



Bringing Private Sector Investment into Connecticut for Economic Development: Gig.U Ultra-High-Speed Internet Initiative

The OCC brought UConn and Gig.U together because the OCC, as the state's Broadband Coordinator, believes this is a golden opportunity for all concerned. The OCC recognized and worked to create this collaboration because we believe that the time for a change in the national and state broadband imperative is now. A fundamentally changed approach to expanding broadband access and adoption is required in Connecticut to make us globally competitive and build economic development and jobs.

The OCC strongly believes and has been federally funded for the past three years to work toward accelerating the offering of ultra-high-speed network services to the state's communities. To best accomplish this goal, projects similar to the kind of community organization that economic development coalitions commonly put together to overcome a seemingly unprofitable project must be developed and implemented. OCC's driving broadband principle for increasing access to and adoption of broadband services across Connecticut is that continued reliance on the business plans developed in Internet service provider boardrooms to drive good public policy will not create the research-innovation cycle that Connecticut needs right now.

In this instance, the OCC has used its expertise in economics, financial transactions, and utility laws and regulations to advance the concept that UConn possesses entrepreneurial dreamers who have the potential to create innovations, economic development, and jobs simply by daring to play with the abundance of capacity they are granted by research universities like UConn. The challenge is to create those opportunities by generating that same abundance for the creative people of university *communities* to exploit for the good of all.

Among the assets in UConn's favor is a champion for broadband expansion in Governor D. Malloy who has strived to reinvent the Connecticut economy by harnessing the impressive research resources across the state and, at the same time, will help to secure the UConn Health Center's future as a top tier academic medical center.¹ Similarly ripe for benefits from the Gig.U

¹ By becoming a leader in bioscience, Connecticut can again be at the forefront of an economic renaissance. By capitalizing on existing assets, and by attracting new ones, Connecticut can lead the new economy in a way that will make us an attractive place to do business, and a state that retains and attracts top-flight, national talent. – Gov. Dannel P. Malloy, May 17, 2011



initiative are academic facilities such as the *Cell and Genome Sciences (CGS)* building houses the *UConn Stem Cell Institute* and *The Richard D. Berlin Center for Cell Analysis and Modeling (CCAM)* is developing new approaches to determine how cells work, interact, and respond – and how to organize this data so it can be applied to human health. *Bioscience Connecticut* aims to bolster the biomedical industry across the state and help spur innovation and job growth. *Jackson Laboratory for Genomic Medicine* is the first product of this initiative and will work closely with UConn to help make it a key player in the field of individualized medicine.

UConn has already demonstrated its ability to ramp up research performed on campus and introducing new products and services into productive and profitable uses.² The UConn Office of Economic Development was recently established by President Herbst under the leadership of Mary Holz-Clause, Ph.D., Vice President for Economic Development to build new collaborations with industry and entrepreneurs, and to increase the University's contribution to Connecticut's economy.³ Within the Office, the [Tech-Knowledge Portal](#) is UConn's front door for industry, acting as a liaison for companies and entrepreneurs who seek assistance and access to UConn's wide variety of technology, expertise, and resources.

The OCC has also reached out to the state's Department of Economic and Community Development (DECD) and Commissioner Smith, who was immediately responsive and supportive of the Gig.U initiative, to integrate the DECD's many programs and services into the

² The Celebration of Innovation at the Connecticut Science Center in May 2012 demonstrated, as UConn President Susan Herbst stated, "Economic development is, at base, about brain power." President Herbst noted that UConn has generated more than 366 patents in the past 20 years, over \$4 million in revenue from licenses in the past four years, and a 79 percent success rate with companies involved in the [Technology Incubation Program](#), compared to the national average of 65 percent. UConn has also created the [UConn Research & Development Board](#), which provides expertise in patenting and licensing, creating and supporting viable start-up entities, and assisting industry in their interactions with the university.

Notice was made of several achievements:

- Mun Choi, dean of the School of Engineering;
- Suman Singha, vice president for research;
- the company [Agrivida](#), which has partnered with UConn and recently invested \$600,000 to expand the greenhouse at the Advanced Technology Lab Building;
- [IMCORP](#), a Manchester-based company founded by UConn professor emeritus Matthew Mashikian with technology he developed while at UConn; to faculty patent recipients; and
- to student teams that won competitions to develop their own business plans.

³ <http://www.uconn.edu/industry.php>



project to help launch the program. DECD's has staff of highly trained economic and community development professionals who can help the OCC and UConn to work directly with businesses, developers, housing advocates, community groups and municipalities, to help promote business development and job growth by maintaining centralized line support functions that provide technical assistance, engineering, construction and architectural assistance, research data, legal guidance, programmatic support and training.

Gig.U presents UConn, in partnership with its local communities, with the opportunity to become part of an organized, national movement with 37 established and successful research universities already engaged in advancing their own fortunes and those of their communities to seize the high ground of broadband access at global speeds and connections. The Gig.U universities are partnering with Google, Comcast, and Intel and about 50 other companies with a variety of motivations to finance ultra-high-speed networks capable of transmitting movies, games and other data-intensive content at speeds 100 times faster than many services currently available.

By accelerating those next generation services and networks, the Gig.U coalition can ignite a new generation of innovation, new approaches to solving some of society's most vexing problems, and in the process, enrich the nation's universities, communities, and Internet companies. UConn and its region have begun work on the Storrs Center project, along Storrs Road (Route 195), directly across from the University of Connecticut, designed to make it the new town center of Mansfield and the surrounding region. This mixed-use town center will feature an eclectic mix of restaurants, shops, offices, homes, walkways, and green spaces will create a connected, thriving community for everyone in the region. Using the Gig.U collaborative process will allow UConn to help provide high-speed fiber broadband service to the entire area and will simplify a tie into UConn's fiber backbone project in its Master Plan to expand that part of campus.

Similarly, the Town of West Hartford owns about 70 miles of fiber around their town that is dark and which the Town would like to utilize if an appropriate partnership can be formed. This could of course benefit the UConn West Hartford Campus quickly and should be considered a major part of the UConn/Gig.U project.



Specifics that need to be considered by UConn in developing this Gig.U plan include:

- using the concerted efforts of the Connecticut Gig.U participants (e.g., UConn, Storrs/Mansfield, Internet service providers, state government, the CT Education Network infrastructure and management) to produce economies of scale;
- by reducing the price and risk of infrastructure investment for the providers broadband supply in the UConn and Storrs market to increase adoption;
- the research community will use this “abundance of supply” to increase the learning curve effects as more users spend more research time playing and experimenting through this powerful resource; and
- this increased and enhanced use will increase innovation and generate new products and services.

Pursuing this strategy will create the virtual circle Connecticut needs to become a top tier broadband platform and economic power in the competitive markets in which it exists.

Storrs Center, a vibrant planned community adjacent to the university will benefit from installing fiber and either running it as a nonprofit where UConn opens that fiber to any provider to bid on providing service to any customer.⁴ Any Internet service provider, such as Charter, Comcast, or AT&T could provide services using UConn’s middle mile infrastructure, or UConn could run it itself, at least in the short term if that makes the most economic sense. In order to tie-in a second community, such as West Hartford or Manchester, each of which has a lot of fiber in their community, CEN could be the conduit to tie those satellite networks together. There are other networks, including the state’s public safety network and of course private networks, that could also be linked into a broad statewide network of networks.

Given the type of development UConn is doing in the downtown area at Storrs Center with the ongoing real estate development adjacent to the campus where the idea is to take advantage of the ongoing “green fields” project, the cost of installing fiber is just not that different than offering just ordinary copper or hybrid-fiber coax cables. Therefore, with minimal effort and expense for installation, the community will realize an increase in the value of the real estate as well as the value of the overall university.

⁴ <http://www.storrscenter.com/>



The single most strategic and effective way to achieve these fundamental public policy goals is to improve broadband access to the Internet by all communities, residents, and businesses. Broadband allows regions and communities to compete globally, attracting new firms, investments and jobs with next-generation communications infrastructure. Looking ahead, Connecticut communities without broadband will find themselves left out of the digital revolution, losing the competitive advantages of economic development and job creation.

The challenge in many small towns and rural areas of states is that the lack of broadband infrastructure limits existing businesses and inhibits the ability to lure new businesses to the area. The challenge in many small towns and rural areas of states like Connecticut is that the lack of broadband infrastructure limits existing businesses and inhibits the ability to lure new businesses to the area. Since Connecticut is a large exporter of goods and services, many of which depend on high speed Internet access, there is a global aspect to the competitive advantages that must be continually improved and promoted.

Thus, high speed broadband access to the Internet is a vital economic infrastructure that enables businesses to start and grow, and jobs to be created, anywhere in the United States and Connecticut, from the biggest urban city to the smallest rural town. Small businesses account for a majority of the more than 1.2 million new jobs generated by the growth of the Internet during the last 10 to 15 years. By opening new markets, broadband allows businesses of any size to successfully reach customers next door or anywhere in the world at minimal expense and difficulty.⁵

⁵ CT DECD website: The Connecticut Economic Digest, July 2004, *Outsourcing: Implications For Employment*, “The use of outsourcing, long a common business practice, has increased as use of computers and broadband communication has made it possible to have many business operations take place at remote locations. Remote now can just as well mean overseas.” Reprinted at http://www.ct.gov/ecd/lib/ecd/ct_digest/2004/cedjul04.pdf