NORTH CAROLINA
LIFE SCIENCES INDUSTRY
North Carolina has the largest biological product manufacturing industry in the U.S. by total employment. Billion-dollar biomanufacturing plants, such as Seqirus, operate in the state yielding innovative new therapies and vaccines.

North Carolina is home to over 730 biosciences companies that directly employ more than 66,000 highly skilled people. More than 2,400 additional North Carolina companies provide support specifically to life sciences firms.

North Carolina’s life sciences industry has experienced steady growth since 2010. This is due, in part, to our top research universities, industry-facing training programs and robust start-up ecosystem.

What can EDPNC do for you?

The Economic Development Partnership of North Carolina (EDPNC) proudly serves as North Carolina’s statewide economic development organization. The EDPNC recruits new businesses to the state, supports the needs of existing businesses, and connects exporters with customers around the globe.

We provide FREE assistance with:
- Real estate and site identification
- Incentive and tax benefit inquiries
- Regulatory navigation
- World-class workforce solutions
- Supplier and distribution connections
- Export services and global market expansion

For more information about North Carolina, contact the EDPNC at 919.447.7744 or clientservices@edpnc.com.
**NORTH CAROLINA’S LIFE SCIENCES SECTOR**

North Carolina’s life sciences landscape is highly diverse. Examples of key sectors include:

### HUMAN THERAPEUTICS

Human Therapeutics, including North Carolina’s world-leading biomanufacturing and pharmaceutical facilities, enable new high-speed production of vaccines and pharmaceuticals. 290+ pharma companies operate in NC. Researchers at the Wake Forest Institute for Regenerative Medicine are growing human organs from donors’ cells.

### RESEARCH & TESTING

North Carolina is home to 150+ contract research organizations that support life sciences companies with a wide range of services, including biopharmaceutical development, biologic assay development, commercialization, preclinical and clinical research and clinical trials management.

### AGRICULTURE

North Carolina is a place where a rich agriculture tradition meets high-tech science to create an unparalleled environment for innovation. R&D at universities and 165+ agriculture companies boost North Carolina’s $92 billion agriculture sector with innovations in plant and animal production.

### MEDICAL DEVICES & DIAGNOSTICS

From medical engineering labs to global manufacturers of medical devices, 350+ North Carolina companies produce breakthrough technologies that enable faster, more precise, and less expensive options for diagnosing and treating medical conditions in animals and people.

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**PLENTIFUL & SKILLED WORKFORCE**

| **5.1M+ LABOR FORCE** | Largely fueled by domestic in-migration, North Carolina has one of the largest labor forces in the U.S. From 2010-2019, North Carolina was among the top three states for net migration. |
| **20K+ LIFE & PHYSICAL SCIENTISTS** | North Carolina is among the top states for number of people employed as life and physical scientists. This workforce has grown 15% over the past ten years. |
| **45K+ ENGINEERS** | North Carolina’s engineering workforce has grown 18% over the past five years, leading the nation for engineering job growth. |
| **25K+ STEM DEGREES** | North Carolina’s educational institutions awarded more than 25,000 Science, Technology, Engineering and Math degrees and certificates in 2018, including more than 4,700 biological and biomedical science degrees. |

**LABOR SUPPLY FOR LIFE SCIENCES INDUSTRY AND MAJOR SUBSECTORS**

North Carolina offers life science companies an abundant and affordable supply of labor. North Carolina’s life science industry wages are about 14% below the national average.

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Total Life Sciences</td>
<td>74,717</td>
<td>1.36</td>
<td>$97,074</td>
<td>$111,655</td>
</tr>
<tr>
<td>Drugs &amp; Pharmaceuticals</td>
<td>21,810</td>
<td>2.36</td>
<td>$100,226</td>
<td>$119,075</td>
</tr>
<tr>
<td>Research, Testing, &amp; Medical Labs</td>
<td>40,278</td>
<td>1.28</td>
<td>$102,437</td>
<td>$118,287</td>
</tr>
<tr>
<td>Agricultural Feedstock &amp; Chemicals</td>
<td>4,401</td>
<td>1.53</td>
<td>$85,775</td>
<td>$82,916</td>
</tr>
<tr>
<td>Medical Devices &amp; Equipment</td>
<td>8,227</td>
<td>.72</td>
<td>$68,504</td>
<td>$94,642</td>
</tr>
</tbody>
</table>
THE PERFECT CLIMATE FOR GROWING TALENT

North Carolina offers one of the nation’s most renowned education systems, supplying companies a pipeline of skilled workers and unparalleled access to R&D resources. In 2018, North Carolina had over $2 billion in academic life science R&D expenditures, ranking fifth in the nation for total life sciences expenditures.

UNIVERSITIES

Among North Carolina’s 53 colleges and universities, there are three Tier 1 research universities – Duke University, UNC Chapel Hill and North Carolina State University. The state boasts five medical schools, four pharmacy schools, and one veterinary school. The Biomanufacturing Training and Education Center (BTEC) at NC State University provides hands-on educational opportunities to develop skilled biotech professionals, as well as customized short courses tailored to meet the needs of specific companies. The Biomanufacturing Research Institute and Technology Enterprise (BRITE) at NC Central University trains the next generation of scientists, particularly in drug discovery and manufacturing technology. The Joint School of Nanoscience and Nanoengineering at NC A&T State University and UNC Greensboro provides students and companies access to state-of-the-art tools and labs.

COMMUNITY COLLEGES

The North Carolina Community College System (NCCCS), third largest in the U.S., enrolls more than 480,000 students each year at 58 campuses. BioNetwork, the life science training initiative of the NCCCS, delivers life sciences courses and certificates and offers customized training via our state’s community colleges, online, and at company sites. The Pharmaceutical Services Network at Pitt Community College (PSN@PCC), for example, provides pharmaceutical training in a pilot plant environment with lab scale equipment to teach oral solid dosage theory and manufacturing techniques. BioNetwork also offers laboratory resources such as the Natural Products Lab.

INDUSTRY RESOURCES

North Carolina has numerous programs and research centers that support life sciences entrepreneurs and businesses. Examples include:

- The North Carolina Biotechnology Center (NCBiotech) is a nonprofit organization that leads life science economic development in NC with a specialized staff supporting the progression of ideas from the lab to the marketplace. NCBiotech invests in technology development through grants, in company development through loans, and in economic development through grants and support activities.

- The North Carolina Biosciences Organization (NCBIO) is a membership organization that advocates for policies that encourage the growth of life science companies, support the development of a strong life sciences workforce, and promote research and technology transfer at universities and other institutions.

- BioLabs NC, a biotech coworking facility in Durham, offers premium open lab space, research equipment and a national network that enables life science start-ups to reach their milestones faster. BioLabs is one of a number of life science incubators across the state.

- The North Carolina Research Campus (NCRC) in Kannapolis, NC is a public-private research center focused on transforming science at the intersection of human health, nutrition and agriculture. NCRC offers companies and researchers turn-key laboratory space and ample opportunities for collaborations.

- The Council for Entrepreneurial Development (CED) is a network that connects entrepreneurs with corporate partners, investors, academics, service providers and other organizations. In partnership with NCBiotech and NCBIO, CED hosts an annual Life Science Conference showcasing NC’s most exciting and innovative life science companies.

For more than three decades, the North Carolina Biotechnology Center (NC Biotech) has been at the heart of the state’s life science transformation, building partnerships and championing innovation. NCBiotech is headquartered in Research Triangle Park (pictured), with regional offices in Asheville, Charlotte, Greenville, Wilmington and Winston-Salem.
AS A LONG-ESTABLISHED BIOTECHNOLOGY HUB THAT ATTRACTS THE NATION’S TOP TALENT, RESEARCH TRIANGLE PARK WAS AN OPTIMAL LOCATION TO EXPAND OUR FOOTPRINT AND COMPLEMENT OUR EXISTING STATE-OF-THE-ART MANUFACTURING SITE IN THE CHICAGOLAND AREA.

ANDREW KNUTDEN,
FORMER SENIOR VP OF TECHNICAL OPERATIONS, AVEXIS (A NOVARTIS COMPANY)

UNMATCHED BUSINESS ENVIRONMENT

#1 BEST STATE FOR BUSINESS
- Forbes (2019)
#2 TOP STATE BUSINESS CLIMATE
- Site Selection (2019)
#3 BEST STATE FOR BUSINESS
- CNBC (2019)
#3 COMPETITIVE LABOR ENVIRONMENT
- Area Development (2019)

LOW COST OF LIVING
The cost of living in North Carolina is well below that of other states with strong life science clusters.

<table>
<thead>
<tr>
<th>State</th>
<th>Index Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Carolina</td>
<td>88</td>
</tr>
<tr>
<td>Texas</td>
<td>91</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>96</td>
</tr>
<tr>
<td>New Jersey</td>
<td>114</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>123</td>
</tr>
<tr>
<td>California</td>
<td>133</td>
</tr>
<tr>
<td>New York</td>
<td>135</td>
</tr>
<tr>
<td>National Average</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: C2ER State Cost of Living Index

LOW BUILDING COSTS
Average construction costs in North Carolina’s metropolitan areas are up to 16% below the national average.

AAA BOND RATING
North Carolina is one of only four states to earn Standard & Poor’s highest rating for over 55 consecutive years.

UNPARALLELED INNOVATION
North Carolina businesses lead the nation in innovation with 70% patent growth over the past 10 years.

RIGHT TO WORK STATE
North Carolina is one of 27 right to work states.

LOW ELECTRICITY COSTS
NC’s industrial electricity costs are about 10% below the national average.

<table>
<thead>
<tr>
<th>State</th>
<th>Rate per KW-HR</th>
</tr>
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<tbody>
<tr>
<td>North Carolina</td>
<td>6.20</td>
</tr>
<tr>
<td>National Average</td>
<td>6.83</td>
</tr>
</tbody>
</table>

Source: Energy Information Administration
GO BIG. SPEND LESS.

2.5%  
CORPORATE INCOME TAX  
North Carolina has the lowest rate among the 44 states that levy this tax. NC uses single sales factor apportionment.

5.25%  
PERSONAL INCOME TAX  
The standard deduction is $10,750 for single taxpayers and married couples filing separately, $21,500 for married couples, and $16,125 for heads of households.

4.75%  
STATE SALES & USE TAX  
Counties levy an additional 2-2.75%. Sales tax exemptions are available for manufacturers, large fulfillment centers, and data centers.

NONE  
STATE PROPERTY TAX  
There is no state-level property tax. Real and personal property taxes vary by local government. In 2019, N.C. had the 6th lowest commercial and 10th lowest industrial effective property tax rates in the U.S.

INCENTIVES  
Targeted, performance-based incentive programs complement North Carolina’s competitive cost structure. The Economic Development Partnership of North Carolina (EDPNC) helps companies navigate the incentive process.

JOB DEVELOPMENT INVESTMENT GRANT (JDIG)  
JDIG is a performance-based, discretionary incentive program that provides cash grants to new and expanding businesses to help offset the cost of locating or expanding a facility in North Carolina. Companies can qualify for a JDIG based on the project location, number of jobs, and average wage. The grant amount is based on a percentage of the personal income tax withholdings associated with new jobs.

ONE NORTH CAROLINA FUND (ONE NC)  
One NC is a discretionary cash-grant program that allows the Governor to respond quickly to competitive job-creation projects. Awards are based on the number of jobs, level of investment, project location, economic impact, and importance of the project to the region. Awards may be used in new or existing buildings for installation or purchase of equipment, structural repairs and/or renovations, construction and/or improvements to utility lines.

PUBLIC INFRASTRUCTURE & TRANSPORTATION PROGRAMS  
NC offers a number of programs to fund public infrastructure development, including the Community Development Block Grant Economic Development Program, Utility Account, Rural Division’s Economic Infrastructure Program, NCDOT’s Rail Industrial Access Program, NC Railroad Company’s NCRR Invests program, and the NC Department of Commerce’s Joint Economic Development Program with the NCDOT.

BUILDING REUSE PROGRAMS  
North Carolina offers two different programs that provide grants to renovate and upfit vacant industrial and commercial buildings including:
- Community Development Block Grant Building Reuse Program
- Rural Division’s Building Reuse Program

OTHER INCENTIVE PROGRAMS  
- NCWorks Customized Training Program
- Foreign Trade Zones
- NC Biotech Center Economic Development Award
- Recycling Business Development Award Grants
- Golden LEAF Foundation Grants
- Building Demolition Programs

In 2015, Denmark-based Novo Nordisk announced a $1.8 billion expansion in Johnston County, North Carolina, adding 700 new jobs and a new biomanufacturing facility. The company manufactures insulin, GLP-1 products and prefilled delivery devices for the treatment of diabetes. It planned to employ over 1,600 people at its two manufacturing facilities in N.C. by 2020.
MARKET ACCESS & TRANSPORTATION

North Carolina’s robust transportation infrastructure connects companies to domestic and international markets. Ten airports offer commercial services, including four international airports that connect North Carolina to major cities in the U.S. and abroad. North Carolina also has the second-largest state-owned highway system and major controlled-access arteries such as I-95 (running the length of the East Coast), I-85, and I-40 (running from North Carolina to California). Two deepwater seaports and an integrated rail system ensure that North Carolina companies can easily reach suppliers and customers.

ROADS

Second-largest state-owned highway system
North Carolina’s highways stretch for more than 80,000 miles (129,000 km). The state’s central East Coast location offers easy access to the country’s most important transportation corridors.

Major controlled-access arteries include:
- I-95, running the length of the East Coast
- I-40, linking North Carolina to California
- I-85, stretching through the manufacturing heart of the Southeast

PORTS

Two deepwater seaports in-state with on-dock rail
North Carolina’s ports offer fast turn times and capacity for ships carrying up to 14,000 TEUs. An inland port in Charlotte provides easy market access, North Carolina companies also enjoy easy access to the Port of Norfolk and the Port of Charleston.

Port of Wilmington
- Container and general cargo operations
- Channel depth of 42 feet M.L.L.W.
- On-terminal cold storage facility and 1M sf of covered storage
- Next-day rail service to Charlotte inland port

Port of Morehead City
- General cargo and bulk handling facility
- Channel depth of 45 feet M.L.L.W.
- 1M sf of covered storage

AERIAL

The world’s 7th busiest airport is located in Charlotte
Ten airports offer commercial services, including four international airports that provide easy access to global markets. International airports include:
- Charlotte-Douglas International Airport (CLT), world’s seventh-busiest airport
- Raleigh-Durham International Airport (RDU), fifth in passenger satisfaction among large North American Airports
- Wilmington International Airport (ILM), home to the ILM Business Park with easy access to highways, rail, and the Port of Wilmington
- Piedmont Triad International Airport (GSO), a premier air cargo center and home to the FedEx Mid-Atlantic Air Hub

RAIL

Two Class 1 Carriers
North Carolina has more than 3,200 miles (5,100km) of track. Two Class 1 carriers, CSX Transportation (CSX) and Norfolk Southern (NS), offer direct service to North American markets and to all major ports along the U.S. East Coast.

- Intermodal service hubs in Charlotte (NS, CSX) and Greensboro (NS). Another planned for Rocky Mount (CSX) in 2021.
- Direct intermodal service from Port of Wilmington to CSX terminal in Charlotte
- Major rail yards in Lexington (NS) and Hamlet (CSX)
- 19 regional railroads, including six that connect to both NS and CSX railroads
NORTH CAROLINA WAS CHOSEN FOR THE LOCATION, FOR THE UTILITY AND TRANSPORTATION ADVANTAGES, AND THE STATE CONTAINS AN EXCEPTIONAL WORKFORCE. IN ADDITION, WE CAN SERVICE OUR CUSTOMER BASE QUICKER AND PROVIDE MORE COST-EFFECTIVE TRANSPORTATION.

GERARDO MURAIRA, OPERATIONS DIRECTOR, NUTEC GROUP