Training, Incumbent Worker Training Programs.

The vast majority of manufacturers hire from within Connecticut. More than half (51percent) hired graduates from Connecticut technical schools, and 44 percent from traditional high schools. Over 30 percent also reported hiring from community colleges – both certificate-program graduates (33 Percent) and associate-degree graduates (32 percent). Thirty-one percent report hiring graduates from the state university system. (CBIA survey 2011)

With the support of CWP, manufacturers will have the opportunity to get more involved with students in middle/high schools to dispel the old perception of manufacturing. In Advanced Manufacturing, the work environment is pristine, clean, innovative and often highly technical. It is common for employees to wear hairnets, coats and special work attire to minimize contamination. The traditional

manufacturing work environment has changed dramatically and this new environment needs to be conveyed to the students and general public.

Increased Employer involvement will help company recognition and the manufacturing perception. When full time opportunities are being pursued by young adults, name recognition and industry sector will prove invaluable.

## **VII. Emerging Sectors**

Creating a business environment in which industry sectors can grow and prosper takes an enormous amount of cooperation between government and industry. Connecticut continues to work with the following industry sectors: aerospace, agriculture, bioscience, insurance and financial services, maritime, metal manufacturing, software/information technology, and tourism, as well as *key emerging sectors such in hydrogen/fuel cell and medical devices.* (Cerc, Connecticut's Economic Competitiveness: Industry Sectors/Clusters)

## **VIII. Political Support**

Local senators and congressman are advocates for the manufacturing industry sector and employers need to be engaged sharing their successes and concerns. Local Congressman and senators have participated in local town meetings, manufacturing focus groups and roundtable discussions. Manufactures need to let their voices be heard in Washington. Local commitment for domestic Manufacturing is demonstrated by Congressman Chris Murphy and Senator Richard Blumenthal. According to an April 2011 article in the Hartford Business Journal, Congressman Chris Murphy and Senator Blumenthal launched a temporary platform for Connecticut manufactures to have their voices heard in Washington. The lawmakers announced they are available on line to hear manufactures concerns through a questionnaire on their Congressional websites to lobby both of them directly. "Information is power. This survey is one way for us to get that information," Blumenthal said. The two legislators report the results will make them better advocates for Connecticut manufactures.

Congressman Chris Murphy (CT-5) *won passage on amendments* to a defense budget bill to close loopholes in the nation's Buy American laws. The federal "Buy American" laws, which generally require that 50% of federal purchasing dollars be spent on U.S. goods, have loopholes that allow agencies like the Department of Defense (DoD) to waive requirements to spend tax dollars at home for a variety of reasons. "We've got to stop this trend and refocus on spending tax dollars here at home to bring some of those jobs back to Connecticut and other parts of the country," said Murphy.

## **IX. Linkages/Leverages**

Capital Workforce Partners will work with the following resources to strength the talent pipeline in manufacturing and continue to gain a clear understanding of employers changing needs and avenues to meet those needs through:

**Education:**

Local area High Schools including Technical and Magnet High Schools

Community Colleges with focus on Manufacturing – Asnuntuck and Manchester Community Colleges

Local Colleges/Universities centering on Technology and Engineering programs

Connecticut Community Colleges' College of Technology Next Generation Manufacturing

**Associations:**

Connecticut Center for Advanced Technology, CCAT

Connecticut Business and Industry Association, CBIA

Biomedical Engineering Alliance and Consortium, BEACON

**Manufacturing Associations:**

Manufacturing Alliance of Connecticut, MAC

National Tooling and Machining Association, NTMA

Aerospace Components Manufactures, ACM

New England Spring and Manufacturing Association, NESMA

Smaller Manufactures Association of CT, SMA

Chambers of Commerce

Department of Economic and Community Development, DECD

Connecticut Economic Resource Center, CERC

Connecticut Department of Labor, CTDOL

CTWorks One Stop Career Centers