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A Connecticut Technology Council 2006 White Paper

# Creating a Technology and Innovation Growth Strategy for Connecticut



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We believe support for a broad package of programs and new funding for existing efforts are needed to create a viable innovation oriented environment for the state of Connecticut. This document will make the case for why such expenditures should be a top priority for all of us.

From the latter part of the 18th century to the mid 20th century, Connecticut was an innovation leader. Products and technologies invented and manufactured here brought economic growth and jobs to cities and towns throughout the state. But with lower labor costs and more attractive economic incentives in the south and elsewhere in the United States and overseas, many manufacturers and service industries chose to move out of Connecticut, leaving behind their workers and abandoned factory buildings. Today Connecticut must compete both internationally and with an ever-increasing number of other states that have made a strategic commitment to growing their economies through innovation. By allocating millions of dollars to science and technology research and development centers, university research, job training and entrepreneurial ventures, these states are attracting the kinds of talented people that could be creating a high-growth economy in Connecticut.

With this increased level of competition for the entrepreneurs, researchers and companies that will create the science and technology of the future, Connecticut must strategically reinvent itself as an innovation leader if it is to achieve a global competitive advantage. As an innovation leader, Connecticut will have a globally recognized ability to create wealth from ideas and talent, and it will once again be a growing state that attracts the kind of talent that creates high-quality jobs.

### **What will it take to reinvent Connecticut as an innovation leader?**

Connecticut's long and renowned history of innovation provides a solid foundation on which it can grow to become a major contender in today's global technological marketplace. But first Connecticut needs to commit to building a strategic innovation continuum as other successful nations, states and regions have done. This strategy consists of the following four initiatives:

1. Develop, attract and keep the best entrepreneurial and technical talent in Connecticut.
2. Refine our ability to stimulate the flow of breakthrough ideas and concepts that can be commercialized by investing in the top innovators and researchers.
3. Provide appropriate investment risk capital through each development stage of a business, especially the earlier stages.
4. Create a true culture of innovation through government leadership, business commitment and a range of supportive organizations.

This continuum does not exist in a vacuum. It relies on the existence of healthy global connections and a uniquely competitive environment. Given our location near New York and Boston and our high labor costs it is also a requirement that transportation links are excellent and that our schools from K to grade 20 produce a local skilled population.

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Connecticut is ready to reinvent itself. It will take a serious commitment to new ideas, financial support and government coordination. Ultimately, this commitment will lead to a new model that will better align the state's efforts to attract the most talented innovators. Through its support of the strategic innovation continuum, the technology community can serve as a major catalyst in creating Connecticut's future as a global innovation leader.

## **How do we develop, attract and keep the best talent?**

To attract the entrepreneurial talent that we need to reinvent Connecticut, we have to understand what is important to them and what the state can do to provide it. For both experienced and new entrepreneurs, we need to learn about:

- The issues they consider when seeking a location.
- The options available to them from other states.
- Why they leave Connecticut after they have started a successful company.
- What we can do to keep them here.

Technical-level employees present another challenge because they are in short supply. We need to attract and train more of this talent with science, math and engineering scholarships and using the resources of our community colleges. Additionally, we need to ensure that adequate funding is available for custom job training.

## **How do we produce a flow of breakthrough ideas?**

To stimulate a flow of breakthrough ideas, we need to attract and retain scientists and researchers to the University of Connecticut and Yale University. We are competing with many universities throughout the country and the world for their talents, and we need to commit to investing in them and their work.

Some ways we can compete include:

- Endowing “eminent scholar” recruitment programs.
- Providing research grants to encourage collaboration among the state's colleges and universities.
- Providing innovation grants for professors to create prototypes of proven concepts for eventual product development.
- Funding quality innovation and entrepreneurship programs at our business schools.
- Matching incoming federal grants.

Outside of the university setting, we can build on our existing research and intellectual property strengths with new funding, such as the Small Business Investment Research awards, that matches federal grants. This additional support will help ensure that Connecticut companies in such areas as advanced information systems, biomedical engineering, advanced product development and translational medicine are offering “world class” innovation.

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We should also build on our other core competencies, such as electromechanical controls, clean energy, information technology for financial services, biotechnology, medical devices and aerospace propulsion, by providing these industries with the resources they need to continue to develop their products and technologies.

Acquisitions, spin-outs and start-ups by major Connecticut companies are the fastest way to grow new companies and we can promote their interest in expansion and commitment to remaining in the state with adequate state funding.

Longer term, we need to support the expansion of research facilities at the University of Connecticut and the technology programs at Yale University, build one or more university research parks, and award undergraduate scholarships and graduate fellowships in technology to talented individuals who commit to continuing to work in Connecticut.

Finally, to help grow our industrial base, we need to close the gap between the needs of business and the research going on around the globe by creating a center to study the Management of Technology (MOT). The center would provide manufacturers with information that would allow them to remain competitive and connect them to university faculty and graduate students who could provide research to help them create a technology commercialization plan.

### **How do we provide appropriate investment risk capital?**

Return on investment is an important factor for anyone making a financial investment. It's no different for Connecticut. As we ask the state to invest in technology innovation, we must keep in mind the risks and potential returns, state policy goals and ways to leverage private funding.

At the same time, we are focusing on innovation. Why not consider some bold new ideas for state funding? Here are a few:

- Provide significant new funding (\$25 million) for Connecticut Innovations (CI) that does not depend solely on achieving a high rate of return for future investments.
- Provide annual funding (\$3 million to \$5 million) to groups such as CI to invest in true high-risk start-ups and to match angle investments.
- Make funding available for regional venture capitalists to match their funds for Connecticut and/or Southern New England/Metro New York City investments.

For many new companies focused on innovation, the “moment of truth” comes just when they are ready to go to market and need additional outside funding to take the next step. If it is a promising company and Connecticut investors cannot compete with other states, the company will go elsewhere and the state will have suffered another lost opportunity.

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A competitive tax policy for Connecticut investors would help them compete with investors in other states. This tax policy would:

- Expand research and development tax credits to stimulate investment.
- Provide targeted tax support to encourage high potential growth companies to stay.
- Provide relief from the service tax and corporate income tax for early-stage ventures using local firms, which would stimulate the creation of venture-based business service industries.

## **How do we create a true culture of innovation?**

If we want innovative talent and companies to perceive Connecticut as a place where they can thrive, not only do we have to come through with the support they require, we also have to provide them with and show them that we have a supportive environment. To create this environment, we need to:

- Invest in national and international marketing campaigns that explain what Connecticut is becoming.
- Build a capacity for a proactive and changeable public/private infrastructure that anticipates the needs of innovative businesses and the opportunities available to them.
- Build attractive neighborhoods around state college and university campuses to provide convenient housing for talented students and professors.

We also need to think differently about government funding for innovation. Instead of basing a strategy for attracting and retaining innovative talent and companies on a pre-determined budget, we need to think about what kind of funding it will take to achieve our strategy. While we recognize that not all of the funding that the strategy requires will be available all at once, we can at least fund critical parts of the strategy that will move us forward toward our goal. Some elements of a strategy-driven budget are:

- A government structure that empowers and coordinates the efforts of the Department of Economic & Community Development (DECD), the Connecticut Development Authority (CDA) and CI.
- Engagement of the business community in developing the strategy.
- Creation of a proactive policy center for the development of strategies based on our core competencies.
- Adequate funding for experimental initiatives at the government department level.

When we have identified a potential high-growth company, we have to be prepared to impress it with the support Connecticut can provide. Using programs such as FastTrack and the new state supported Innovation Pipeline Accelerator, which provides business mentoring and development, we need to provide companies with appropriate access to resources that can:

- Quickly evaluate the potential of a company.
- Connect the company with leadership, intellectual property and support programs.
- Provide a government ombudsperson to cut through issues that may impede a company's growth.
- Connect start-ups to necessary funding.

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With states all around Connecticut competing for the same talent and companies, we have to offer an alternative that is more affordable by expanding and supporting incubators near New York City for attracting innovation.

We also need to be proactive in recruiting businesses to move into the state, including those technology companies that already provide support to companies in major industries, such as financial services, pharmaceutical and defense. Connecticut also has the opportunity to recruit foreign companies that are looking for a home base for their U.S. operations. As technology outsourcing increases, many of these outsourcers are recognizing the necessity of having a presence in this country, so why not Connecticut? For talented innovators and companies to come to Connecticut, they have to be able to get here. Our congested highways and lack of mass transit compared to other regions are a hindrance to people and companies that need quick and efficient access to the rest of the world. We need to:

- Expand our mass transit infrastructure with a New England rail authority that can build and support high-speed rail transportation from New York City to Springfield and on to Boston, build rail connections to Bradley International Airport and extend east/west rail service from the Hudson line to Hartford.
- Build transportation-oriented development zones along the New Haven, Hartford, Danbury and Waterbury rail lines.

## **How will Connecticut succeed at becoming an innovation leader?**

While it will take time and the efforts of multiple government agencies and private organizations for Connecticut to successfully reinvent itself as an innovation leader, we can reach our goal by formulating and executing a strategic plan. These strategic initiatives provide a roadmap for Connecticut to create, recruit and develop new innovative business. But we must be committed to it over the long term with funding and programs and with a consensus of state government, academia, business and the financial community. And we must have flexibility with our strategy so we can fine-tune it as we move toward our goal.

## **What can you do to help us achieve these initiatives?**

As a business leader in Connecticut, you can help by:

- Joining a CTC Innovation Cell and meeting regularly with others to create growth.
- Writing a letter to your local state representative and senator.
- Writing a letter to Governor Rell in support of these initiatives
- Contacting your local Chamber of Commerce to let them know about your support of these initiatives and ask for their support.
- Writing a letter to your local daily or weekly newspaper in support of these initiatives.

*Our voices are very important. If all of us band together in supporting initiatives that help grow the state economy, we all benefit. If you need additional information or sample letters, please call us at 860-289-0878, visit our web site at [www.ct.org](http://www.ct.org) or contact Matthew Nemerson, President and CEO, Connecticut Technology Council, 111 Founders Plaza, Suite 1001, East Hartford, CT 06108.*