

## Business voices

# New collaboration could pay big dividends

**PITTSFIELD**— At its core, the Berkshire Innovation Center was designed to drive economic development by convening industry, academia, and government. We wholeheartedly believe that a dynamic partnership between this triumvirate can spur innovation, address complex challenges, and propel private and regional economic growth.

Institutes of higher education develop talent, generate groundbreaking ideas, and conduct cutting edge research, all of which can empower industries to stay at the top of their respective fields. When properly partnered, industry gains access to this work and talent



**Ben Sosne**  
Berkshire  
Innovation  
Center

and can apply it to enhance products, streamline processes, and create new markets. Both startup companies and established firms can leverage this expertise to push the boundaries of innovation and breed high-value jobs.

Government, meanwhile, acts as a facilitator. Effective governmental partners provide the necessary frameworks, policies, and funding to encourage this collaboration. Through research grants, tax incentives, student support, and other strategic initiatives, government can level the playing field of industries of all sizes and enable them to engage with academic institutions in a mutually beneficial way. Government-backed initiatives can target key sectors that are identified as critical growth opportunities and that align with state and national priorities.

In our first few years at the BIC, we've seen the effectiveness of the industry-academia-government collaboration play out again and again, most notably with the launch of the BIC Manufacturing Academy. The Manufacturing Academy is an industry-led training

program that was jointly developed by BIC member firms and researchers at the Massachusetts Institute of Technology. It was funded primarily by the U.S. Department of Commerce, carrying out federal policies intended to spur expansion of manufacturing in regions like Pittsfield. The program serves established firms in our region and is taught by BIC staff, MIT researchers, and industry veterans. This partnership is not only making an impact locally, MIT is taking what's been learned and considering other regions in the U.S. where a similar program might be deployed.

With the academy successfully launched, the BIC is thrilled to be serving as the connective tissue on another major industry-academia-government collaboration that will have a significant impact on Western Massachusetts. The project, which will accelerate the development and adoption of emerging metalense technology, is a partnership between researchers at the University of Massachusetts Amherst and BIC industry member Electro Magnetic Applications, Inc., and is funded with significant support from the Commonwealth of Massachusetts via the Mass Tech Collaborative.

### METALENSES

In the realm of optical technology, metalenses have emerged as a groundbreaking frontier, a cutting-edge innovation that is poised to reshape the landscape of next-generation devices. In 2019, the World Economic Forum named metalenses one of the top 10 emerging technologies.

Metalenses are extremely thin optical structures — approximately 1/50th the thickness of a human hair — that combine multiple functions of traditional and bulky curved optics into an ultracompact package. Unlike traditional lenses that rely on natural materials like glass, metalenses are crafted from metamaterials — engineered substances with



STEPHANIE ZOLLSHAN

**Justin McKennon is the principal scientist at Electro Magnetic Applications, one of the Berkshire Innovation Center's member companies.**

properties not found in nature. These materials are meticulously designed with structures that allow for precise control and manipulation of light at the nanoscale.

Metalenses are key to enabling a wide range of next-generation products in consumer health care, aerospace, and defense markets. Examples of technologies that can be dramatically improved with metalenses include virtual reality and augmented reality (AR/VR) smart glasses, automobile Lidar, cell phone camera lenses, night vision, terrain mapping, and facial recognition. Massachusetts is uniquely positioned to lead this industry transformation. The Commonwealth possesses a powerful consortium of legacy precision optics companies, academic centers of excellence in emerging optics designs spawning innovative startups, and an internationally unique test and simulation capability for various harsh environments.

### LEVERAGING ADDITIVE MANUFACTURING

Traditional lenses, which are curved and bulky, have been in use for hundreds of years. Ultrathin metalenses — flat lenses that can deliver advanced capabilities and better performance — have been developed over the past decade. Until now, these flat lenses have been

manufactured in semiconductor foundries using a subtractive manufacturing in which the patterns are carved out of a layer of material. Construction of the foundries, and the manufacturing process itself, are both extremely expensive.

The grant from the Mass Tech Collaborative, a \$5 million award announced in October, will enable UMass Amherst to establish an open-access advanced optics fabrication and characterization facility on its campus. This new facility will utilize additive manufacturing (3D printing) to produce metalenses. The UMass team is led by James Watkins, a professor of polymer science and engineering.

As Watkins explains it, additive manufacturing is far more efficient in terms of cost, materials, and energy usage compared to the traditional subtractive approach. It can also be done in smaller, less expensive facilities. Indeed, as a state-funded open-access facility, the UMass lab will be accessible to any companies that can leverage this resource to support advances in this sector.

### ELECTRO MAGNETIC APPLICATIONS

While UMass will host the open-access research and production facility, EMA, which specializes in the testing and design of materials used in the space environment, will build out and operate a sister lab at the Berkshire Innovation Center which will help researchers and companies prove out their products.

The EMA portion of the project is led by the company's principal scientist, Justin McKennon. McKennon and his team are keenly aware that the development and commercialization of a new technology such as this requires the ability to prove that it can work in harsh environments. With EMA's testing and simulation capabilities, the lab they establish at the BIC will play an important role in helping researchers and companies test their innovations. From a practical standpoint,

any researcher or private firm working to advance this new and revolutionary sector will have good reason to be spending time in Pittsfield.

The potential impact of this new project cannot be overstated. According to UMass' Donahue Center, more than 40 private companies in Massachusetts specialize in advanced optics and photonics. They have a combined 3,000 employees and generate more than \$750 million in annual sales. Most of these firms are small or medium-sized enterprises. Many of them are poised to grow exponentially over the next decade as the technology continues to advance.

### THE BIC

The BIC will not only house the EMA lab, but we will also continue to serve as the bridge between industry, academia, and government. We will build awareness around the technology, the project, and the resources available. We will help both established firms and new firms access and leverage the technology, and we will work with other educational partners such as Berkshire Community College and Springfield Technical Community College on professional development and eventually on the incorporation of hands-on learning and training. Establishing a workforce capable of working in these emerging areas is fundamental in the long-term success of EMA and UMass' work.

Obviously, this also presents an unbelievable opportunity to strengthen and grow our relationship with UMass Amherst, the Commonwealth, and local industry partners like EMA. Hopefully, the success of this project continues to fuel opportunities for additional transformative collaborations between industry, academia, and government.

Ben Sosne is the executive director of the Berkshire Innovation Center in Pittsfield.

## An orange roof. An artist's inspiration. An endless salad bar.

### Restaurant site's past disappears, with car wash in its future

By HEATHER BELLOW

**PITTSFIELD** — There was once an orange roof at 1035 South St.

And under that Howard Johnson's roof once sat a boy and a state police trooper at the lunch counter. Norman Rockwell was staging a photograph to make what would be yet another iconic oil painting.

"The Runaway" would be the cover of The Saturday Evening Post on Sept. 20, 1958.

Fast forward to 1984. The Dakota Steakhouse opened at the former "HoJo" restaurant after changing it up and adding an addition.

Fast forward to December. The demolition of the building had begun. In its place will go a car wash owned by Lipton Energy, the city-based company that owns Lipton Mart gas stations and convenience stores, and sells propane and heating oil.

Michael Lipton, the company's owner and president, said he knows the his-

tory of the Rockwell painting. The city native also remembers the epic salad bar at Dakota.

"I grew up going to Dakota with my family," he said. "Being there for the demolition was bittersweet."

The company, started by his great-grandfather in 1910, is looking to build up a car wash division.

This new tunnel-conveyor belt-brush affair will be Lipton's second, and big enough to handle around 2,500 cars a day. Lipton still has to get city approval. If so, it will open anywhere from late summer to early winter.

Arizona-based Mint had bought the property in 2019 for \$1.5 million and got a permit from the city to put in a dispensary. It's unclear why they dropped their project, and the owners could not be reached for comment.

Lipton found the South Street site available after the pot shop's shift in plans and bought the parcel from Mint Cannabis in July for \$1.75 million.

"We were at the right place at the right time," Lipton said of scouting for a car wash location.

The building was unused and forlorn. It was in "disrepair," Lipton said.

### 'TENDERSWEET FRIED CLAMS'

The Howard Johnson's restaurant opened in 1940. The colonial-style building was similar to many of the others in the franchise.

It closed because of World War II, fell into foreclosure before it was auctioned off, then bought in 1946 by a new owner, according to Jim Shulman, who wrote about it in The Eagle in 2020.

In 1958, Rockwell staged the scene for the painting at the restaurant using 8-year-old Edward Locke and the late Richard Clemens, a State Police Trooper, according to the Norman Rockwell Museum's webpage about the artwork.

Locke, now 73 and living in Housatonic, said that when Rockwell painted from the photograph, he changed a number of things so that there was very little trace of the chain restaurant. He wanted it to look like a diner out in the country.

"He wanted to make it look like the kid got further out of town," said Locke, who grew up in Stockbridge and had also posed for Rockwell for a different painting.

Locke said Rockwell went so far as to buy two of the stools from the Howard Johnson's supplier so that he could have

them nearby for accuracy. The stools and the coffee cups are the only things that remained true to the restaurant.

And he said that the posing that day took about 45 minutes to an hour.

"He had the idea of what he wanted long before," Locke said.

Locke in the 1980s would play at the Howard Johnson's with a band called Cornerstone, "with a couple of guys from Pittsfield."

He'll never forget the restaurant's "tendersweet fried clams."

"They were just so good," he said.

The restaurant almost didn't make it. In 1961 it was "badly damaged in a fire," Shulman wrote. New owners ran it for 23 years before a new restaurateur opened Dakota there in 1984.

Four years later the original HoJo building was destroyed by another fire, then rebuilt.

Dakota closed in 2013 when its parent company went bankrupt.

Two Asian restaurants tried to make a go of it there after the Dakota left, but did not last.

The last Howard Johnson's restaurant, in Lake George, N.Y., closed last year.