

CULTURE OF INNOVATION

Forsyth County, Winston-Salem are hub for medical marvels, high-tech, research and entrepreneurs.

When Dr. Anthony Atala moved from Boston to Forsyth County 17 years ago, downtown Winston-Salem's main landmark was two tall smokestacks marked "R.J.R. TOB. Co." overlooking vacant historic buildings and warehouses.

That downtown plot has since transformed to the Innovation Quarter, 330-plus acres of mixed-use space filled with 90 companies pursuing biomedical science, information technology, clinical services and businesses that impact the regenerative medicine field. The community also includes residential development and retail. Education that aids business and research is also a major component with the presence of Wake Forest University's School of Arts and Science's biomedical graduate programs and a branch of Forsyth Technical Community College.

And more is coming. The Innovation Quarter's Phase Two with 2.4 million square feet is in the works.

"It was abandoned, old factories, and that is what really attracted us as we were moving here to start the institutes. We saw the way this park had been laid out, and we knew this was an area that could focus on technology," says Atala, founder and director of the Wake Forest Institute of Regenerative Medicine [WFIRM]. "There was this very strong medical school, and the hospital, and the cancer center all in one central space. To have everything together is really essential. The state and the city and the institution, they're all aligned, and that's what makes it special."

"We're in this bubble," says Nick Gonzalez, a partner and broker in the commercial real estate firm Linville Team Partners, which serves Winston-Salem, Greensboro

and High Point. "And it's a good bubble. ... The medical community of Winston-Salem is somewhat famous." Since 2014, his company has done more than \$150 million in transactions in downtown Winston-Salem. He went on to discuss how the varied features of the community must be assembled the right way.

"A lot of our clients are developers that have invested heavily in downtown. When you're doing something downtown, it's almost like you have a curated vision of how it's all going to fit together with the other puzzle pieces," Gonzalez says. "It's like there's an ecosystem that's working, and you're disrupting the ecosystem for the better. Adding something to that vibrancy, like an apartment complex, or retail, or renovating an existing property, there has to be a sensitivity to that, that doesn't apply to other areas."

You're fitting into the ecosystem that's already there."

Along with a variety of purposes, the variety of employees in Winston-Salem and the Innovation Quarter make them distinctive.

"The town has an amazing environment, because you have the combination of academia and graduate schools, undergraduate students, and the Innovation Quarter has been totally revitalized with a lot of young scientists and engineers," says Atala, who also is a multiple-award-recipient professor and the Chair of the Department of Urology at Wake Forest. "You have ... entrepreneurs and start-ups who are building the next generation of products in technology," he adds.

"The entire innovation ecosystem that exists within the city of Winston-Salem and Forsyth County have rallied to place a specific emphasis on fulfilling our mission of being the City of Arts and Innovation," says James Patterson, Innovation Quarter director of marketing and communications. "That means investment in initiatives and infrastructure that create an inviting atmosphere for research and innovation."

The city's population of 250,320 has grown by 16,500 people in the last decade and by almost 50,000 since 2000. Its hub of research, technology and education overflows beyond city limits.

Allegacy Federal Credit Union is an example of a Forsyth County institution with deep roots in Winston-Salem that's continually evolving as the county grows. It started in 1967 as Reynolds Carolina Credit Union for employees of the tobacco company in a makeshift office in the RJR building downtown. In 2001 the credit union changed its name to combine "allegiance" and "legacy" and become Allegacy. It now has 200 employees, 170,000 members or account holders and 18 branches

in six counties. It's opened two in Charlotte since June. Yet, Allegacy stays close to those early RJR roots with a location in the Biotech Place at the Innovation Quarter.

"All kinds of people are moving to Winston to work there. They are coming from all over the world," said Lindsay Copley, Allegacy communications specialist. "We want to introduce ourselves and pay homage to our roots in the Reynolds building. It's amazing what's happening (in the iQ) and we want to be an integral part of that."

Forsyth County is definitely a melting pot for longtime residents and businesses as well as newcomers and innovation.

"Forsyth County has a robust pipeline of project interest both through local expansion and external relocation,"

says Mark Owens, president and CEO of Greater Winston-Salem, Inc. "Our region is in play for a third of projects currently under consideration through the Economic Development Partnership of North Carolina. Since the start of 2021, Greater Winston-Salem, Inc. has facilitated projects generating 600 new jobs with \$301 million in investment, and there is more on the way."

The new Winston-Salem Partners Roundtable or WSPR Fund is made up of more than 70 investors that provide investment capital and business support. It has invested \$1.5 million in six startup companies and helps lure entrepreneurs and startups.

"Within the past year, we have worked with the city and county to identify more than 750 developable acres to bring to our commercial



A view of Innovation Quarter (top) and Whitaker Park (bottom) in Winston-Salem.

real estate market," Owens says. "Investments by developers have resulted in build-to-suit projects in 220-acre Whitaker Park, (two miles north of downtown) and Union Cross (in the southeastern section of the county.) Other industrial centers are ready for tenants.

"While Whitaker Park has had great success with investors, there is still great opportunity for tenants and companies to locate there with roughly 240,000 square feet still available," Owens adds.

In November, Ziehl-Abegg, a German manufacturer of ventilation systems and generators, announced it will invest more than \$100 million to establish its North American headquarters in Union Cross. The facility will be in a 500,000-square-foot build-to-suit property. The company says it will move its Guilford County operations to the new site and offer relocation to Guilford's 200 employees along with creating 300 new jobs.

"We are excited to welcome a global leader in advanced manufacturing to Forsyth County," Owens said. "This location decision underscores the advantages that manufacturers have in this area – from infrastructure and logistics, to availability of talent to a supportive business climate."

INNOVATION QUARTER

"The Innovation Quarter, while managed under the auspices of Wake Forest University School of Medicine, exists as a driver within the Winston-Salem and Forsyth County innovation ecosystem," Patterson says. "We regularly work with partners from across our region and even the state and globe to make sure we are providing the right kind of environment to help collaboration thrive. For example, our participation as one of the founding members of the Global Institute on Innovation Districts, is a signal that we are open

to and benefit from collaboration with partners from all over."

Groundbreaking of infrastructure for the second phase of the Innovation Quarter should begin in early 2023.

"The Innovation Quarter is the largest technical medical park in the southeast," Gonzalez says, "The master plan is around 10 million square feet. ... We're really lucky that we have a lot of private and public investment in small business incubators." He cites the following examples.

- Winston Starts which provides mentors, coaching and resources to entrepreneurs.
- Flywheel Coworking rents work space, private offices to desks, on a weekly and daily basis in its downtown location.
- Sparkq in the iQ's Bailey Power Plant, offers membership packages for co-working space and conference rooms.

"That power plant was repurposed and has a brewery, a restaurant and a gym. A lot of people live in the apartment next door," Gonzalez says. "You probably wouldn't have a development like the power plant if it were in the suburbs."

Five academic institutions with 3,600 workers and 1,800 students have a place in the iQ. These folks as well as the quarter's other employees and clients dine at more than 115 restaurants within a mile of the quarter, according to its website. It encompasses eight apartment complexes, including Piedmont Leaf Lofts, repurposed from two 1890s historic buildings, and Winston Factory Lofts, created from a 1920s industrial building.

Retail includes Bailey South, a 33,000-square-foot building next to Bailey's Power Plant and Biotech Place.

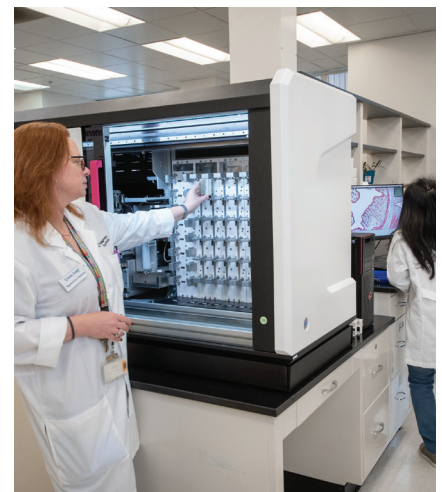
A 1.7-mile greenway, Long Beach Trail, runs the length of Innovation Quarter and connects to downtown Winston-Salem, creating a 20-mile loop for pedestrians and cyclists.

REGENMED HUB AND LIFE SCIENCES

North Carolina has 790 life sciences companies and 2,500 companies supporting those primary life science companies that account for 70,000 jobs, according to the 2022 NCBiotech Company Directory. TEconomy Partners, a research and strategy firm for economic development, reports that life sciences account for \$84 billion in total annual economic activity and branch out to include 224,000 total jobs. With an average salary of \$97,000 [in 2020], life sciences' payroll statewide totaled \$7.7 billion.

Wake Forest, which has one of five medical schools in North Carolina and one of three comprehensive cancer centers in the state, accounts for many of these life science jobs.

"The RegenMed Hub, located within the Wake Forest Institute for Regenerative Medicine, is opening up access to the field of regenerative medicine for which Winston-Salem has become a national leader with over 25 related companies located in the Innovation Accelerator," Owens says. The recently launched



WFIRM lab techs work on a 3DHitech Pannoramic 1000 slide digitalization system.

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Innovation Accelerator is an ecosystem for regenerative medicine focused entities and draws on the resources and talent within the Innovation Quarter.

“Regenerative medicine,” Atala says, “has the potential to change health care. We are working on technologies that can affect patients. We can take a small piece of tissue in the patients and grow new cells and replace deceased organs. It’s a lot of work, and it took a lot of years to make it happen.”

Some of the areas of research include 3D bioprinting of reproducible human tissue and whole organs, devices that accelerate healing and tissue restoration, protein-based therapeutics administered through an IV and donated organs.

REAL ESTATE GROWTH

“Our downtown, specifically with Wake Forest and their medical school, is developing so you have this new ecosystem of gyms and bars and restaurants, where you can walk to work and socialize with people in your network,” Gonzalez says. “With our downtown, we’ve seen an explosion in growth with hotels and apartments and employers.”

A key ingredient, he says, is employee attraction and retention.


“Our recent migration numbers show that about 110,000 people have moved to North Carolina in the last 12 months,” Gonzalez says. “So we’re competing for those good employees and competing with other cities in the South that have great downtowns and cultural stimulus. A lot of our growth has been in

employee attraction and retention, and Winston-Salem has turned into a really cool place to start a career and a family.

“If people go away to college, they come back because the quality of life is so great. Small and medium-sized businesses are trying to emulate the cool, engaging, flexible modern workplace, and that’s hard to do if you’re not surrounded by a lot of restaurants, bars and breweries.”

Regions outside of Winston-Salem throughout Forsyth County have their own draws for new residents and employees.

“Job growth has been incredibly healthy, so we’ve seen a lot of growth in housing and investments in the schools and infrastructure,” Gonzalez continues. “There’s a lot of uncertainty as to what the economy will have



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in the next year, but we're kind of insulated here from the national headlines because we're seeing interest from people who know we have an affordable cost of living, and excellent quality of life. You see that in Clemmons, you see it in Kernersville. They're really booming."

Frank L. Blum Construction Co., which has built many of the key buildings in Winston-Salem, is part of the city's latest activity in the Innovation Quarter and downtown. It's currently upfitting an old Reynolds Tobacco building for Wake Forest that will include classrooms, teaching labs and research labs. Blum also renovated the 500 West Fifth building that houses Winston Starts.

The company turns 100 in 2023. With a contractor's license number of "18," it's one of earliest and



Bailey Park in Innovation Quarter.

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continuously active builders across the state. Blum has constructed more than 100 buildings for Wake Forest, starting with a women’s dormitory in 1955. Other new and renovation projects include Wake Forest’s Deacon Tower, Graylyn, Reynolda House, Atrium Health’s Birth Center and the Forsyth County Central Library.

As part of its 100th anniversary next year, Blum is dedicating 100 hours a week to community service in 2023. “This is a challenge to our company as a whole and to the individuals that make up the Blum Family to find important ways to make an impact in the communities in which we live and work,” said Sidney Hunter, marketing director.

HIGHER EDUCATION SPOTLIGHT

Forsyth Technical Community College is just one of the seven colleges and universities in the county. Its Innovation Quarter location across town from the main college campus, houses the Small Business Center, National Center for the Biotechnology

Workforce and the school’s Business & Industry Services.

“I think we at Forsyth Tech are kind of in the heart of the entrepreneurial ecosystem here, and it’s a great location to serve our local clients, especially with the Small Business Center,” says Jennifer Coulombe, assistant vice president of Business Partnerships & Process Improvement. Health care is FTCC’s most popular subject area, followed by advanced manufacturing and IT. “Healthcare is a huge piece of what we do in that we’re contributing to the local workforce so we work closely with our major employers in the area,” she says. “Students expand into greater workforce exposures like internship training and apprenticeships, and that’s where our bigger opportunities lie, in connecting employers to the student pipeline early in their education,” she says.

FTCC’s business and industry leadership team engages with the local workforce and designs and refines curricula so students learn what potential employers need.

The college’s Learn and Earn

Apprenticeship Program [LEAP] is an adult apprenticeship route that lets people earn a degree while working in their chosen industry. “Our students graduate debt-free with impactful wages that can change the lives of their families,” Coulombe says.

With eight locations in Forsyth County and one in Stokes County, FTCC offers 69 associates degrees and has 21 online programs.

VISIONS

“I see continued growth,” Gonzalez says, of his outlook for the next several years. “I think we’re in a really well-positioned market that’s going to be insulated from a lot of headwinds, and I don’t see anything slowing us down. I don’t see the enthusiasm surrounding the Carolinas waning at all. I’m very optimistic.”

At FTCC, Coulombe says, “I think in the past we’ve been known as a two-year transfer opportunity, but we’re helping people know now that they can immediately go into the workforce and, more importantly, that financial barriers need not stop someone from pursuing

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their education or their training in whatever they want to do.

"We are not training students to be competitors with their next-door neighbors. We're training students to be global competitors," she says.

And the ecosystem will continue to accommodate many players and purposes.

"In 10 years we believe Winston-Salem, the Innovation Quarter and RegenMed Hub will be seen as the premiere destination for research and technology development in the field of regenerative medicine, with companies either locating here or directly partnering with the companies and institutions to take their ideas to the next level," Patterson says. "We believe Winston-Salem and the Innovation

Quarter will play a major role in that coming to pass.

"Winston-Salem is quickly refining its identity as a city where truly groundbreaking research and technology development is happening."

"We set aside space for the regeneration accelerators, and within three months it was gone," Atala says, "so we added more space, and it was gone. All around us, technology will keep growing, and the good news is that we have land for further development. We aren't limited like other cities. We can put a lot more buildings in this area." ■

— Kathy Blake is a writer from eastern North Carolina.



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