



BIOSCIENCES

With the wealth of pharmaceutical and medical device companies located in this region, such as Bausch & Lomb, Nutra Manufacturing, and Perrigo, the Greenville area has positioned itself well for dynamic growth within this industry. The current infrastructure, extensive research and development, and partnerships with Clemson University establish an exceptional foundation upon which you and your organization can thrive. As you look for growth in the coming years, look to Greenville as one of the game-changers in the bioscience industry.

CASE STUDY

A Dynamic Environment - Lab 21

Recently, Lab 21, a UK-based healthcare diagnostics company acquired Selah Technologies LLC located in South Carolina. Selah develops proprietary nanotechnologies to be used for in-vitro and in-vivo diagnostic products. The nanomaterials produced by this company are based upon Selah Dots™, carbon nanoparticles, and Selah Tubes™, single-walled carbon nanotubes (SWCNTs). With the advent of Lab21's state-of-the-art diagnostics service laboratory and product distribution operations, Lab21 Inc. expects to develop new diagnostic products based on these specific carbon-based nanoparticle technologies. Lab21 was able to discover the growth potential in Greenville's Selah Technologies, coupled with the regional resources available from Clemson University, to position the company well to expand upon their market-leading products and services.

SELECT PHARMACEUTICAL COMPANIES

Contract Manufacturing

Irix – Process Development and Manufacturing of APIs

Ortec – Polymer Technology, Medical Material, and Custom Chemical Synthesis

Pharmaceutical Associates – Liquid Pharmaceuticals

Nutraceutical

Nutra Manufacturing, Inc. – Vitamins, Dietary Supplements, and Nutritional Therapy Products

Perrigo – OTC and Prescription Pharmaceuticals, Nutritional Products, APIs, and Consumer Products

Other

Bausch & Lomb – Soft Contact Lenses and Lens Care Products

GlaxoSmithKline – Distribution

SELECT MEDICAL DEVICE COMPANIES

CreatiVasc Medical, LLC – Vascular Technologies (Kidney Dialysis Connectivity)

Deltex – Medical Monitors

Glucotec – Blood Glucose Level Management Systems

Henry Schein Inc. – Medical Supplies

Jarden Plastic Solutions – Catheters, Needles, and Insert Molding Cannulas

Resmed – Medical Equipment Respiratory Orders

Rockwell Medical Technologies – Hemodialysis Solutions, Powders, and Ancillary Products

SensorTech, LLC – Polymer Composite Sensors (Biomedical Implants and Implant Research)



Lab21 is impressed with Greenville's collaborative business environment. The community provided the confidence that Greenville was the perfect location in establishing its North American headquarters and supported the acquisition of a key university-spun bioscience business.

– **Michael Bolick**
Lab21 Inc.



MEDICAL DEVICE STRENGTHS

Medical Device Cluster in Upstate South Carolina

- Over 50 Medical Device companies represented in the region
- Acknowledged in a recent Battelle report as one of six emerging medium-sized U.S. regions for the Medical Device industry

Medical Devices Supply Chain

- Raw Materials (Ortec, Inc.)
- Materials Synthesis Processing (Poly-Med, Inc.)
- Subcomponent Manufacturing (St. Jude Medical)
- Functional Device Manufacturing (Bausch & Lomb and CreatiVasc)
- Post-Manufacturing Processing (STERIS Isomedix Services)
- Distribution & Sales (I-85, GSP Intl. Airport, In-State Charleston Seaport)

PHARMACEUTICAL STRENGTHS

Nationally Ranked

- According to the Battelle/BIO State Bioscience Initiatives 2010 study, Greenville's private workforce was ranked as the fifth-largest MSA to support the drug and pharmaceutical industry, based on location quotient
- In the same study, Greenville ranked as one of the Top 25 MSAs in the nation, based on overall employment levels within the drug and pharmaceutical field

Large Drug & Pharmaceutical Workforce

- Greenville County houses over 34% of South Carolina's private employment within the drug & pharmaceutical industry
- Within the Greenville MSA, 87% of the companies located within Greenville County take advantage of the county's skilled private workforce and partnerships with Clemson University

Greenville Hospital System/Clemson University Biomedical Cooperative

- Links Clemson's expertise in biomedical research with the clinical expertise of the hospital system to advance knowledge of the clinical and biomedical sciences

SPECIALIZED R&D

Clemson University

The Department of Genetics & Biochemistry

www.clemson.edu/cafls/departments/genbiochem

The Department of Bioengineering

www.clemson.edu/ces/bioe

Biomaterials
Bioelectrical Engineering
Biomaterials Engineering

Clemson University Graduate Program of Environmental Toxicology

www.clemson.edu/entox

Clemson University Genomics Institute (CUGI)

www.genome.clemson.edu

Godley-Snell Research Center (GSRC)

www.clemson.edu/research/godley-snell.html

ITOR (Institution for Translational Oncology Research)

www.itor-ghs.org/index.php

Located at Greenville Memorial Hospital University Medical Center, ITOC was created in 2004 to provide some of the most advanced cancer treatments available while bringing greater efficiency and expendency in the development of life-saving cancer drugs. ITOC's focus is on developing patient-specific therapies that target the right drug to the right patients.

Clinical Research Unit (Phase I)

- Community-based Phase 1 oncology drug development unit with the ability to move agents from the laboratory to patients
- More than 20 trials open to patient enrollment
- Only facility in the state performing first in human oncology drug trials and gene-based therapy using live viral vectors as a treatment for cancer

Bio-Respiratory Services

- The **Total Cancer Care Program at ITOC** is a prestigious national program through

collaboration with the H. Lee Moffitt Cancer Center and Research Institute that uses gene-based technology to create drug therapies personalized to each patient.

TRAINING

Greenville Technical College Associate in Science Degree with Biotechnology Concentration

www.gvltec.edu/biotechnology

- Strong emphasis on hands-on laboratory sessions
- Theoretical and practical background in biotechnological techniques and applications
- Limited enrollment that lends to an individualized learning environment

FINANCIAL ADVANTAGE

Life Sciences Act

www.scstatehouse.gov/code/t12c015.htm

- Incentive program to offset expenses associated with a new or expanded life sciences facility investing a minimum of \$100 million in addition to other guidelines stated in full online.

INFRASTRUCTURE

Fluor Corporation

Fluor's Life Sciences Group has completed a conceptual biotech manufacturing layout for a 190 acre site at the Matrix Business & Technology Park. Commissioned by the GADC, the design includes 2 bulk cell culture API manufacturing facilities, a bulk API fill & finish facility, an R&D facility and room for potential clinical scale manufacturing.

Natural Resources

Greenville Water System - Largest & Purest Watershed in the U.S.



Conceptual Life Science Campus at the MATRIX