

Innovation Valley (www.ivalley.org)

A Showcase for Innovation in the Merrimack Valley

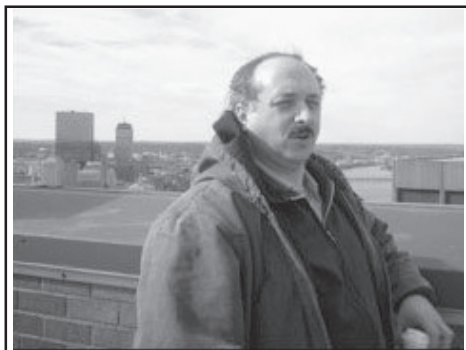
Cradle of an Economic Revolution

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The Merrimack Valley is honoring its legacy by once again becoming a nexus for economic innovation in America. From Lowell to Newburyport, the birthplace of America's Industrial Revolution, is now the cradle of a new revolution, this time incorporating high-tech enterprising with environmental sensibility and citizen empowerment. The Innovation Valley initiative seeks to promote awareness about these happenings, and to stimulate further thinking and bold actions to make this area the finest in the world. Every month we will report on innovative businesses, practices, and ideas that are helping to make Merrimack Valley the place to be. Look for our article in print media and online at www.ivalley.org.

This month we will report on 4 compelling and diverse examples from business and academia that are exemplary of regional excellence. These include: USAi.Net, recreating the telecommunications revolution - wirelessly; Diversified Business Solutions, demonstrating that environmental stewardship and business growth go hand-in-hand; Konarka, using nanotechnology to invent the fabric of the future, and the NECC Technology Center, a little bit of MIT on the banks of Lake Kenoza.

USAi.Net: Recreating the telecommunications revolution - wirelessly www.usai.net



Dave Spaulding of USAi.net stands on the 44th floor roof deck of One Boston Place - from which his company has line-of-sight wireless Internet access to points in Boston and Haverhill.

Approximately a hundred and thirty years after Alexander Graham Bell and Haverhill businessman Thomas S. Sanders made telephone history in the Merrimack Valley, today a new homegrown Haverhill business is creating waves of its own - this time wirelessly. USAi.net, founded by Haverhill entrepreneur David Spaulding, is a commercial grade wirelessly Internet Service Provider offering wireless connections of speeds up to 45 MB/s to sites throughout the Merrimack Valley and greater Boston area.

In addition to spearheading wireless Internet throughout the region, USAi.net is the only regional ISP to offer the unique package of both wirelessly and land-based connectivity to clients that demand failsafe service. According to Spaulding, the combination of land-based and wireless high-speed connectivity is the compelling advantage that has driven his firm's dramatic recent success. Case in point, this is what helped USAi.net to recently win the contract to provide both primary and backup Internet services for the entire Boston Public Library network of 28 buildings, including the main library on Bolyston Street and all the satellite branches. Dave is now

intimately familiar with the roofs of each, after having overseen the installation of their antennas. Of all the bidders on this project, USAi.net was the only single-vendor solution to provide both a wired and wireless service. As of this writing, USAi.net is the only vendor that can provide this combination of internet services to businesses in the Boston market.

USAi.net's wireless access to Boston businesses comes through its rooftop antennas on the 44th floor of One Boston Place (see pictures above). This vantage point, also, as Dave points out, has a line-of-sight to towers in Haverhill, and USAi.net is gearing up to provide a direct broadband wireless Internet link between Boston and Haverhill, thus, completely by-passing the Telcos, and creating an unhindered connection between the cities. Looking northward, USAi.net also has line-site access to Salem NH and other points throughout New England. Dave believes that the wireless regional networks that his company is building makes the Merrimack Valley attractive for business and, perhaps even more importantly, more resilient to the hardships of natural or manmade disaster.

USAi.net is an outgrowth of MVA.NET, based on Washington Street in downtown Haverhill. According to Spaulding, they are quickly becoming a national player with rooftop access in Boston, New York, Los Angeles, and ten other major U.S. markets.

Konarka: Using nanotechnology to invent the fabric of the future www.konarka.com

It's not surprising that a company from Lowell is inventing the fabric of the future. Konarka has developed a process to print sheets of photovoltaic film that can be woven into clothing and building materials. Using nanotechnology, Konarka makes low cost sources of renewable power universally available. Konarka is also home grown; it's a spin-off from the University of Massachusetts.

Rising oil prices and the threat of global warming have rekindled the search for alternative sources of energy. A major reason why solar power is so expensive is the high cost of manufacturing photovoltaic cells out of silicon. Konarka has now eliminated this problem. Employing a nano-mixture of organic chemicals, they are able to print photovoltaic film without silicon. Large sheets can be economically manufactured in a process similar to that used by photographic film manufacturers. The lower price tag, combined with the cells' flexibility, could make solar power available in more places, including the windows of buildings and fabrics for tents, handbags, and other items. Konarka has a multi-million dollar contract with the Pentagon for solar products, including a tent made of photovoltaic material. Consumer products are next.

Diversified Business Solutions: showing environmental stewardship and business growth go hand-in-hand.

Diversified Business Solutions (DBS), a Haverhill based printing company with 68 employees, has proven that innovation, environmental stewardship, and good business can simultaneously exist. The result is a successful, international-quality printing company, widely recognized for its efforts to reduce environmental impacts and minimize waste.



The Technology Center at the Haverhill campus of Northern Essex Community College.

In both 2003 and 2005, DBS was awarded the Business Environmental Purchasing and Sustainability Award issued by the State of Massachusetts. The highly competitive award recognizes significant recycling efforts by businesses choosing to reduce waste. Jeffrey Linehan, the owner of Diversified Business Solutions, is the principle motivator behind the company's environmental practices. Because of his leadership, DBS recycles just about "everything," from paper to ink, and cardboard to aluminum printing plates. They've migrated almost entirely to soy based inks. The building itself even recycles the extra energy generated from compressors and uses it to heat the workplace.

What are the costs for all of this voluntary efficiency? "The financial benefits are huge," according to Mr. Linehan, denouncing the long held belief that environmental compliance is too expensive. The saving alone from not having to deal with so many hazardous materials is significant. If thinking green has hurt their business, you'd never know it. According to Linehan, they are growing at 8% a year. That kind of pain we could all use.

In addition to receiving the state award twice in the past three years, DBS recently completed ISO 9001 certification. This international standardization keeps this locally owned company highly competitive in the global market; most international corporations, government contracts, and pharmaceutical companies require ISO certification from all business partners.

NECC New Technology Center: A little bit of MIT on the banks of Lake Kenoza www.necc.mass.edu

Visiting the brand new Technology Center at Northern Essex Community College in Haverhill is quite an uplifting experience. The building is truly magnificent. South facing glass exposures passively collect solar energy, while the wood framed interior contrasts surprisingly well with flat screen computer monitors. The entire building buzzes in cyberspace, offering students and faculty easy access to the wonders of modern technology. With wireless internet available throughout, the building showcases the many technological innovations since 1971 when the college first opened its Haverhill campus.

The magnificence of the building reflects the cooperation, planning, and commitment from hundreds of individuals and organizations. With \$2 million contributed by over 600 private donors, the \$9.5 million development has been a project in the making since 1995. State partnerships were critical for this

project's success, with generous support from the Massachusetts Board of Higher Education and Division of Capital Assets Management.

At the center of the building is a state of the art conference room with audio/visual media capacities that include data projection, video playback, and interactive video conferencing, all of which are completely integrated into an automated touch panel. The intention was to create a "user friendly" resource, according to Alan Foucault, Director of NECC's Center for Instructional Technology. Mr. Foucault also suggests the room will become a valuable resource for the community while also drawing new people to visit the campus. Not only does the new center offer cutting edge technology to students and faculty, the conference space is available and reasonably priced for renting.

In short, the Tech Center provides students, faculty, and the Haverhill community with a first class meeting space, and examples of where future technologies and innovations lie. It seems altogether fitting, then, that the conference room recently hosted the unveiling of Haverhill's vision of the future, an ongoing project to revitalize the city and plan a promising future. With the Tech Center embodying the future visions of Haverhill, the project has already achieved success in a much loftier sense: an integrated learning center where technology benefits society and the paths of innovation become realized.

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