

North Carolina Life Sciences Messaging Document

About

NCBiotech created this North Carolina Life Sciences messaging document to provide a cohesive set of messages that will support economic development efforts across the state and drive global recognition of the state as a place that accelerates success in the life sciences.

Key Messages

The state's life sciences messages are driven by the theme "North Carolina accelerates success in the life sciences" and fall into three categories:

1. Diverse cluster
2. Thriving ecosystem
3. Job-ready talent

Within each category, we have provided key messages as well as talking points and facts.

How to Use This Document

The key messages in this document can be used by anyone in North Carolina who is marketing the sector. It will allow individual organizations to tell their story, while reinforcing North Carolina's overall life sciences message. By uniting our voices and messages, we can leverage our limited resources to put North Carolina top of mind.

To use the messages below, feel free to copy and paste them into your marketing materials. Also feel free to add facts and figures into the context of the messages to highlight your region and to support your efforts. Designed icons, graphics and NC Life Sciences Alliance logos are also available for your use.

North Carolina Life Sciences

Theme: North Carolina accelerates success in the life sciences

Positioning Statement

North Carolina is a globally recognized life sciences cluster with a thriving ecosystem and job-ready talent pipeline. Our life sciences ecosystem supports and fosters innovation and collaboration. Public-private partnerships drive job-training programs that deliver highly skilled talent to accelerate product development, production and delivery. Local and state partners create a strong business environment, working together to solve challenges specific to life sciences businesses.

Key Messages: Diverse Cluster

1. Life Sciences Cluster

North Carolina is a leading life sciences cluster with a strong roster of biomanufacturing, contract research organizations and agricultural technology companies.

2. Bio Production and Manufacturing

North Carolina is a U.S. leader in biopharma production and manufacturing.

3. Gene and Cell Therapy

North Carolina companies are at the forefront of discovering, developing and producing new gene therapy technologies.

4. Contract Research Organizations

North Carolina is home to the world's largest concentration of CROs.

5. Ag Tech Industry

North Carolina's ag tech companies are leaders in crop protection and animal health.

Key Message: Thriving Ecosystem

North Carolina's life sciences ecosystem provides the support and partnerships businesses need to grow. From intellectual property to information technology, North Carolina companies know how to support the business of life sciences.

Key Messages: Talent Pipeline

More than 67,000 North Carolinians are employed in the life sciences, and thousands more graduate each year with engineering and life sciences degrees and certifications.

The world-unique NCBioImpact partnership delivers hands-on training with pilot-scale, industry-standard equipment for current and future biopharma manufacturing workers.

Key Messages and Talking Points

North Carolina accelerates success in the life sciences

Key Messages: Diverse Cluster

1. Life Sciences Cluster

Short: North Carolina is a leading life sciences cluster with a strong roster of biomanufacturing facilities, contract research organizations and agricultural technology companies.

Detailed: As a leading life sciences cluster, North Carolina boasts a strong roster of biomanufacturing, gene and cell therapy, contract research organizations and agricultural technology companies. Our state is also recognized as a leader in gene and cell therapy and is home to the world's largest concentration of CROs.

Talking Points:

- 775 life sciences companies
- 92 international companies representing 24 countries
- 67,000 life sciences employees
- Nearly 2,500 support and related companies

2. Bio Production and Manufacturing

Short: North Carolina is a U.S. leader in biopharma production and manufacturing.

Detailed: North Carolina is a U.S. leader in biopharma production and manufacturing, employing more than 30,000 highly trained employees at 130 companies. Our state is also home to some of the world's leading biomanufacturing companies, including Baxter, Biogen, Eli Lilly, Grifols, GSK, Merck, Novo Nordisk, Novozymes, Pfizer, Seqirus, Thermo Fisher and more. (See talent section for details of the specific training programs that keep these facilities staffed.)

Talking Points:

- Bio production and manufacturing companies employ more than 30,000 employees at more than 130 companies across N.C.
- Global leaders located in N.C. include Baxter, Biogen, Eli Lilly, Grifols, GSK, Merck, Novo Nordisk, Novozymes, Pfizer, Seqirus, ThermoFisher and more.
- Products manufactured in N.C. include small-molecule therapeutics, monoclonal antibodies, industrial enzymes, vaccines, and cell- and gene-based therapies.

3. Gene and Cell Therapy

Short: North Carolina companies are at the forefront of new gene therapy technologies.

Detailed: North Carolina is home to leading international gene therapy companies. Led by world-renowned researchers, the state has a strong portfolio of homegrown companies at the forefront of gene-based technologies.

Talking Points:

- From 2017 to 2020 companies committed to \$1.1 billion in investments and the creation of 1,600 jobs in N.C.

- Leading international gene and cell therapy companies include Adverum, Astellas Gene Therapies, Beam Therapeutics, Novartis Gene Therapies, and Taysha Gene Therapies.
- Home-grown entrepreneurial companies AskBio, Locus Biosciences, Precision BioSciences and Stride Bio continue to push cell and gene therapies forward.
- N.C. universities are home to world-renowned research leaders: Jude Samulski (UNC), Rodolphe Barrangou (NC State), Aravind Asokan (Duke), and Charles Gersbach (Duke).

4. Contract Research Organizations

Short: North Carolina is home to the world's largest concentration of CROs.

Detailed: North Carolina is home to the world's largest concentration of CROs, including IQVIA which began as Quintiles on the UNC-Chapel Hill campus. The state's CROs employ more than 24,000 employees at 150-plus companies across the state. Global CRO leaders with headquarters in North Carolina include PPD, Parexel International, and Syneos Health. Diagnostic and testing leader LabCorp is based in Burlington.

Talking Points:

- N.C. is home to the world's largest concentration of CROs
- CROs employ about 24,000 employees 150-plus companies across N.C.
- IQVIA began on the UNC campus as the world's first clinical trials management company.
 - Today, the company employs 75,000 global employees in 100 countries.
- Global CRO leaders with N.C. headquarters include PPD, Parexel and Syneos Health
- Burlington-based LabCorp leads the diagnostic and testing space.

5. Ag Tech Industry

Short: North Carolina's ag tech companies are leaders in crop protection and animal health.

Detailed: North Carolina is home to more than 165 ag tech companies. The state's ag tech industry is known for its advancements in crop protection and animal health. Leading ag tech companies with a presence in our state include Syngenta, BASF and Novozymes. The state is also home to the largest global cluster of plant gene-editing/CRISPR companies.

- N.C. State leads the public-private partnership Plant Sciences Initiative, which seeks to solve challenges in crop production in a changing climate.

Talking Points:

- N.C.'s ag tech strengths include crop protection and animal health.
- 165 ag tech companies employ more than 9,000 people across N.C.
 - Industry leaders with a presence in N.C. include Syngenta, BASF and Novozymes.
 - N.C. is home to the largest global cluster of plant gene-editing/CRISPR companies.
- N.C. is home to two land-grant universities and a network of 16 extension stations.
- [Plant Sciences Initiative](#) is a public-private partnership led by N.C. State and includes corporate, academic and government researchers.
 - The partnership's purpose is to solve challenges in crop production in a changing global climate.

Key Messages: Thriving Ecosystem

Short: North Carolina's life sciences ecosystem provides the support and partnerships businesses need to grow.

Detailed: What is a life sciences ecosystem? In North Carolina, it is the infrastructure and support system a company needs to thrive and grow. This system includes leading research universities, a strong transportation network, thriving entrepreneurial and investor communities and companies that provide support services, from architectural and engineering to accounting.

Talking Points: University Research

- 16-campus UNC system (including your regional university)
- Duke, Wake Forest and Campbell lead the private university life sciences programs
- RTP is home to the National Institute for Environmental Health Sciences (NIEHS) and EPA.
- The Triangle region has the [highest per-capita NIH funding](#) (Durham-Chapel Hill MSA)

Research University Facts

- 6 – Medical Schools (Duke, East Carolina, UNC-Chapel Hill, Wake Forest, Campbell Osteopathic Medicine; UNC-Charlotte was approved July 2021)
- 4 – Pharmacy Schools (Campbell, East Carolina, High Point, UNC-Chapel Hill)
- 3 – Comprehensive Cancer Centers (Duke, UNC-Chapel Hill, Wake Forest)
- 2 – Land Grant Universities (NC State and NC A&T)
- 1 – College of Veterinary Medicine (NC State)

Talking Points: Entrepreneurial Companies

- 439 companies working in R&D, most with 50 or fewer employees
- North Carolina companies, institutions and organizations were awarded 4,235 patents in 2020.
 - 329 (8%) were biotech related.
- Recent small company investments include:
 - [A \\$1M SBIR to IngateyGen](#), an Elizabeth City company working to remove allergens from peanuts using CRISPR (pronounced crisp-er)
 - [\\$7M to Advanced Animal Diagnostics](#) to help it transition its field test for mastitis in cows to a COVID-19 test for humans.
 - Humacyte went public, [raising \\$175M](#) to develop its regenerative medicine pipeline, including a scaffolding that promotes blood vessel regrowth.

Key Messages: Job-Ready Talent

Short: More than 67,000 North Carolinians are employed in the life sciences, and thousands more graduate each year with engineering and life sciences degrees and certifications.

Detailed: More than 67,000 North Carolinians are employed in the life sciences, and each year 4,900 life sciences and 4,500 engineering degrees are awarded. To prepare students for biopharma manufacturing jobs, industry and education collaborated to form NCBioImpact.

Talking Points:

- 67,000 life sciences workers currently
- 4,900 life sciences and 4,500 engineering degrees awarded annually.
- A [full complement](#) of training programs to prepare students for clinical research careers.
- NCBioImpact, an industry/education collaboration to guide training programs:
 - BTEC at NC State – hands on, pilot-scale training
 - BRITE at NC Central – drug discovery and translational research
 - NC BioNetwork at NC Community Colleges – statewide delivery of process technician fundamentals and custom training
 - NC PSN – ECU/Pitt Community College partnership for oral solid dose training on industry standard equipment
- More than 20 networking groups for life sciences professionals, including the monthly NCBiotech Jobs Network.
- Connections to available talent through the NCBiotech Jobs Board.

Talking Points: Filling the Talent Pipeline

- The Bio Jobs Hub gathers resources to link people who may not have STEM backgrounds with biopharma manufacturing jobs. The site includes job descriptions, training options, and stories from people who have transitioned into the field.
- A new section of the Bio Jobs Hub will target students with information about open positions in clinical research and diagnostic testing.
- NCBiotech's Veterans Outreach Program recruits transitioning military members, veterans, and their spouses for training that bridges their military experience into biopharma manufacturing jobs. Initial participants include Fort Bragg, Pfizer, and Seqirus.
- The NC Community Colleges BioNetwork program hosts multiple career fairs each year, matching pre-screened participants with company recruiters.
- NCBiotech's K-12 Pharma training program trains high school graduates and lines up interviews with biopharma manufacturers.

Talking Points: Nobel-prize-winning scientists:

- Bob Lefkowitz, Duke Professor of Medicine, 2012 Nobel Prize in Chemistry. Today, more than half of all prescription drug sales are of drugs that target either directly or indirectly the receptors discovered by Dr. Lefkowitz and his trainees.
- Paul Modrich, Duke Professor of Biochemistry, 2015 Nobel Prize in Chemistry. Dr. Modrich increased our understanding of cancer, aging, and other conditions by describing how DNA signals that it needs to be repaired.
- Aziz Sancar University of North Carolina at Chapel Hill Professor of Biochemistry and Biophysics, 2015 Nobel Prize in Chemistry. Dr. Sancar showed how proteins and enzymes repaired DNA damaged by ultraviolet light.
- And 14 previous winners, now deceased.