Missouri Innovation Center Takes Advantage of Gig Services

Startup businesses use broadband to compete and grow.

By Sean Buckley / *Broadband Communities*

The home of the University of Missouri, Columbia is fast becoming one of the Midwest's new business innovation hubs. One major reason is the Missouri Innovation Center (MIC) and a fiber pipe from Mediacom.

The cable MSO extended its fiber to enable 1 Gbps internet service for the center, which serves as a startup company incubator. The MIC offers startup businesses mentoring, financial support and resources for conducting research and development.

Launched in 1984, the MIC is part of the state's initiative to create economic development support systems through its universities. The University of Missouri is the home of the country's largest research reactor, which makes radioisotopes used for medical imaging and developing new drugs. In 2009, the university selected the MIC to operate and maintain the MU Life Science Incubator at Monsanto Place. In 2016, the center expanded its role to support technology startups in fields that include health care, precision agriculture, media, education, financial services and online marketplaces.

The MIC is one of several locations dedicated to supporting innovation. Missouri's nine innovation centers, which run independently, are overseen by a statewide agency called the Missouri Technology Corporation.

Other locations include large facilities in St. Louis and Kansas City. The remaining centers are in smaller towns and cities throughout the state.

Bill Turpin, president and CEO of the MIC, says being collocated with the University of Missouri gives new businesses hatched inside the university immediate access to resources.

"The cool thing for us is, we're right by this major research university," Turpin says. "A big part of our mission is to help faculty spin out businesses in the life sciences."

Turpin adds that, in addition to supporting a mix of new companies developing energy technologies, engineering and medical devices germinated inside the university, the Columbia MIC works with startups throughout the state and in other locations.

"We serve a broader charter with support for community and other startups from the area," Turpin says. "Occasionally, we even have companies that move here from other countries or other parts of the United States."

Turpin has plenty of experience running startup companies and leading IT installation efforts. Prior to joining the MIC, he was the founding CEO of four startups and a senior executive at public companies, including Netscape, where he participated in the internet company's 1995 IPO.

After several years of working in Silicon Valley, Turpin returned to Columbia to share his experiences and provide guidance to new companies.

BROADBAND IS A NECESSITY

Many MIC businesses collaborate with clients and partners in various regions and countries,

Life science companies started by University of Missouri faculty develop in the MIC incubator.

so high-speed broadband is more than nice to have – it's a requirement.

Mediacom provides the MIC a dedicated fiber connection, allowing incubator companies to access big data in the cloud and share files. All members of the MIC share the 1 Gbps connection. But because the facility has a limited number of clients, the burst throughput for any one client can often be close to 1 Gbps.

Because of his technical background, Turpin drove the MIC's IT and internet services strategy. He says broadband is important for emerging companies to compete.

"We wanted the incubators and the companies to have equal footing with companies elsewhere in the world," Turpin says. "Broadband is one of the key things you have to have to be an entry player."

One of the MIC startups taking advantage of the Mediacom fiber-based 1 Gbps service is StoryUP, the developer of Healium, a biometrically controlled, drugless solution for stress. This "digiceutical" application is powered by the user's feelings of love and calm via a VR headset and proprietary technology.

High-speed connectivity enables StoryUP to talk to clients in diverse areas, including Spain, Slovenia and the West Coast, and to back up its data, archive files and protect assets.

Any one of StoryUP's video projects could consist of 5 terabytes of data. When it puts these virtual reality feeds together, the company sometimes pools data from several cameras. From

there, the data is sent to the cloud, and the cloud-based application stitches it together and sends it back down.

Sarah Hill, CEO of StoryUP, says that without broadband, the company would struggle to conduct business activities.

"You can imagine how putting enormous amounts of data into the cloud and bringing it down would require a fast internet connection," Hill says. "The internet is like water for us because if we don't have it, we cannot create virtual reality."

Prior to using the gigabit connection, StoryUP had to cobble together connections from various sources. "We would have to wait hours and go to different sites and almost have to borrow internet service from a bunch of different sites to upload different shots," Hill says. "We couldn't do it all at once or we would have clogged up the system, but with gigabit connectivity, we don't have to parse together different internet connections."

SIMPLE INSTALLATION PROCESS

Because Mediacom had already installed fiber near the MIC location, connecting the facility was a simple process.

To get its fiber into the Columbia MIC, Mediacom only had to run a lateral path into the building from a nearby pole on the street. A Mediacom crew later showed up and trenched fiber into the building.

"The process to get the service installed was pretty easy," Turpin says. "After Mediacom sent an engineer [to

our site], it turned out the fiber was on a utility pole in front of our building."

MIC's proximity to Mediacom fiber is an example of how businesses have benefited from the company's Project Open Road initiative.

Launched in 2016, Project Open Road set about to put gigabit internet speeds within immediate reach of more local businesses, using fiber and hybrid fiber coax–based DOCSIS 3.1. Project Open Road is part of Mediacom's broader plan to invest $1 billion over three years to upgrade and expand its national broadband network.

Targeting previously unserved and underserved business locations, Mediacom Business built its facilities to the doorsteps of commercial properties. Project Open Road also sought to eliminate issues related to construction costs and installation time frames.

As CEO of the MIC, Turpin wears multiple hats, including IT director. He installed the routers and associated equipment to take advantage of Mediacom's 1 Gbps connection.

"We're a small, four-person nonprofit, so we don't have an IT staff," Turpin says. "I had a hard time finding a router that would do network address translation fast enough to keep up with the gigabit fiber connection. I found one on Amazon and installed it myself in my spare time."

As the MIC building was already wired for internet – including a University of Missouri connection – Turpin has been selectively migrating businesses such as StoryUP to the 1 Gbps connection.

> "Broadband access is one of those things that levels the playing field to the point where Missouri can compete against anywhere else in the world."

He says what makes the Mediacom service better is that "we don't have a lot of the restrictions that the university has placed on us because we have unfettered gigabit access."

However, Turpin adds, some university faculty-related businesses want to stay on the university network.

ATTRACTING DIVERSE BUSINESSES

Creating the MIC was a collaborative process. Turpin and the University of Missouri drafted a federal Economic Development Administration grant application, planning that the MIC would manage the facility.

"All along, the plan was for us to manage it for them," Turpin says. "We jointly constructed it with the university."

Because the isotope reactor is across the street from the MIC, the location is convenient for cancer-related startups to develop solutions.

One company that decided to relocate to Columbia to take advantage of the reactor and the university's R&D capabilities is Tensive Controls. The company is developing new cancer drugs and conducting trials on dogs.

Owners of the dogs that participate in these trials, which are recruited through the University of Missouri School of Veterinary Medicine, don't have to pay anything.

"If you do a drug trial on a mouse, there's less than a 50 percent chance you'll get the same result in a human," Turpin says. "But if you do a trial on a dog, there's a 90 percent chance it will work in a human."

DRIVING COMMUNITY DEVELOPMENT

A key goal of all the innovation centers is to drive economic development across the entire state of Missouri.

For the MIC, the match with Mediacom came at a relevant time, particularly as the cable MSO decided that Columbia would be one of its network buildout targets.

"We needed the broadband, and Mediacom is pretty active in our community," Turpin says. "We're one of the communities they decided to become more active in, and they looked at communities where they could make a big difference."

Turpin adds, "We found that we had a common goal of helping small companies here in town that would also help provide references for larger companies that are interested in Mediacom."

Columbia is not in a remote, rural area; it is a big university town with more than 120,000 residents. However, it is in a "flyover zone" that most site selectors don't initially think about.

But Turpin says that having sound broadband enables it and its surrounding community to be more competitive. "I believe the internet and broadband access is one of those things that levels the playing field [to the point] where Missouri can compete against anywhere else in the world," he says. ❖

Sean Buckley is the associate editor of **Broadband Communities**. *He can be reached at sean@bbcmag.com.*