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### **Biotechnology Companies in Metro Orlando**

Metro Orlando's biotechnology and life science sector encompasses hundreds of organizations dedicated to research and development that is integral to improving quality of life. Whether their work is in extracting plant nutrients to produce vital vaccines or creating data management systems for medical records, these businesses contribute to the continued growth and success of the industry. Listed below are brief overviews of some of Metro Orlando's leading biotechnology and life science companies:

#### **Amaro & Associates, Inc.**

Amaro & Associates, Inc. is a biopharmaceutical technology consulting firm that delivers quality assurance testing and validation, quality IT business processes and performance testing to ensure pharmaceutical manufacturing systems function properly through the development of its Total Validation Management (TVM) system. In a period of stronger pushes toward FDA regulation, this system consolidates multiple processes into one efficient program. The client is then able to create testable requirements, test plans, test scenarios and summary documents, which are not only less confusing but are accurate and complete.

#### **Axium Healthcare Pharmacy, Inc.**

Axium Healthcare Pharmacy, Inc. is a nationwide, privately-held "Clinical Specialty Pharmacy" licensed and permitted to operate in all 50 states. Axium Healthcare Pharmacy, Inc. specializes in providing physicians, patients, health plans and other healthcare providers with injectable and oral brand name products as well as compounded pharmaceutical products.

#### **Burnham Institute for Medical Research at Lake Nona**

Burnham Institute for Medical Research at Lake Nona is a premier non-profit medical research facility focused on therapies for cancer, Alzheimer's and other diseases. The Burnham Institute is one of the anchors at Orlando's emerging 'medical city' at Lake Nona in its 175,000 square foot facility that will eventually create 300 research jobs.

#### **Cardiovascular Sciences, Inc.**

Cardiovascular Sciences, Inc. is a biotech company focused on the development of innovative medical products. The company is currently developing proprietary technology for the prevention of post-surgical adhesions as well as patented methods for preventing blood clot formations on medical devices and for treating patients suffering from cardiac trauma, such as ischemic reperfusion injury, heart failure, and bypass surgery.

#### **Cognoscenti Health Institute**

Cognoscenti Health Institute is an evidenced-based clinical laboratory based in the Central Florida Research Park, adjacent to the University of Central Florida in East Orlando. Cognoscenti delivers on-site state-of-art diagnostic testing and professional interpretive services to community physicians, hospitals and the general population and offers faster turn-around time and consultation support via advanced information technology. Cognoscenti's 6,500 square-foot facility houses a high-tech clinical laboratory offering over 900 tests of interest and value to referring physicians and patients, more than 250 of which are performed on-site.

### CORD:USE

Founded by obstetricians who make blood stem cell products more readily available, CORD:USE Cord Blood Bank's program at Orlando Winnie Palmer Hospital for Women and Babies is utilizing umbilical cord blood – the most readily available source of stem cells – to help save lives. CORD:USE collaborates with hospitals nationwide to provide mothers with the opportunity to donate their babies' umbilical cord. This partnership satisfies their mission to create large, ethnically diverse inventories of cord blood stem cell units, which continues to improve the odds of survival for patients in need of a stem cell transplant.

### CuraScript, Inc.

CuraScript, Inc., the nation's largest privately-held specialty biotech pharmacy services company and a subsidiary of Express Scripts, combines high-tech distribution capabilities and clinical services to provide specialty inject-able medications to individuals requiring complex, high-cost treatment. Recognized as an industry leader in managing care for patients with chronic illnesses, CuraScript employs over 2,500 team members and their state-of-the-art dispensing facility is headquartered in Orlando. Office and clinic-based physicians are the primary customers of their distribution services which provide integrated delivery solutions to safely and consistently distribute pharmaceuticals and medical supplies. CuraScript has a network of satellite distribution pharmacies, including a hemophilia center of excellence, and several infusion centers located across the United States.

### Emergency Medicine Learning & Resource Center (EMLRC)

Orlando-based Emergency Medicine Learning Resource Center (EMLRC) provides pre-hospital emergency care providers with the medical training necessary for disaster situations. The company's Mobile Emergency Simulation Lab (SimLab) is a motor coach designed to resemble a simulated ER and ambulance, allowing first responders to train in a realistic environment. The simulation lab is on the road five days a week visiting hospitals, EMS agencies and fire departments. EMLRC is the first mobile simulation lab in the country. The center also conducts research in the areas of disaster management, emergency medicine and public health.

### Florida's Blood Centers

Florida's Blood Centers (FBC), a not-for-profit organization, is the sole supplier of blood and blood products to 70 healthcare facilities in a 21-county area. With its 875 employees they are able to provide more than 360,000 units of blood and blood products each year donated entirely by volunteers. FBC remains the largest blood bank in Florida and the fourth largest independent blood bank in the nation. In addition to supplying blood and blood products, FBC offers HLA tissue matching, bone-marrow donor registration and a full-service tissue and eye bank.

### Florida Hospital

Florida Hospital is an acute-care health care system that is part of the comprehensive network of hospitals of the Adventist Health System. It is the largest private, not-for-profit hospital and is the oldest and largest health care system in Central Florida. Florida Hospital offers a wide range of health services for the entire family, including cardiology, neurology, diabetes, and women's medicine.

- As the first of its kind in Central Florida, the **Nicholson Center for Surgical Advancement** is a premier center for hands-on surgical instruction. The prime objective is to develop and disseminate cutting edge surgical knowledge and techniques to the global surgical community through state-of-the-art teleconferencing technology. Participants perform minimally invasive surgical procedures at one of nine state-of-the-art endoscopically equipped stations.

- The **Global Robotics Institute** is a world class multi-specialty surgical program comprised of leading urologic, gynecologic, colorectal, and cardiac physicians dedicated to providing superior patient outcomes through the use of robot assisted laparoscopic technology. The Global Robotic Institute is a destination program for both patients and physicians. Patients come from all over the world to their main facility Florida Hospital Orlando and their resort style campus Florida Hospital Celebration Health for the latest surgical treatment options. Nearly 7,000 international and domestic physicians receive training on the latest surgical treatments at Florida Hospital's Nicholson Center for Surgical Advancement each year.

### Informed Care

Informed Care provides disease management and telemedicine services to address the complications and costs of chronic illnesses and public health conditions. The delivery of services falls into two categories: the provision of case management services and the provision of software, networks and infrastructure to provide remote consultation and care to patients through caregiving providers or networks.

### INTER BIO-LAB, Inc.

INTER BIO-LAB, Inc. is an established international provider of superior reconditioned clinical diagnostic analyzers. The company strives to deliver high quality instruments, meet its customers' delivery schedules and keep up with technological advances. IBL's extensive partnerships allow the company to provide superior chemistry, hematology, coagulation, blood, gas and electrolyte analyzers at an excellent value. The company recently opened a new 36,500 square foot facility in the heart of Metro Orlando. The facility features a high tech department with new technology and storage capabilities.

### Nemours Children's Hospital

Nemours Children's Hospital and Pediatric Health Campus is under construction in Orlando's fast-emerging 'medical city' at Lake Nona. The 620,000-square-foot facility will include 95 beds, an 18-bay emergency department, a neonatal intensive care unit and departments specializing in complex childhood diseases. The hospital is scheduled to open in 2012 and will be the central hub of a 60-acre pediatric health campus featuring a children's clinic, emergency department, diagnostic and ambulatory programs, education centers and research programs. The Nemours Children's Hospital is expected to pump \$400 million into the Central Florida economy and eventually create 2,600 new jobs.

### Orlando Health

Orlando Health is one of Florida's most comprehensive private, not-for-profit healthcare networks. A community-based and supported hospital organization of facilities, they are dedicated to serving the needs of our region. Comprised of Orlando Regional Medical Center, Arnold Palmer Hospital for Children, Winnie Palmer Hospital for Women and Babies, M.D. Anderson Cancer Center Orlando, Cancer Research Institute, Orlando Health Foundation, plus more.

- **M. D. Anderson - Orlando's Cancer Research Institute**

The M. D. Anderson - Orlando's Cancer Research Institute uses basic and translational research to understand how tumors grow and spread, creating more effective treatments for cancer patients. More recently, the Cancer Research Institute has partnered with the University of Central Florida to advance cancer research in Orlando. UCF's new Health Sciences campus at Lake Nona allows for a 30,000-square-foot space for the Cancer Research Institute in the new Burnett Biomedical Sciences Building scheduled for completion this year. Part of the Orlando Regional Healthcare System, M. D. Anderson Cancer Center is the first and largest affiliate of the world-renowned University of Texas M. D. Anderson Cancer Center. M.D.

Anderson works to create superior programs in multidisciplinary patient care, prevention, research and professional and community education. They have achieved significant improvement in the quality of cancer care in Central Florida, providing care to cancer patients from diagnosis through all phases of treatment and follow up.

### **Orlando VA Medical Center**

Scheduled to open in 2012 in Orlando's 'medical city' at Lake Nona, Orlando's VA Medical Center will be a 134 bed hospital that will bring the latest research and state-of-the-art medicine to 400,000 Central Florida veterans. This facility will be the first VA hospital built in the United States since 1995 and will have some of the most cutting-edge technology in prosthetic limbs and bionic technologies for arms, legs, and eyes. There will also be specialties in brain injury treatment, post traumatic stress disorder research, and treatments in suicide prevention.

### **Ortheon Medical**

Headquartered in Metro Orlando, Ortheon is a development stage company currently working on commercializing its proprietary Teno Fix technology. Teno Fix uses an innovative soft-tissue anchor system and works to change the way tendons are repaired forever. Under a research agreement formed with the University of Central Florida (UCF), university biomedical engineering researchers will analyze new uses throughout the body for this revolutionary tendon repair system. UCF researchers will perform biomechanical testing, create prototypes, and provide lab assistance and analysis relating to Ortheon's Teno Fix™ technology.

### **Rippe Health Evaluation**

The Rippe Health Evaluation is the only executive health program in the United States directed by a board-certified cardiologist. Because of both the quality and totality of its assessment program, the Rippe Health Evaluation has rightly been called "the finest high-touch, high-tech executive health assessment in the world." The Rippe Health Evaluation has been developed by Dr. James Rippe, internationally recognized for his fitness and lifestyle research and medicine, to meet a number of health and wellness needs. It incorporates the advantages of the finest diagnostic equipment and systems, as well as state-of-the-art medical technologies.

### **Science Applications International Corporation (SAIC)**

Science Applications International Corporation (SAIC) life sciences division supports government and commercial customers in all phases of drug development – discovery, pre-clinical and clinical development and operations and compliance. Programs supported range in scope from basic and translational research to advanced development, operational excellence, IT systems integration, and regulatory approval of drug, biological, and device products.

### **Triad Isotopes**

Triad Isotopes, Inc., headquartered in Orlando, works to advance the diagnosis and treatment of disease through the use of radiopharmaceuticals and is the fastest growing radiopharmaceutical company in the nation. The company has brought together 21 of the best independent facilities serving the nuclear medicine industry. The pharmacies, doctors and hospitals under the Triad Isotopes ownership umbrella are given the funding, corporate resources, and quality assurance standards vital to delivering growth, superior service and innovations in the nuclear medicine industry.

**UroSolutions, Inc.**

UroSolutions, Inc. is a medical technology company that manufactures and distributes urological medical devices. The company's revolutionary technologies include a patented hydrodynamically bladder management system, as well as other products promoting the health, comfort, convenience and safety of urinary care patients.

**Valensa International (formerly U.S. Nutraceuticals LLC)**

Valensa International is a science-based developer and manufacturer of high-quality ingredients for supplemental human nutrition. Today, the company is the leading vertically integrated global supplier of saw palmetto and astaxanthin products. Additionally, Valensa manufactures a line of high value botanical extracts including cranberry seed, ginger, rosemary, oregano, valerian, and other botanical ingredients.

**VaxDesign Corporation**

VaxDesign Corporation is an emerging biotechnology company that challenges disease differently; going beyond pathogen-oriented to immune-oriented science for creating and testing immunotherapies, they combine immunology with engineering to find practical solutions to complex biological problems. VaxDesign develops ex vivo models of human immunity that are functionally equivalent to the human system, and will predict human responses to pharmaceuticals and vaccines much better than existing approaches. Their models will provide a rapid and cost-effective solution and have the potential to save companies years of development time and millions of dollars of development costs. The company intends to become a leader in the field of immunotherapy and is dedicated to developing and commercializing their products and processes that harness the power of the immune system to treat a wide variety of diseases.

**Virtual Reality Medical Center**

Virtual Reality Medical Center is accelerating Orlando's cutting-edge development work with computer-generated simulations. By implementing virtual reality, the company is able to treat mental-health disorders and train health-care providers, establishing veracity in the field of simulation psychotherapy. Components of the program feature sensational characteristics, such as visual, audio, motion and scent, and researchers can examine real-time results of the subjects' physical, emotional and psychological reactions.

## **Biotechnology Education in Metro Orlando**

### **Lake-Sumter Community College (LSCC)**

LSCC offers associate's degrees in pre-majors including biology, chemistry, nursing, physics, pre-pharmacy, pre-professional health and emergency medical services.

### **Florida State University College of Medicine**

Florida State University College of Medicine operates a regional campus in Metro Orlando with third and fourth year medical school students receiving clinical training through affiliations with local physicians, ambulatory care facilities and hospitals. Areas include: family medicine, internal medicine, pediatrics, surgery, obstetrics-gynecology, geriatrics, psychiatry and emergency medicine.

### **Seminole Community College (SCC)**

SCC is the first community college in Florida to offer biotechnology courses. Students receive cutting edge training in the health technology or environmental technology tracks, and conduct hands-on research in the college's state-of-the-art science laboratory building. SCC also offers associate's degrees in biology and healthcare professions, including nursing and respiratory therapy. The school has the region's only cell tissue culture lab, which provides for learning DNA extraction and separation techniques, harvesting cells and propagating plant tissue.

### **University of Central Florida (UCF)**

Part of the nation's 5<sup>th</sup> largest university, the UCF medical campus at Lake Nona will include the Burnett School of Biomedical Sciences, a medical library and other UCF health sciences programs. The UCF College of Medicine will enroll 40 students in its Fall 2009 inaugural class, all of whom will receive full four-year scholarships from nearly \$7 million in community donations. The program will eventually produce about 120 medical graduates each year and will capitalize on UCF's existing strengths in biomedical sciences, modeling and simulation, and optics and photonics. Other programs in materials science, psychology, chemistry, film and digital media, and nursing also will support the program. UCF offers a variety of Ph.D. programs in the life sciences, including chemistry and molecular biology and microbiology.

### **University of Florida Institute of Food and Agricultural Sciences (IFAS)**

The University of Florida's Institute of Food and Agricultural Sciences (IFAS), located near Lake County, is a federal, state and local government partnership dedicated to developing knowledge in agriculture, human and natural resources and the life sciences and to make that knowledge accessible to sustain and enhance the quality of human life.

### **Valencia Community College (VCC)**

VCC offers associate's degrees in Biology, Chemistry, Horticulture Science, Radiologic Science and Respiratory Care and provides programs for students interested in preparing for careers in Cardiovascular Technology, Diagnostic Medical Sonography and Emergency Medical Technology.

## Biotechnology Community Organizations in Metro Orlando

### Metro Orlando Economic Development Commission (EDC)

The Metro Orlando Economic Development Commission (EDC) is an organization that helps business. The EDC is dedicated to meeting the needs of today's industries and creating a competitive economic climate where businesses can thrive. To meet this goal, the EDC provides key services and support, which range from relocation and expansion expertise to export counsel to long-term planning with community partners. To attract new business investment, the EDC markets the Orlando region worldwide as a top location for business. In addition, the EDC works with local companies to assist them with expansion plans and other business concerns.

- *bioOrlando*

*bioOrlando* is comprised of business leaders from across the region who are focused on the development of Central Florida's biotechnology and life science industry. Led by the EDC, *bioOrlando* pursues initiatives that further accelerate this already fast-emerging sector. *bioOrlando* also serves as the Central Florida chapter of BioFlorida.

### Tavistock Group / Lake Nona

Tavistock Group is a global, private investment company that has grown to encompass a broad portfolio of interests in over 170 companies in 15 countries. Lake Nona, one of the company's major development projects, is a multi-faceted, 7,000-acre, master-planned community in the city of Orlando. As a large-scale, livable community with exceptional healthcare, kindergarten through graduate level education, diverse workspace offerings and comprehensive shopping and entertainment choices, it is destined to become one of the finest communities in the country. The centerpiece of the community is a growing 'medical city' that includes the University of Central Florida College of Medicine and the renowned Burnham Institute of Medical Research with the first facilities opening in 2009. Veteran Affairs has selected Lake Nona as the new home of a state-of-the-art VA Medical Center that will serve an estimated 90,000 veterans throughout Central Florida.