

## MVATC Helps Radiate Innovation in New York

By Jonathan Geissler



The entrepreneurial spirit is alive and well in New York, thanks to the collaborative effort of Manufacturing Extension Partner (MEP), Mohawk Valley Applied Technology Corporation (MVATC). For the past year, companies throughout the state joined to bring an innovative product to the market, from startup Radiator Labs, that will revolutionize the way offices and apartment buildings are heated and save billions of dollars in energy costs. That product is a radiator-based heating system, transforming cast-iron radiators into energy-efficient heaters.

It was Marshall Cox, CEO and founder of Radiator Labs, which won the prestigious MIT Clean Energy Prize in 2012, who conceived the idea for the “Cozy” in the winter of 2011. While lounging in his Columbia University dormitory apartment, something seemed off. Or, rather, it seemed on. “My apartment was really hot,” he observed. Like millions of older housing units throughout the United States, Cox’s building was equipped with an unevenly controlled and unsightly steam radiator system that brought about uncomfortable temperatures in certain units. Cox determined that in older apartment buildings, some units are better insulated than others, and since steam radiators are not adjustable, they are usually always on during the winter months. As a result, buildings must focus heat expenditure to the least insulated unit, leaving the other residents uncomfortably hot. This also means that energy created by steam radiators is wasted, along with billions of dollars spent each winter that have many residents sweltering.

Cox's solution to this problem consists of a thermal blanket that acts as an insulator to trap heat. When the room needs additional heat, it is removed from the underside of the insulator by a fan. Each insulator is equipped with thermometers and sensors to pump out the heat only when the temperature drops below the level set by the user. Excess heat that would otherwise be wasted overheating the room is trapped and used to heat colder parts of the building. Using only the heat that is needed aptly conserves more for the rest of the building. Cox installed a retrofit in his apartment in 2011, and, in his own words, "It worked very well." He then mounted them in several apartments nearby and the concept grew organically from there.

To advance the product, Cox and Radiator Labs required manufactured fabric products that were specially designed and had no idea where that capacity was to be found. That is when MVATC came into play.

Having received a request from Radiator Labs, New York City's MEP Center, Industrial + Technology Assistance Corporation (ITAC), connected Cox with MVATC. In the winter of 2013, along with the Hudson Valley Technology Development Center (HVTDC), MVATC performed the research to identify the fabric weaver. Through its Regional Innovation Specialist (RIS) under the NYSTAR Program, Everton Henriques, MVATC and HVTDC brought all parties together, initiated the follow-ups, and hosted meetings with ITAC's RIS. Amsterdam, New York's textile manufacturer Mohawk Fabric Company supplied the required fabric layers according to mutually agreed specifications. MVATC also helped connect Radiator Labs with Herkimer Industries, who, following a number of tweaks and improvements, created six full prototype models and assisted in the development of the final design, making recommendations based on the sample fabrication process.

While still in its late commercialization pilot phase, Radiator Labs is producing 300 retrofits this year in conjunction with Mohawk Fabric Company and Herkimer Industries. They will be installed in a number of buildings and are expected to hit the market and become commercially available later this year.

It was Cox's own entrepreneurial determination and the collaborative effort of MVATC and the parties involved that made this endeavor a success. MVATC and HVTDC, through their broad manufacturing background and contacts, enabled all involved to share their skills, inspire a sense of community, and ultimately introduce to the public a new product. Critical to the success of the enterprise, MVATC allowed for Mohawk Fabric and Herkimer Industries to focus on specific elements of the creative manufacturing process. The collaboration solved the challenge that many small businesses eventually confront: that of limited resource availability. "I was able to offload a lot of worry about finding the right kind of manufacturer and supply chain for an early version of our cover," said Cox.

Just like they did for Radiator Labs, MVATC provides support services tailored to meet company's specific needs. They help small manufacturers throughout the region discover solutions and connect with other small businesses to achieve sustained growth. The results are skilled forces working together toward advancement and success. Now, an innovative new product with the potential to save billions of dollars by reducing the expense of heating buildings across the Northeast is on the verge of a breakthrough.