

# PHARMACEUTICAL & BIOTECHNOLOGY MANUFACTURING IN THE CAROLINAS



**Business-friendly environment.**

**The Carolinas offer a solid work force at a cost below the national average.**

**The Carolinas offer a dynamic industry culture.**

**North Carolina's community colleges have a long history of focusing on large and small molecule manufacturing.**

## INCENTIVES / TAX ADVANTAGES

- In 2004, North Carolina offered an estimated \$39.4 million in incentives to win Merck's vaccine manufacturing plant which created approximately 200 jobs.
- The recently established South Carolina Life Sciences Act represents sweeping legislation that provides a customized incentives approach that is specifically designed for the life sciences industry.

## AVAILABLE, AFFORDABLE, SKILLED LABOR

- Approximately, 24,000 Carolinians (8% of the U.S. industry total) are employed in pharmaceutical and medicine manufacturing.
- Each year, more than 5,300 (5% of the national total) Carolinians receive higher education degrees in biological sciences.
- Average manufacturing earnings/hour of \$13.7 - \$14.2 place the Carolinas among 15 U.S. states with the most competitive manufacturing wages

## INDUSTRY PRESENCE

- The Carolinas are home to the global biotech and pharma industry center – Research Triangle Park. Such leaders as GlaxoSmithKline (R&D, manufacturing and U.S. headquarters), Merck, Novartis Pharmaceuticals and Novartis Animal Health, Novo Nordisk, Biogen, Diosynth, Ajinomoto USA, Bayer Biological Products, Eli Lilly, Eisai, Wyeth Vaccines and bioMerieux all call the Carolinas home.
- The world's largest vaccine facility, Wyeth Vaccines, and the world's largest blood fractionation plant, Bayer, are located in North Carolina.
- South Carolina is home to a well-established base of pharmaceutical manufacturers comprised of bulk manufacturing, chemical processing, generic and proprietary drugs, medical compound preparations and packaging. The following industry leaders, GlaxoSmithKline, Pfizer (Capsugel), Bausch & Lomb, Roche Carolina, Leiner Health Products and Nutricia, all have manufacturing facilities in the state.
- The Carolinas have the world's greatest concentration of Contract Research Organizations (CRO). Headquartered in North Carolina are four of the world's largest CROs and testing companies, LabCorp, Quintiles Transnational, PPD and Inveresk Research Group.

## EDUCATION

- Twelve of the nation's leading research universities including, Duke University, Clemson University, N.C. State University, University of North Carolina at Chapel Hill, Medical University of South Carolina and the University of South Carolina are located in the Carolinas. Over 5,000 university scientists and technicians in biotech-related fields live and work in the Carolinas.
- Specific industry-focused initiatives:
  - **UNC-Charlotte** - \$35m Biotech grant approved to construct the BioInformatics Research Center which will connect biological research with technology through the development of computational tools.
  - **N.C. State BioInformatics Center** - BioManufacturing Training and Education Center (BTEC) funded by the Golden LEAF Foundation.



**South Carolina's extensive network of 16 technical colleges provides customized solutions to pharma and biotech manufacturers.**

**Easy market access.**

**Electric utility cost in the Carolinas is below the national average.**

**Duke Energy's System Average Interruption Frequency Index (SAIF) is 99.97% in the Carolinas.**

- **Clemson** - Collaborating with USC-Columbia and Medical University of South Carolina in biotech/biomanufacturing with a major emphasis in tissue regeneration.
- **Wake Forest** - At \$70m, the initial building will house the Biotechnology Research Facility which will include the Institute for Tissue Engineering and Regenerative Medicine. It will be the largest urban research center in the U.S., upon completion.
- **USC-Columbia** - New \$1-2 billion, 5 million square feet, University Research Park underway. Key research areas are: biomedical covering heart, cancer and neural analysis.
- **Asheville-Buncombe, Wake, Forsyth, Guilford, Robeson and Pitt Technical Community Colleges** with funding from the Golden LEAF Foundation offer BioNetwork capabilities and training in North Carolina.
- **Forsyth Technical Community College** received a grant from the U.S. Department of Labor to be the lead community college (with 4 other colleges across the U.S.) to develop curriculum for BioTech R&D technicians, which will result in a national center for BioTech work force.
- **Florence-Darlington Technical College** developed a specialized chemical engineering technology program for Roche Carolina.
- **Piedmont Technical College** partnered with Capsugel to train thousands of employees through the Center for Accelerated Technology Training (CATT), one of South Carolina's most powerful incentives. CATT has trained nearly 200,000 workers, at no cost, for over 1,600 companies including, BASF, GlaxoSmithKline, Leiner Health Products and Roche Carolina.

## **SUPERIOR TRANSPORTATION INFRASTRUCTURE**

- Seven international airports (Charlotte-Douglas, Piedmont Triad, Raleigh/Durham, Wilmington, Greenville-Spartanburg, Charleston, and Myrtle Beach International), along with 9 regional airports, provide a global gateway to and from the Carolinas.
- Crisscrossed with 6 major interstates (I-85, I-26, I-77, I-95, I-20 and I-40) and over 140,000 miles of highway, the Carolinas are linked to seaports, businesses and consumers in all directions. Ninety-six percent of N.C. has access to four-lane highways within 10 minutes.
- Four Class I railroads with 37 freight lines operate over 5,500 miles of track throughout the Carolinas.
- Five deep water ports, specializing in intermodal system terminals with interstate and rail access to markets throughout the U.S., are located in the Carolinas. N.C. was the first port operated inland container staging and storage facility in the nation. S.C. is the 4th largest container port in the U.S.

## **RELIABLE AND AFFORDABLE ENERGY**

- Duke Energy's average industrial rate in the Carolinas is \$0.0406, below the regional average of \$0.042 and significantly lower than the national average industrial rate of \$0.0506.
- Duke Energy's System Average Interruption Frequency Index (SAIF) is 99.97% in the Carolinas.
- Duke Energy provides free reliability risk management consulting, including forecasted reliability and recommended options, such as safeguards and backups.

