Waters Rise in the Merrimack, Floating All Boats

Old Manufacturing, New Manufacturing and the Power of the River

An energetic group of innovative companies, manufacturers, businesspeople, local government and Chamber of Commerce employees gathered at the newly established business ecosystem, Chestnut Innovation Center (CIC), in Amesbury, MA in late October. They came for a panel discussion, *CAD It Up! Working with a Design Engineer for Product Manufacturability*, hosted by ACTION, the Association of Cleantech Incubators of New England, and the first in a series of manufacturing educational programs for entrepreneurs on topics related to the product commercialization process. The panelists were James Bleck of Bleck Design in Chelmsford, MA, James DiBurro of Round Rock Consulting in Bradford, MA and Daniel Rocconi of Bixby International, Inc. in Newburyport, MA. Bixby International was founded more than 135 years ago in Haverhill, MA as a footwear manufacturer, and a contributor to the region's footwear manufacturing history. The Merrimack Valley is as rich in manufacturing resources today as it was in the past, ready to assist growing companies with overcoming the challenges of product realization.

Amesbury's Mayor Kenneth Gray provided "Welcome to Amesbury" opening remarks with enthusiasm. A strong advocate for the growth of new ventures within the Innovation Center and region, Mayor Gray reflected on his desire to "find a way for companies to feel welcome in Amesbury", mentioning that the city is home to a shared kitchen facility and arts incubator as well. Mayor Gray is founder of Northwave Technology Inc., a company which designs and manufactures semiconductor equipment.

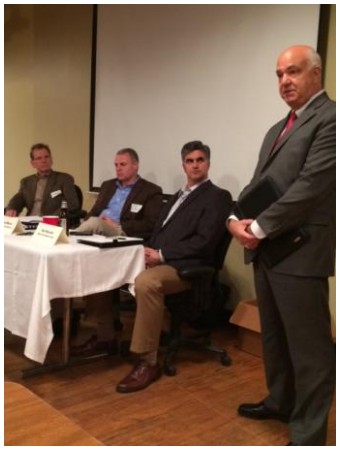

Figure 1. Amesbury Mayor Gray and panel at Chestnut Innovation Center.

Amesbury boasts an illustrious history of innovative manufacturing. During the late 1800's, the city, nicknamed Carriagetown, was home to the American carriage industry and one of the top carriage manufacturers in the world, with over 26 manufacturers and more patents issued to carriage mechanics than anywhere else in the country. The first car made in Amesbury in 1898 was an electric vehicle, the Electric Victoria Phaeton. One Chevrolet model had even been named the "Amesbury Special".

The formerly vacant mill building, recently renovated by the Chestnut Innovation Center, is now home to 11 innovative companies and is a testament to the enthusiasm for the vision of growing a new manufacturing economy in the Merrimack Valley, calling into play a rich heritage of Yankee ingenuity and focusing on helping businesses get from prototypes to profits. Chestnut Innovation Center plans to co-locate prototyping partners within the building to assist the companies. The CIC already houses packaging and product distribution companies. There are also plans to retrofit the building to make it self-sufficient, producing its own electrical power

and heat. Bob O'Brien, President of CIC, indicated that "the building will be heated with biomass, all the lighting will be retrofitted with low-consumption LED bulbs, and solar panels will be installed on the roof".

O'Brien further stated that "the city is making a commitment to attracting new businesses and job growth. At the same time, it has embraced green community status and is making environmental awareness a community priority". That combination made Amesbury the right place for the Chestnut Innovation Center to locate its new facility.

Another historic Amesbury manufacturer is Lowell's Boat Shop which was established in 1793. It has the distinction of being the oldest continuously operating boat shop in America, cited as the birthplace of the fishing dory. In continuous operation for 7 generations, the educational STEAM and apprenticeship programs it offers for students provides them with the unique opportunity to learn the craft of traditional wooden boat building while at the same time being taught core STEAM concepts as they learn about maritime and regional history.

Recalling elementary school history lessons and field trips to the old mill buildings, one is reminded that Lowell, MA is known as the seat of the American Industrial Revolution, the first large-factory town in the country, built on the canal system to deliver power to run the textile mills and factories. Today's continuous restoration of mill buildings for residential, office and recreational space provides the local workforce with options for living close to work, like the mill workers in years past.

Consider Mill No. 5., "a union of industry and art" in Lowell. The mill was originally built for a new technology – steam power, and was home to Suffolk Knitting Company. It has been brilliantly reconceived and renovated as a vibrant, creative indoor streetscape using salvaged architectural materials which carve out unique and inviting spaces that house small businesses and tech startups, a theatre, yoga studio, farm-to-table café and much more. It's a must see, must experience space.

Here are just a few more reasons why the Merrimack Valley is poised to become a destination for sustainable, new venture development that will grow the new manufacturing economy.

Entrepreneurship for All (EforAll) is accelerating economic and social impact through entrepreneurship in the cities of Lowell & Lawrence, with unique accelerator programs conducted in both English and Spanish. The popular accelerator provides mentoring, co-working space and prize money to promising startups regardless of background or geographic location, and has attracted many startups and supporters to its programs.

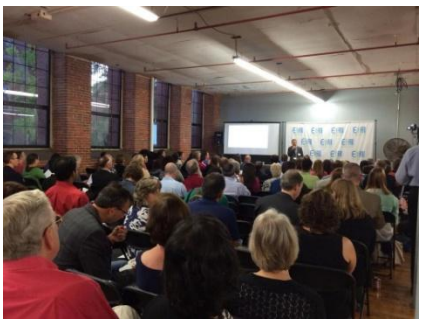

Figure 2. Entrepreneurship for All Accelerator Awards at Everett Mills, Lawrence, MA

UMass Lowell is planning a spring 2015 opening of the UMass Lowell Innovation Hub, an incubator focused on connecting university students and tech startups with regional supply chain resources to accelerate the development, manufacturing and commercialization of their ventures through the advanced manufacturing capabilities and resources of the University. It will focus on the strengths of the University's world-class plastics engineering, and nanotechnology materials and manufacturing, flexible electronics, process engineering and design capabilities.

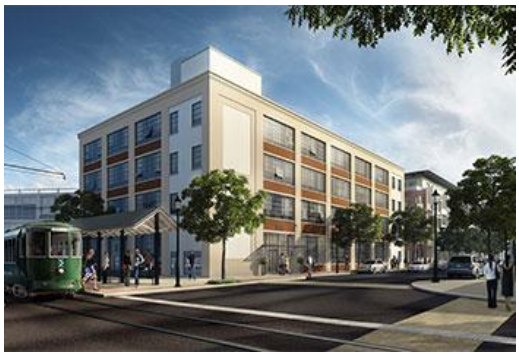

Figure 3. Artist's rendering of UMass Lowell Merrimack Valley Innovation Hub

In September, France-based Schneider Electric, a leader in international energy management, announced the relocation of its R&D world headquarters to Andover, MA from Illinois, a move meant to capture the expert talent from Boston area universities. The new LEED certified building will become a "living lab" and showcase Schneider Electric's newest energy-efficient building technologies.

Lowell Makes is a one-year old makerspace in Lowell, MA. Its collaborative space is well-equipped with tools, machinery, materials, computers and other resources where members can gain and practice modern skills with state-of-the-art technology and join a community of creative-minded people. *"Art is the Handmaid of Human Good"* is both the City of Lowell's motto and its inspiration, a reminder of Lowell's rich industrial and artistic history. The space is designed for brainstorming, visioning, problem solving, design, prototyping, custom fabrication and repair. Lowell Makes held its First Anniversary Hackathon in early November, themed "Monitoring Our Rivers", which was intended to challenge and inspire caffeine-fueled coders to devise ways to monitor and track information about the health of river systems.

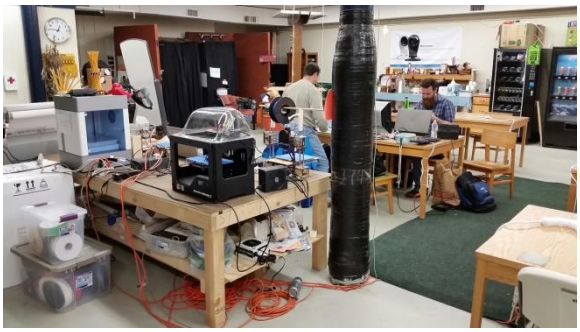

Figure 4. Lowell Makes makerspace in Lowell, MA

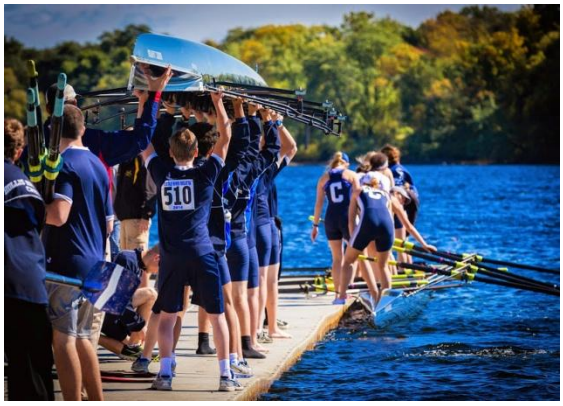

Figure 5. Textile River Regatta on the Merrimack River, Lowell, MA

The Merrimack River Rowing Association's Textile River Regatta (TRR), is held in October from the UMass Lowell and Lowell High School's Bellegarde Boat House. The TRR, a 6000 metre (3 ¾ mile) race, has grown to be the largest single-day head race in New England. With participation doubling in 5 years, the race attracts 4000 competitors in nearly 800 boats and over 10, 000 attendees in all, representing high school, club, and

college rowers from 90 different cities and towns from Pennsylvania to Maine. It has become a destination race for young rowers and elite athletes to compete two weeks before the Head of the Charles Regatta in Cambridge, MA.

In addition, the Lowell National Historical Park keeps a small laboratory at the Bellegarde Boathouse to run the "River as a Classroom" program. The Park's unique resources inform students about the causes and consequences of industrial development that can lead to degradation of the river system, thereby allowing students to gain awareness, respect and provide stewardship of its shared watershed.

There are plenty of reasons to pay homage to the Merrimack River for contributing to the region's deep industrial history. New sustainable and innovative initiatives and ventures are bubbling up to provide a promising future for the region. Experience the power of the River!

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