



# Golden LEAF Biomanufacturing Training & Education Center

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# What is BTEC?

- Simulated cGMP biopharmaceutical facility
- Education and training
- Process and analytical services
- First and largest in the world



## Factors that led to establishment of BTEC

- Strong, and rapidly growing, Biotechnology industry in North Carolina
- Focused on manufacturing of biopharmaceuticals
- Need for a highly-trained work force
- Responsive to changing industry needs
- Hands-on, large scale, cGMP experiences

538 Companies + 138 Contract Research and Testing  
23.5% Growth 2001 - 2010  
58,495 Employees + 226,000 Total Jobs  
\$75,470 Average Salary  
\$64.6 Billion Impact

# Who made BTEC happen?

- NC Biosciences Organization
- NC Biotechnology Center
- NC State University
- NC Central University
- NC Community College System

ncbio



**North Carolina  
Biotechnology Center**

a non-profit center moving biotechnology  
from the mind to the marketplace



## Request from the NC legislature (2003)

**\$70 million (2004)**



- **Golden LEAF Biomanufacturing Training and Education Center (BTEC)** – NC State University (\$39 million)
- **Biomanufacturing Research Institute and Technology Enterprise (BRITE)** – NC Central University (\$20 million)
- **BioNetwork** – NCCC System (\$11 million)

# BTEC Key features

- 63,000 gsf labs
- 9,000 gsf classrooms
- \$15 MM equipment
- \$6 MM/y operating
- 46 Employees
- >50% Industry experience
- 2L – 30L – 300L Scales
- Upstream, downstream, analytical, regulatory



# BTEC Today

- UG and G minors & certificates in Biomanufacturing
- Students from many disciplines
- US First PSM in Biomanufacturing (NSF)
- AY 2012-13 enrollment of 740
- 400 Industry trainees in FY 2012
- FDA inspector training (2007 – 2017)
- BARDA - WHO grant to train vaccine manufacturers and regulators from 13 different countries (2011 – 2015)
- 15 – 20 Industry contracts/year - Process & Analytical Services
- Foreign partnerships – BTEC International

