

Recruiting Jobs, Training Workers, Strengthening the North Carolina Economy



NCBioImpact

NCBioImpact is a public/private partnership combining the resources of the life science industry, the North Carolina Biosciences Organization and the North Carolina Biotechnology Center with the University of North Carolina System and the NC Community College System. This collaboration resulted in an internationally recognized, first-of-its-kind training program.

The training partners—each with a unique mission— provide students and current employees with hands-on training and experience with equipment and processes used by industry.

- **NC BioNetwork** (NC Community Colleges)
- the Golden LEAF Biomufacturing Research Institute and Technology Enterprise (**BRITE** at NC Central University)
- The Golden LEAF Biomufacturing Training and Education Center (**BTEC** at North Carolina State University)

In 2002 and 2003, biomufacturing company leaders recognized their growing cluster would need more qualified workers to expand in North Carolina. The Golden LEAF Foundation provided more than \$70 million for state-of-the-art facilities and equipment for training programs. The General Assembly funds yearly operating costs.

NCBioImpact programs played a major role in creating
\$1 billion in new facilities
and 700-plus jobs.

Learn what Biogen Idec, Medicago, Merck, Novartis, Novo Nordisk and Novozymes value about the training they received. NCBioImpact.org

Results

Our biomufacturing-specific approach to worker training helped ignite the growth of North Carolina's biotech cluster. Biomufacturing is just one part of the state's third-ranked biotechnology industry. The direct impact and ripple effects of biotech in North Carolina create:

- \$64.6 billion in annual economic activity
- 226,823 jobs
- \$1.92 billion in taxes for state and local government

The industry has grown by 29 percent since 2001, **five times** the rate of the state's private sector. This sector has grown in the midst of recession, by 1 percent in 2009 and 2.5 percent in 2010.

Competition

International companies that expand or locate here consistently cite worker training as a deciding factor. The state faces stiff competition for company locations, and other states are now targeting our workforce advantage.

- Texas plans a \$161-million Emerging Company Fund for tech companies, while Texas A&M is constructing a facility larger than BTEC.
- Pennsylvania is poised to overtake North Carolina as the leader in the number of vaccine manufacturing workers.
- Alsace BioValley in France is constructing a facility modeled after BTEC.
- China is expected to become the third largest drug market by the end of this year, and China's cabinet earmarked \$9.2 billion to support biotechnology and other technologies.

“One of the factors in consideration when our headquarters decides to invest in new jobs and facilities is the extent to which **the public sector is supportive of job training programs**, via grants as well as nearby community college and university educational programs. NCBioImpact has been a **factor in our recent \$75 million expansion** plans under way to produce a new insulin delivery device.”

—Steve Dawson
Novo Nordisk

NCBioImpact Training Partners

NC BioNetwork

The statewide NC Community College initiative with seven centers provides expertise in this sector to all 58 community colleges. In addition to **certificate** and **associate-degree** courses statewide, BioNetwork provides hands-on customized training opportunities at the **Capstone Center in Raleigh** and **Analytic Training Lab in Winston-Salem**.

- Trained 4656 students in FY 2010
- Supported 24 customized training projects for the state's businesses
- Offered 50 outreach sessions that reached more than 2,800 people
- Informed more than 16,000 people about training opportunities.

BRITE

BRITE offers biotech-specific **undergraduate** and **advanced degree** programs. Drug discovery and biomanufacturing research is conducted at its 52,000-ft² facility at **North Carolina Central University**. Highlights include:

- 139 undergraduate and 45 graduate students
- Placement rates of 100 percent and 90 percent, respectively
- 44 new courses and 15 short courses
- 30 collaborative projects
- 5 core facilities for collaboration with industry
- \$1.8M in federal funding for research, annually

BTEC

BTEC works like a small-scale biomanufacturing plant, giving students **hands-on experience** on industry-standard equipment. The 82,500-ft² facility opened on **NC State's Centennial Campus** in 2007.

- 250 undergraduate and graduate students enrolled per semester
- 100 percent placement of graduates
- 8 production projects for local industry
- 15 training projects for local and national companies
- Training classes for FDA inspectors
- More than 200 employees from 15 local companies attended BTEC industry courses.

\$75,000
Average
Salary

What our students are saying

“Great class! I have 18 years in the pharmaceutical industry with half of that time spent in the biotech industry, and I still learned valuable information and, in addition, was exposed to some of the chemistry applications and

science that I need while in the QC lab. I will recommend this course to my colleagues and others interested in this industry as the hands-on experience was excellent.”

—Todd Compton, Biogen Idec
about a class at NC BioNetwork Capstone Center

“Excellent instruction provided with ample time to ask questions.”

“Great hands-on and practical experience.”

“The instructors were extremely knowledgeable and made asking questions easy.”

—Comments from FDA personnel
on training at BTEC.

“We experienced so much data being presented on different aspects of the same project using techniques we had never even thought of. I now look at everything more broadly.”

—Shalonda Ingram
MS student at BRITE