

North Carolina: a global leader in biomanufacturing

94

production and
manufacturing sites



28K+

production and
manufacturing employees

\$4.0B

pharma and biomanufacturing
investment planned



Sources: NCBiotech Company Directory, 2022; Public News Announcements

Seqirus

Job-ready Biomanufacturing Workforce. A diverse manufacturing base requires a highly skilled workforce. North Carolina's statewide collaboration, NCBioImpact, delivers that talent.

North Carolina is one of the nation's top states in the number of workers involved in biological processing. Add to this strong talent base our low business costs – average salaries, real estate, and taxes – and North Carolina's place is clear as the best value in biomanufacturing.

This value proposition built a diverse core of traditional capabilities and an agility that embraces the newest technology platforms. Strengths include insulin (**Novo Nordisk**), plasma-derived proteins (**Grifols**), and gene therapies (**Asklepios BioPharmaceutical**, **Astellas Gene Therapies**, **Beam Therapeutics**, **CARsgen Therapeutics**, **Collectis**, **Jaguar Gene Therapy**, **Novartis Gene Therapies**, **Pfizer**, **Precision BioSciences**, **StrideBio** and **Taysha Gene Therapies**). They also include vaccines (**FUJIFILM Diosynth Biotechnologies**, **Medicago**, **Merck**, **Seqirus** and **Thermo Fisher Scientific**). And antibodies and oligonucleotides (**Biogen**). A complete list of North Carolina's biomanufacturers can be found at directory.ncbiotech.org.

Training the people who run these unique facilities are **NCBioImpact**, the **Biomanufacturing Training and Education Center (BTEC)**, the **Biomanufacturing Research Institute and Technology Enterprise (BRITE)** and **BioNetwork**. This partnership, supported by the **North Carolina Biotechnology Center**, links the

biopharma industry and the state's academic institutions to create a global best-practice continuum of hands-on biomanufacturing training. North Carolina has the talent to meet your needs.

A Thriving Ecosystem

North Carolina's biopharma manufacturing companies succeed in part because of our life sciences ecosystem and the connectivity among our specialized organizations, top-tier universities, and statewide medical expertise.

Since 1984, the **North Carolina Biotechnology Center** has led statewide life sciences economic development with funding and mentoring programs, workforce development initiatives, and an in-house team of analysts, among other relevant life sciences experts.

The **North Carolina Biosciences Organization** is the trade association for our life sciences sector, and hosts the **Biotech Manufacturers Forum** to help share information and address common concerns.

The **National Institute for Innovation in Manufacturing Biopharmaceuticals** is a public-private consortium dedicated to advancing biopharmaceutical manufacturing innovation.

North Carolina: Producing biomanufacturing success



Success Brings Growth

Even as **Novo Nordisk** completes a \$2 billion expansion of its production facility for diabetes medicines in Clayton, **FUJIFILM** has announced a \$2 billion biopharmaceutical manufacturing plant in Holly Springs that will bring 725 jobs. **Amgen**, which pioneered the use of recombinant DNA technology four decades ago, has broken ground on a \$550 million manufacturing plant in Holly Springs. And **Lilly** has announced plans for a \$1 billion, 600-employee manufacturing facility in suburban Charlotte.

World-class Training

Demand for plasma-derived medicines is growing and **Grifols** continues to invest in new purification, filling, and fractionation facilities. Through the **Customized Training Program**, Grifols engaged Johnston Community College's Workforce Development Center, a

30,000-square-foot facility that provides an array of training from technical skills to team building.

The Next Transformation

As gene- and cell-based therapeutics gain regulatory approvals, North Carolina is taking the lead in manufacturing these transformative products.

- **AskBio's** AAV-based portfolio of preclinical and clinical-stage therapies, as well as its manufacturing capability, were acquired by Bayer. The deal for the homegrown company turned global gene therapy leader is worth up to \$4 billion for the Chapel Hill company.
- **Novartis Gene Therapies** is producing its Zolgensma treatment for spinal muscular atrophy in Durham. It's one of the first fully approved and commercially available gene therapies.
- **Pfizer** invested \$500 million to expand its AAV gene therapy production capability to its Sanford facility. That followed the company's purchase of **Bamboo Therapeutics**, a University of North Carolina at Chapel Hill spinout headed by AAV pioneer Jude Samulski, Ph.D. Pfizer also has a Durham facility supporting its gene therapy.
- In Durham, Duke spinout **Precision Biosciences** has forged a \$2.7 billion partnership with **Lilly** with its ARCUS gene editing platform.
- Since its 2015 founding in Durham, **StrideBio** has inked multiple collaborations to develop AAV technologies with global companies.

Scaling production of your biological or pharmaceutical product requires specialized knowledge. The right location, in a strong ecosystem, supported by experienced companies and run by skilled talent, can pay big dividends over time. Let NCBiotech help you find the perfect place in North Carolina to transform your company.

North Carolina Biotechnology Center®

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