

# Biosciences Industry Overview

Southern Arizona is rapidly becoming one of the nation's most recognized bioscience centers and a global hub for bioscience innovation, particularly in diagnostics and medical devices. Anchored by its strengths of an educated workforce and a cutting edge research university, the Tucson region has much to offer any company looking to excel in the bioscience industry.

The region generates over \$6 billion in revenues annually and is building on the more than 100 current bioscience companies. With more than 20 academic and technical life sciences programs at The University of Arizona and Pima Community College, the Tucson region offers a young, educated workforce and first-rate training opportunities. Strong funding support translates into an environment that is financially conducive to numerous research collaboration opportunities. The region also offers cutting-edge facilities known worldwide for research productivity and clinical trials management.

## Major Bioscience Companies in the Region

Over 100 cutting-edge companies, institutes, and research facilities are located in the Tucson region. Several of the major and/or notable employers include:

### **Ventana Medical Systems, Inc.,** *A Member of the Roche Group* - [www.ventanamed.com](http://www.ventanamed.com)

Ventana Medical is the world's leading supplier of automated diagnostic systems to the anatomical pathology market. The company's instrument and reagent systems are used in clinical histology, cytology, and drug discovery laboratories around the globe. Through automation and systems integration, Ventana is standardizing and optimizing the slide staining process, thereby helping pathologists recommend treatment solutions that deliver superior patient care. Ventana's customers consist of hospital-based histology labs, independent reference labs, medical research centers, and drug discovery laboratories of the largest pharmaceutical and biotechnology companies in the world. Number of employees: 1000.

### **Sanofi** - [www.sanofi.com](http://www.sanofi.com)

Sanofi, U.S., based in Bridgewater, NJ, and employing 15,000 people across the country, is part of a leading global pharmaceutical company that discovers, develops, produces and markets innovative therapies that enhance people's lives. The company's extensive research and development efforts are focused on health care challenges in cardiology, oncology and internal medicine, as well as metabolic diseases, central nervous system disorders and vaccines.

In early 2010, Sanofi opened a new 110,000 square foot Tucson Research Center, more than doubling the size of its previous southern Arizona research and development facility. The new facility expands Sanofi's impact on the early stages of drug discovery by laying the foundation for bringing new, effective medicines to patients around the world. Number of employees: 100.

### **Vante (formerly SEBRA)** - [www.vante.com](http://www.vante.com)

Vante is a global engineering and technology company that designs and produces world class products for the precise manipulation of medical plastics. Focused on medical device & bio-pharmaceutical manufacturing and related engineering services, Vante has a worldwide direct channel sales system to original equipment manufacturers and distributors. In existence for over 30 years, dozens of multinational biotechnology and pharmaceutical firms utilize Vante's line of products. Vante is growing its portfolio to serve customer and industry needs to bring to market the latest innovations and solutions for the global medical device and bio-pharmaceutical manufacturing industry. Number of employees: 85.

### High Throughput Genomics (HTG) - [www.htgenomics.com/](http://www.htgenomics.com/)

High Throughput Genomics (HTG) was founded in 1997 with the mission to develop a universal molecular biology-based platform to improve the pharmaceutical drug discovery process. Since that time, HTG has expanded the utility of qNPA™ technology into the fields of gene expression profiling, Translational Medicine and Diagnostic applications and the measurement of miRNA. HTG is a privately held corporation with major investment by Merck Capital Ventures. Number of employees: 17.

### Bioscience Subsectors

- **Agricultural Feedstock and Chemicals (4 companies)**
  - Agricultural processing
  - Basic organic chemicals
  - Ethyl alcohol manufacturing
  - Organic fiber manufacturing
  - Fertilizers
  - Pesticides and other agricultural chemicals
- **Drugs and Pharmaceuticals (8 companies)**
  - Medicinal and botanicals
  - Pharmaceutical preparations
  - Diagnostic substances
  - Biological products
- **Medical Devices and Equipment (30 companies)**
  - Laboratory apparatus & furniture
  - Surgical, medical, dental, ophthalmic and analytical instruments and equipment
  - Irradiation apparatus and electromedical equipment
- **Hospitals (21 companies)**
  - Specialty hospitals
  - University medical research hospitals
  - Clinical research institutions
- **Research, Testing, and Medical Laboratories (20 companies)**
  - Biological research
  - Commercial medical research
  - Testing laboratories
  - Medical laboratories and diagnostic imaging center
- **Industry Support (5 companies)**
  - Non-profit associations
- **Other Biosciences (20 companies)**
  - Bioremediation
  - Detection devices for bio-agents
  - Cell and tissue banks
  - Biofiltration
  - Precision cut tissue slices

### Southern Arizona's Specialized Facilities

#### **University of Arizona Science & Technology Park** - [www.uatechpark.org](http://www.uatechpark.org)

The University of Arizona Science and Technology Park, home to nearly 30 high-tech companies employing more than 7,000 people, features high-tech offices, R&D and laboratory facilities. The park's unique environment supports the creation of new technologies and the transfer of those technologies from the laboratory to the marketplace.

#### **Arizona Center for Innovation** - [www.azinnovation.com](http://www.azinnovation.com)

The Arizona Center for Innovation is a high-tech incubator promoting the development and success of high technology companies in Southern Arizona through a disciplined program of business development and mentoring.

#### **Arizona Bioscience Park** - [www.uatechpark.org](http://www.uatechpark.org)

The Arizona Bioscience Park will provide an important link in the development of life sciences in the southwestern United States to other significant advances in global biomedical research. The Arizona Bioscience Park project represents a key link in the economic development strategy of the Tucson and Pima County region, and an important milestone for The University of Arizona. The Arizona Bioscience Park encompasses over 65 acres of buildings and open space located ten minutes south of downtown Tucson, Arizona.

#### **University Medical Center (UMC)** - [www.azumc.com](http://www.azumc.com)

University Medical Center is a private, non-profit hospital located at the Arizona Health Sciences Center (AHSC), adjacent to The University of Arizona. AHSC includes the colleges of Medicine, Nursing, Pharmacy and Public Health as well as the physicians from University Physicians Healthcare. These affiliations enable UMC to take a leadership role in offering the latest treatments as well as routine medical care and wellness.

#### **Arizona Research Laboratories (ARL)** - [www.arl.arizona.edu](http://www.arl.arizona.edu)

Arizona Research Laboratories has been an interdisciplinary research leader for 30 years, with 11 diverse bioscience divisions spanning neuroscience, bio-engineering, memory and aging, complex diseases, and more. ARL services are available to companies on a fee-for-service basis. Services include: DNA sequencing, mutation detection, SNP detection, high throughput DNA extraction and banking services, microarray technology (from fabrication to bioinformatics), biological computing training and support, mass spectrometry, peptide purification, confocal and electron microscopy, cell sorting and biological magnetic resonance.

#### **Arizona Cancer Center (ACC)** - [www.azcc.arizona.edu](http://www.azcc.arizona.edu)

Designated as a comprehensive cancer center by the National Cancer Institute (NCI) – the highest ranking awarded by the NCI – the center provides specialized care to each patient through advanced cancer research, education and information programs, and by offering the most up-to-date, leading edge clinical care. Many of the treatments offered are available nowhere else in the state; in some cases, the advanced treatments pioneered at the ACC are available at few other places in the world.

## **Research Collaboration Opportunities**

### **BI05 Institute at The University of Arizona** - [www.bio5.org](http://www.bio5.org)

- BI05 is at the core of UA's efforts to pursue state-of-the-art biological research. It is a collaborative bioresearch institute bringing together scientists from 5 disciplines – agriculture, medicine, pharmacy, basic science and engineering – to solve complex biological problems.
- BI05 creates science, industry and education partnerships to engage in leading-edge research, translate innovations to the market and to inspire and train the next generation of scientists.

### **The Critical Path Institute** - [www.c-path.org](http://www.c-path.org)

- Created in 2005 by The University of Arizona and the U.S. Food and Drug Administration (FDA), The Critical Path Institute leads scientists from academia, biotechnology companies, the government and pharmaceutical industry in working together to develop innovative new testing methods that enable life-saving drugs, devices and biological products to reach patients faster and with greater safety. Based in Tucson, C-Path relies on three basic tenets in its approach to drug development: faster, safer and smarter.
- The overall goal of The Critical Path Institute is to modernize the scientific process through which a potential human drug, biological product, or medical device is tested and developed.
- The Institute was selected by Arizona Governor Janet Napolitano to receive an Arizona Innovation Award in 2007.

### **The University of Arizona (UA)** - [www.arizona.edu](http://www.arizona.edu)

- The National Science Foundation has awarded \$50 million to the UA-led research team for the iPlant Collaborative – a global center and computer cyberinfrastructure within which scientists can solve biology's greatest challenges.
- The UA College of Optical Sciences is one of the world's leading teaching and research centers in optics. A variety of interdisciplinary efforts are ongoing at UA to develop optics-based medical instrumentation and nanotechnology.
- The UA College of Agriculture and Life Sciences is home to nationally-ranked programs in plant genetics and genomics, and includes the Arizona Genomics Institute.
- Arizona Research Laboratories' (ARL) participating faculty generate in excess of \$100M annually in research, largely as a consequence of ARL's support of interdisciplinary and collaborative interactions that generate knowledge for the future.

### **Arizona Health Sciences Center (AHSC)** - [www.ahsc.arizona.edu](http://www.ahsc.arizona.edu)

- The Arizona Health Sciences Center is home to the state's colleges of Medicine, Nursing, Pharmacy and Public Health. AHSC is recognized for its research Centers of Excellence including the Sarver Heart Center, Arizona Cancer Center, Arizona Respiratory Center and the Center for Phytomedicine Research.