

Life sciences report

^{4Q 2021} Raleigh-Durham

North Carolina / The Triangle

North Carolina is home to 775 life science companies, and with steady long-term growth, the industry employs more than 67,000 North Carolinians. The sector continues to be a major economic driver for the state and the Raleigh-Durham region. The solid relationship between educational and private institutions has facilitated the recruitment and retainment of talent across the area. North Carolina leads the country in vaccine manufacturing and now has the world's largest concentration of contract research organizations. North Carolina is one of just 10 states with a "specialized" employment

Approximately 80% of North Carolina's life science companies are based in the Raleigh-Durham region.

concentration in three or more life science subsectors. The Raleigh-Durham region's rich talent pool, strong economic fundamentals and proximity to universities have attracted major companies to the area. Research Triangle Park is the largest research park in North America and is home to industry leaders such as Syngenta, Bayer, IQVIA and Biogen. Biotech employment continues to increase as the world grapples with the COVID-19 pandemic, and the Triangle region is experiencing heavy demand for biomanufacturing and lab space.

Why the Triangle?

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Lowest corporate tax rate in U.S.

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700+ international companies



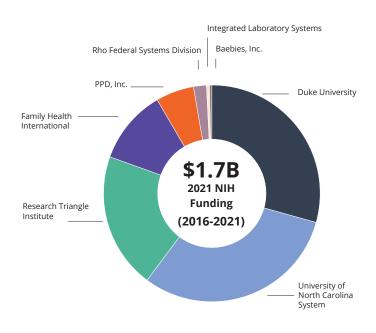
Some of the biggest names in biotech, agriculture and contract research



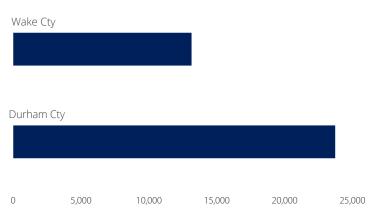
Access to talent from three R1 universities

In the U.S., overall employment is projected to grow by 7% from 2020 to 2030, while employment in life, physical and social science employment has increased by 10% over the same time period. Steady growth in life sciences has acted as a buffer during the past two recessions, where in both instances the region's private sector employment declined while the life sciences industry grew. In the combined Wake and Durham counties, research-and- development employment grew 8.1% year-over-year (2Q20-2Q21), the highest employment growth percentage among all life science industry sectors in the region.

Notable NIH funding by organization



Life science employment by County (2Q21)



Facts and figures
622 life science sites

38,000+ life science employees in Triangle region 24,581 life science degrees conferred 2016-2020 \$145K average annual life science salary \$4B in Bioscience Investments, 4,000 jobs (2021, NC) 10.2M SF of life science inventory in the Triangle 5.1M+ SF of life science inventory in the pipeline \$84B NC economic impact from life science industry

Spark LS, a \$1B, 109-acre biotech campus consisting of lab and biomanufacturing space, is slated for the I-40/RTP submarket. Spark LS will be built in phases, with the first phase expected to add three buildings totaling more than 400,000 square feet.

R&D grants

Twenty-nine technology companies across North Carolina have received grants totaling \$1.5 million to foster job creation and promote research and technological development in response to the COVID-19 pandemic. More than half of these companies are in the life sciences sector.

#1 biomanufacturing employment (NC)

#3 pharma manufacturing (NC)

#9 Top U.S. biopharma cluster (Triangle)

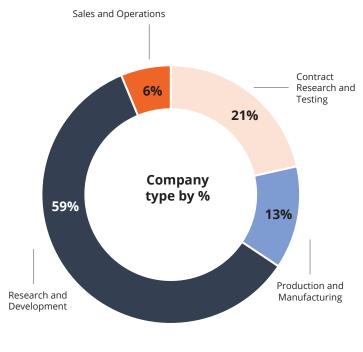
Life science trends

- Increased demand for life science product is creating interest in conversion of commercial office buildings to lab space. Some of the most promising conversion opportunities include traditional office buildings that are anchored by research universities with direct access to a steady pipeline of STEM graduates.
- Biotechnology is the most research-intensive industry in the U.S. economy, with spending accounting for 25.7% of total life science revenue.
- U.S. life science investment sales volume reached a record \$70 billion in private and public capital in 2020, a 93% increase from the previous record in 2018.

Recent acquisitions

Thermo Fisher Scientific has completed its acquisition of Wilmington-based global contract research organization PPD. The **\$17.4 billion** deal was finalized in 4Q21. PPD will become a part of Thermo Fisher's Laboratory Products and Services unit.

Morrisville-based **Heat Biologics**, a clinicalstage immunotherapy company, has signed a definitive merger agreement to acquire **Elusys Therapeutics**. The sale is expected to close in 1Q22.



North Carolina's life sciences manufacturing jobs rose 11% during the COVID-19 pandemic. The annual year-end analysis by the North Carolina Biotechnology Center's Life Science Intelligence Team reported that 30,181 people were employed in production and manufacturing companies at year-end 2020, up 10.2% from the previous year.

Notable tenant activity / last 12 months

PROPERTY	TENANT	ΑCTIVITY
The Stitch	Invitae	Invitae, a genetic testing company with headquarters in San Francisco, leased 245,000 square feet in the third quarter of 2021 at the Stitch project in the I-40/RTP submarket. The project is now fully leased.
Patriot Park	Taysha Gene Therapies	In a deal worth more than 23 million, Taysha Gene Therapies of Texas leased an entire 187,500-square-foot building at Patriot Park in the I-40/RTP submarket.
Midtown Plaza	Gilead Sciences	Gilead Sciences, headquartered in California, picked the Triangle over a competing site in Atlanta, one that came with \$10 million in incentives. The firm will occupy 84,000 sf of former Allscripts space at Midtown Plaza in Raleigh's North Hills development.

Notable sales / last 24 months

PROPERTY	TOTAL SF	BUYER	SELLER	PRICE (\$M)
Parmer RTP, Parmer Ellis, Parmer*	2,367,053	Alexandria Real Estate	Karlin Real Estate	\$615
The Stitch	248,000	Related Companies	Equator Capital	\$182
Durham.ID	330,274	Longfellow Real Estate	Bain Capital	\$138
Research Commons*	422,000	Oxford Properties	Global Mutual	\$138
INQ 1101	140,302	TPG Real Estate	DRA Advisors	\$88
*The Center for Innovation & Tech-	104,998	Ventas	Keystone Corporation	\$52.8
Bradford & Berrington Center	224,779	Alidade Capital	Crown Realty	\$40.9
Innovation I	139,163	Northridge Capital	Scannell Properties	\$36.8
Park Point	655,700	Trinity Capital Advisors	Zurich Alternative	\$37
*Portfolio sale				

Notable R&D space

West Raleigh

PROPERTY	YEAR BUILT	TOTAL RBA (SF)	% LEASED
Alliance Center	2015	292,955	100%
Biomedical Partnership Center	2017	44,835	100%
Center for Technology & Innovation	2017	104,988	100%
Keystone Centennial Science Center	2010	70446	100%
Partners Bldg I	1996	81,352	86%
Partners Building II	1999	59,131	100%
Poulton Innovation Center	1991	68,896	100%
Research Bldg IV	1996	75,571	100%
Venture Center	1998	482,692	89%

Research Triangle Park

PROPERTY	YEAR BUILT	TOTAL RBA (SF)	% LEASED
110 TW Alexander Drive	2000	158,417	100%
15 TW Alexander Drive	1978	43,760	100%
2525 E NC Highway 54	1996	82,996	100%
400 at The Frontier	1980	56,337	95%
5 Triangle Drive	1981	32,120	100%
6040 George Watts Hill Dr	2015	61,547	100%
6-8 Davis Drive	1979	100,000	91%
9 Laboratory Drive	2021	160,000	21%
Alexander Industrial Park	2018/2020	263,970	100%
Alexandria Center for AgTech	1984/2019	175,000	100%
Alexandria Innovation Center	1994	135,677	99%
Alexandria Technology Center - Alsto	1985	186,870	93%
Bayer CropScience Innovation Center	2000	158,721	100%
BioPoint	1998	148,989	100%
Bradford/Berrington Center	1999	224,779	100%
Discovery at Perimeter Park	1999	399,072	60%
First Flight Venture Center	1991	52,622	100%
INQ	2020	177,000	100%
Keystone Technology Park	1997/2009	954,041	91%
Labcorp I & II	1988	185,072	100%
Newcastle North	1987	120,426	100%
Park Point	Under Const.	324,000	75%
Parmer 14	1984	262,667	100%
Parmer Ellis	1992	365,366	100%
Parmer RTP	1989	1,681,710	79%
Patriot Drive Sciences Center	1984/2001	50,884	100%
Patriot Park	1989	375,000	100%
Venture at Imperial Center	1988	138,337	100%

Downtown Durham

PROPERTY	YEAR BUILT	TOTAL RBA (SF)	% LEASED
Durham.ID	2018	330,274	81%
Durham Carmichael Building	2013	114,600	100%
The Chesterfield	2017	286,000	99%
Venable Center	2006	74,438	100%

Sanford		9 70 6 Knightdale	
МАР	COMPANY	TRIANGLE EMPLOYEES	NC EMPLOYEES
• 1	LARGEST CRO'S BY NUMBERS OF EMPLO	YEES 5,143	5,353
2	RTI International	2,274	5,555 NA
3	PPD	2,274	3,500
4	Syneos Health	1,680	1,804
5	Duke Clinical Research	1,090	1,090
6	PRA Health Sciences	800	900
7	FHI 360	440	440
8	Rho	350	350
9	Charles River Laboratories	300	300
10	Paraxel	300	700
•	LARGEST LIFE SCIENCE EMPLOYERS		
11	Pfizer	3,610	3,846
12	Grifols	2,183	2,632
13	GSK	1,900	2,000
14	BASF	1,769	2,000
15	bioMerieux, Inc.	1,200	1,200
16	Novo Nordisk	1,200	1,200
17	Merck	862	1,379
18	Novozymes	680 550	680 550
19 20	Segirus	550	550
20	Syngenta	500	1,200

Life science clusters

Research Triangle Park

Research Triangle Park is the largest research park in North America. Founded in 1959, the park's 7,000 acres are home to over 75% of North Carolina's life science companies. The nation's first state-funded non-profits promoting life sciences and microelectronics—the North Carolina Biotechnology Center and the Microelectronics Center for North Carolina—were established in RTP. NC Biotech has become North Carolina's go-to life science resource, supporting the region's ideas, research and universities, and offering millions of dollars in North Carolina biotech grants and loans.

More than 560 life science companies are located in RTP, ranging from global corporations to start-ups. Major industries include pharmaceuticals, agtech, cleantech, advanced manufacturing and technology. RTP is a major hub for life science talent due in large part to the region's academic institutions, which attract more than \$3 billion in federal R&D funding each year.

In 2021, Longfellow Real Estate Partners signed on to develop 220,000 square feet of office and state-of-the-art lab space at Hub RTP. The development will total 2 million square feet of mixed-use space including lab, office, retail and residential space when completed.

GreenLight will increase the size of its research-and-development operations in RTP. Headquartered in Massachusetts, the bioscience company plans to add more than 66,000 square feet of greenhouse, lab and office space to support its plant health pipeline. Employment at the RTP location is expected to grow from 44 employees to 60 by the end of this year. It houses bioinformatics, genomics, screening, and formulation operations that support both plant and human applications.

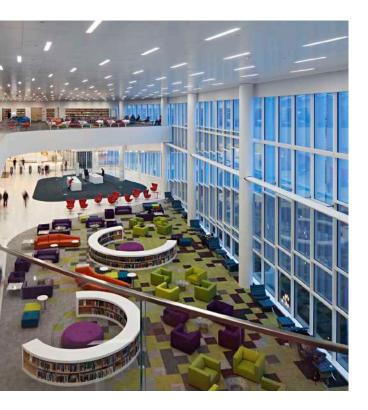
Downtown Durham

Downtown Durham continues to entice life science companies and offers tenants an innovative and collaborative urban environment.

Durham.ID, developed by Longfellow Real Estate Partners, has a large presence in Downtown Durham, providing lab, office, residential and retail space. The adaptive reuse development has 115,000 sf of existing lab space and 490,000 sf of office space. Once complete, the master plan will offer 1.7 msf, including 900,000 sf of new office and lab space. Google chose Durham.ID for its new engineering hub, aiming to create 1,000 jobs, nearly doubling the company's current number of employees in the state. Major occupiers such as Duke Clinical Research Institute, Duke Molecular Physiology Institute, Nutanix and Measurement, Inc. also call Durham.ID home. The former WeWork space at 300 Morris Street has been converted to 100,000 sf of state-of-the-art lab space.

The Chesterfield building, a redeveloped former Liggett Myers manufacturing plant, serves as Wexford Science + Technology's 286,000-sf office, lab and technology space. In partnership with Duke University, the project features a unique innovation cluster that includes Biolabs NC, a biotech coworking facility. The lab is equipped with top-of-the-line research equipment, attracting ambitious startup companies. Biolabs NC also leased 32,000 sf at the renovated Brightleaf Square building.





Centennial Campus / West Raleigh

North Carolina State University's Centennial Campus is a 5.1-msf research-driven park located in West Raleigh. Centennial Campus plays an important role in encouraging innovation and partnering with students, national and international partners and government entities. More than 170 start-up companies have been launched in Centennial Campus, and the park is home to more than 76 industry, government and nonprofit partners.

The Center for Technology and Innovation has more than 110,000 sf of office, R&D lab and industrial space and is LEED certified.

Keystone Science Center provides more than 78,000 sf of office and lab space and is a major hub for research and development.

Biomedical Partnership Center offers 44,500 of lab and office space.

Corporate announcements

Fujifilm Diosynth Biotechnologies

The Japanese company chose Holly Springs over a competing site in Texas for a new \$2 billion biologics manufacturing facility that will house 725 employees. The project will be the largest monoclonal antibodies facility in the world.

Science 37

The clinical research company will expand its Triangle presence and relocate their headquarters to the region from Los Angeles. The move will include a \$1.5 million investment and will create 250 new jobs with an average wage of \$114,400. The company is eligible for up to \$3.3 million in incentives over 12 years.

Thermo Fisher Scientific

The company will build a manufacturing facility in Orange County to produce laboratory pipette tips. The facility is part of a \$192.5-million contract with the U.S. Department of Health and Human Services to ensure adequate domestic supply of critical laboratory products. The new facility will total 375,000 sf with occupancy scheduled for summer 2022 and will create 200 jobs.

Jaguar Gene Therapy

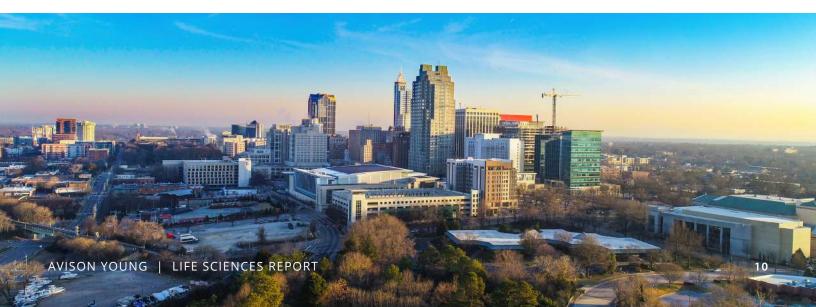
The Eli Lilly-backed developer of treatments for severe genetic diseases will build a new \$125 million, 174,000-sf manufacturing facility in Durham, creating 200 jobs paying a minimum of \$92,500. The two-year-old company has three existing facilities, including a lab in Cary.

Amgen

The California-based pharmaceutical company will construct a \$380.6-million biomanufacturing facility in Holly Springs, creating 355 jobs with an average annual wage of more than \$119,000. After an extensive search initially covering more than 15 markets, the company chose the Triangle over Houston.

CARsgen Therapeutics

The Chinese biotech company focused on treating cancers has picked the Triangle over Maryland for a \$157-million, 200-job expansion. The project is expected to create 200 new jobs between 2022 and 2026 with an average salary of about \$76,061.



Notable development

Spark LS

Spark LS will be a nearly \$1-billion mixed-use life science campus in the I-40/RTP submarket. Starwood Capital Group and Trinity Capital Advisors are planning for 1.5 million square feet of cutting-edge lab and biomanufacturing space in addition to retail and recreational space spanning 109 acres. The two developers purchased the property in 4Q21 for \$36.3 million.





The Yield

Crescent Communities has announced plans for a 260,000-sf office and life science campus spanning three buildings and 200 acres in Holly Springs. The new life science campus will focus on biomanufacturing and lab with some retail amenities. Phase two of The Yield will offer an additional 1 million square feet of space.

Fujifilm Diosynth Biotechnologies

Fujifilm Diosynth Biotechnologies recently chose Holly Springs over a competing site in Texas for a 725-job biologics manufacturing facility. It will be the largest monoclonal antibodies facility in the world. Fujifilm says it plans to invest up to \$2 billion in the expansion.



Occupier Solutions

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