AT&T Business

Customer Stories:
UConn Stamford

Using AT&T 5G+ millimeter wave speeds innovation and research

- **Business needs** – The university sought state-of-the-art infrastructure to support learning, research, and business development across campus.
- **Networking solution** – AT&T 5G technology and edge computing give students, faculty, and community partners the next-generation tools they need to explore complex problems in different disciplines.
- **Business value** – Outstanding learning opportunities, innovation, private sector economic benefits.
- **Industry focus** – Higher education
- **Size** – 3,000 students

About University of Connecticut (UConn) Stamford

UConn Stamford was founded in 1952 and moved downtown in 1998 to put students at the center of a robust business community and energizing city. Students have easy access to internships, field placements, and employment with Fortune 500 companies, investment and banking institutions, and community-based organizations.

The situation

Research is a vital aspect of the University of Connecticut. Faculty and administrators at UConn Stamford were looking for new ways to advance academic programs that explore new use cases and expand entrepreneurial activity.

Solution

UConn Stamford chose AT&T Business to work with the university to advance entrepreneurship, innovation, and data science using AT&T 5G+ millimeter wave and AT&T Multi-Access Edge Computing (MEC). The AT&T 5G+ network will help allow the university to connect industry expertise with student and faculty innovation to create pathways to career opportunities and open avenues to new cutting-edge research.

A culture of innovation

The University of Connecticut is one of the nation's top public universities. UConn is a national leader among public research universities, with more than 32,000 students seeking answers to critical questions in classrooms, labs, and the community. A culture of innovation drives this pursuit of knowledge throughout the university's network, which includes UConn Stamford and three other regional campuses.

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> Campus Director,
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Terrence Cheng, UConn Stamford Campus Director, said Connecticut residents are very supportive of their university. "It's a system that has a medical center, a law school, and four undergraduate regional campuses. I take particular pride in UConn Stamford," Cheng said. "We have been able to take advantage of natural assets and the investment in the diversity of the state in our campus to not only grow, but to continue to make an impact socioeconomically for the city, the region, and truly the entire state."

The university's commitment to diversity is important, Cheng said, for its potential to change lives. "Stamford has 66% students of color, many of whom are the first in their families to go to college," he said. "I'm very proud of the fact that students from very diverse socioeconomic and sociocultural backgrounds are able to receive a UConn education by coming to UConn Stamford."

A network to support research and entrepreneurship

Research has always been important to the university. The Carnegie Classification of Institutions of Higher Education has rated UConn a Research 1 university, indicating high research activity. Departments of the university's 14 schools and colleges perform collaborative research with annual expenditures of more than $260 million. "These are things that ultimately add value not only to the university ecosystem, but across the entire state," Cheng said.

The UConn Stamford campus has earned a reputation for the strength of its academic programs, including digital media design, computer science, and business analytics. It is also known for the quality of the research conducted on campus, its new data science initiative, and a new technology incubator. "These areas require the use of technology that is powerful and will allow us to be able to execute at a high level," Cheng said.

Before choosing the technology to support campus research efforts, UConn Stamford faculty and administrators built internal consensus and then set out to find a technology leader with which it could collaborate. The goal was to build a network to

support a broad array of technology tools and innovations. These, in turn, could help the university expand its work in entrepreneurship and data science.

"The president and the provost were certainly supportive," Cheng said. "They understand that UConn Stamford is a different entity within the university. It's an urban environment that has to be quicker and nimbler and represent a 21st century value proposition for students, as well as for our government and private partners."

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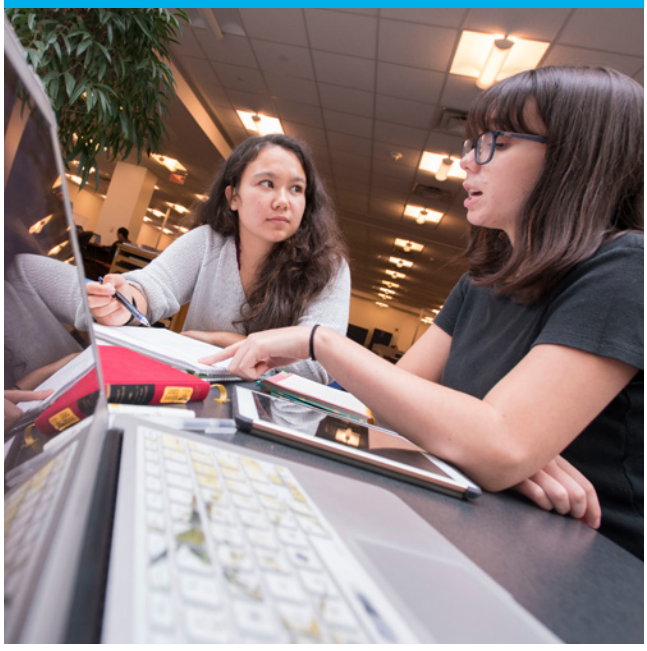

Advanced experiences and outcomes

UConn Stamford chose AT&T 5G+ millimeter wave and AT&T Multi-Access Edge Computing (MEC) technology to advance programs that explore new use cases and expand entrepreneurial activity.

The AT&T 5G+ network delivers wireless high-speed connectivity, and AT&T MEC computing provides a private cellular network architecture that works with 5G+ to allow near-real-time, ultra-high bandwidth and ultra-low latency access to latency-dependent mobile applications.

Cheng said 5G and MEC will help connect students, faculty, and university partners over a private network. This provides advanced experiences and outcomes for students, faculty, and research communities without sending data to remote data centers. "We became the first 5G-powered with mmWave and sub6 campus in the Northeast by collaborating with AT&T Business," he noted.

Exploring the power of 5G

One way the collaboration between UConn Stamford and AT&T Business will benefit the community is through the university's Peter J. Werth Institute for Innovation and Entrepreneurship. This institute works with students, faculty, and community partners to create innovative and entrepreneurial opportunities. It will use AT&T 5G+ millimeter wave, which can help power 4D video, in a year-long co-op program with students.

4D video, also known as volumetric video, surrounds an area or space with cameras. It could be a ballet or

play on stage, or a product demo in a studio. Consumers of the finished video can explore the content from all angles and depths, immersing them in the experience. This differs from 360-degree video, which only allows viewers to watch from a single depth. Some businesses are now adopting 4D to create new types of customer service experiences, training, and more.

In the Werth Institute's year-long co-op program, students will take advantage of the technology to advance work on their projects in the real estate and construction industries. The program is designed create products that are potentially scalable and ready for the market soon. "It will explore alternative reality products that could help our partners and students in terms of their intentions and innovations," Cheng said. "So that's just one example of how 5G and the power of 4D is going to allow the students to do things that they wouldn't be able to do otherwise."

Faculty should benefit from the lab as well, Cheng said, especially those in the data science, computer science, and digital media and design departments. "We're giving them a tool that will allow them to expand the types of grants that they pursue for tactile research and work that they perform on a faculty level," he said. "This will allow our faculty to really set themselves apart within their industries and fields."

It will also advance the university's ability to introduce advanced courses, including offerings in augmented, virtual, and extended reality. "From a curricular and pedagogical standpoint, having this technology will allow us to offer courses that we wouldn't have been able to offer in the past, whether it's wearable technology or access computing," Cheng said.

"When we looked at the different types of 5G offerings, we felt that AT&T Business with MEC gave us the ability to have 5G in the most secure environment and one that allowed us to have the greatest control."

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Using the power and capability of 5G+ millimeter wave with MEC

Working with AT&T Business was a natural fit for UConn Stamford. "When we looked at the different types of 5G offerings, we felt that AT&T with MEC gave us the ability to have 5G in the most secure environment and one that allowed us to have the greatest control," Cheng said. "We will have our own 5G+ in the building areas that we wanted, which was very important to us. We'll have multi-access edge computing also in a secure loop that's going to be helpful to us. Those were things that really set AT&T Business apart from other providers."

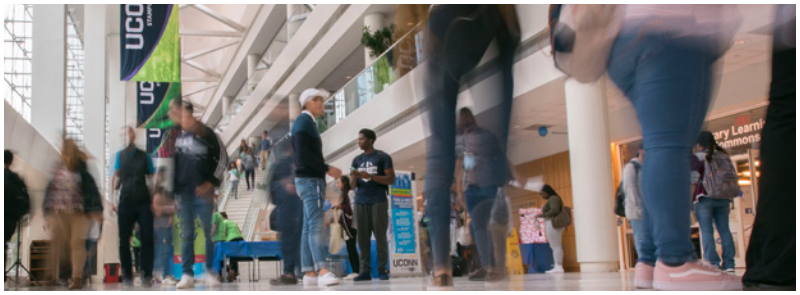
The collaboration with AT&T Business will enable UConn Stamford to bolster the university's Data Science Initiative, which includes the start-up studio and technology incubation program. AT&T Business and UConn expect the Stamford campus's new

resources to connect industry expertise with student and faculty innovation. This can foster career opportunities and cutting-edge research.

The value of the project goes well beyond the campus. "We have external partners and community partners that will come to our campus to use our facilities," Cheng said. "When they heard that they would be able to utilize 5G+ millimeter wave to assist in their work, they were very excited. Other organizations have researchers and faculty members who are also extremely excited to utilize the power and the capability of 5G+ millimeter wave in our local region."

Limitless possibilities

Cheng said UConn Stamford is pleased with the assistance it gets from its AT&T Business account team. "I couldn't ask for a better group of folks to work with," he said. "They really have worked to help us iron out our thinking and strategy in terms of what the real values are. We have a genuine investment in the relationship."



The association transcends a business-as-usual approach. "There are plenty of universities and major providers out there and there's always business to transact," Cheng said. "But the relationship with AT&T allows us to get to the next level. It will have long-term benefits and tangible outcomes. That's something that has to be cultivated."

Cheng continued, "The folks at AT&T Business have been amazing to work with. They understand the big picture, and also our needs, our possibilities, and our concerns. That has been enormous."

Stamford is an amazing campus with truly limitless possibilities that are fueled by its investments in public-private partnerships, Cheng noted. "Our relationship with AT&T was part of a very organic process that the campus has grown through because we really focused on our students and industry."

The tools to succeed

Cheng said students today are focused on jobs and getting the education and experience they need to achieve workplace success. "They want great out-of-class experience and professional development, so our campus is focused on business, digital media, and computer science to get at science experiential learning internships."

"I think our ability to adopt 5G+ millimeter wave is part of what 21st century students want and are going to need to be successful," he said. "I feel very fortunate to have worked with a team, both at UConn and at AT&T Business, that made this a reality."

He sees great things for UConn Stamford. "I think the future will be even bigger, stronger, and brighter," he said. "And I do think that is going to continue to include the use of emerging technology in higher education."