



Arizona BioIndustry Overview

Since 2000, Arizona has made major investments to develop the state's emerging bioscience industry sector. Facilitated by an extensive statewide collaboration among leaders in academia, business, government, and philanthropy, Arizona has strengthened its research infrastructure and developed commercialization strategies to position itself as a national and international competitor in the biosciences.

The state has adopted and is implementing Arizona's Bioscience Roadmap, a 10-year, public/private plan to strengthen the state's bioscience research base in the areas of neurological sciences, cancer therapeutics, bioengineering, and bioimaging. The Roadmap aims to develop a critical mass of bioscience companies by encouraging the commercialization of bioscience discoveries and providing a supportive environment for start-up, emerging, and expanding bioscience companies.

What is bioscience?

Bioscience is any of the branches of natural science dealing with the structure and behavior of living organisms. According to Battelle, five sectors comprise the biosciences -- hospitals and laboratories; drugs and pharmaceuticals; medical devices and instruments; research and testing; and agricultural feedstock and chemicals.

Employment

- **Firms:** Arizona has 667 bioscience-related firms, roughly two-thirds of which are hospitals and labs. The remainder are spread out across the other four fields mentioned above.
- **New Firms:** The following bioscience firms have been formed in or relocated to Arizona in recent years: 5AM Solutions, Acenta, Cynexus, Elcam Medica, Histotek Genomics, In-Nexus, Innovacorp, Lokoya, Medipacs, Molecular Profiling Institute, ProIX Pharmaceuticals, QureGen, Optical Insights, Senestech, TD2, Vet-Stem, Virionics.
- **Employees:** There are 74,422 jobs in Arizona's bioscience sector. Ninety-three percent of these are in hospitals and laboratories.
- **Wages:** The average salary of an employee in Arizona biosciences is \$43,359, compared to an average private-sector salary of \$34,043.
- **Recent Growth:** Between 2000-04, the number of bioscience firms in Arizona grew 7 percent, the number of number of jobs by 12 percent, and the dollar amount of wages by 28 percent. While hospitals and labs dominate the industry, the research and testing sector is the fastest growing.

Federal Grants

In 2004, Arizona received \$160 million in grants from the National Institutes of Health, an increase of 30 percent since 2001. Though the state ranks 27th in total NIH funding, it has caught the top-10 states in the rate of annual NIH growth—a goal of Arizona's Bioscience Roadmap achieved three years early.

Venture Capital

In 2005, Arizona recorded its best year since 2002 in generating biosciences VC at \$73 million, and second-best year in the last decade. Within biotechnology and pharmaceuticals, 2005 was Arizona's best year ever, two-fold, at \$40 million. Compared to the nation, Arizona attracts 0.7 percent of all venture capital.

Commercialization

Between 2002 and 2004, bioscience start-up firms resulting from university intellectual property increased from 2 to 11, licenses from 20 to 25, and patents from 13 to 19.

Major Developments

2006: Arizona unveiled a translational research model that focuses on collaborations with special populations, streamlining IRB and HIPAA processes, and harmonizing key business practices.

2006: The Arizona Legislature passed legislation to establish and fund (\$35 million) the Arizona 21st Century Fund.

2006: Biozona, a new brand identity for Arizona's growing bioscience sector, is created. The Biozona name, symbol, and tagline -- "Advancing Science. Enhancing Life." -- promote Arizona as a place where science thrives for the benefit of all.

2006: Arizona's business leadership groups form Science Foundation Arizona, a nonprofit entity that would build and strengthen the state's medical, scientific, and engineering programs and infrastructure. William C. Harris, director general of Science Foundation Ireland, leaves his post to lead the new foundation. Harris is credited with helping to transform Ireland's economy into Europe's most powerful through knowledge-based industries.

2006: The Virginia G. Piper Charitable Trust commits \$50 million to create 10 endowed chairs to attract leading scientists who specialize in the field of personalized medicine.

2005: The Legislature passes a bill to stimulate investment in early-stage technology firms, enabling angel investors to secure tax credits of 30 percent for investment in tech firms and 35 percent for biotech and rural companies.

2005: A unique institute opens in Tucson with the promise of reshaping the way prescription drugs and medical devices get from concept to market. The Critical Path Institute (C-Path), an independent, nonprofit organization founded by the University of Arizona, the U.S. Food and Drug Administration, and SRI International, aims to improve the drug-development system to produce therapeutics using methods that are faster, safer, and smarter.

2004: The Maricopa County Community Colleges system successfully passes a \$950 million bond issue that includes more than \$100 million for bioscience and healthcare training.

2004: The University of Arizona and Arizona State University agree to work jointly to launch an extension of the UA medical school in downtown Phoenix. The unique arrangement involves the UA colleges of medicine and pharmacy, and ASU programs including its College of Nursing. The first class will debut in the summer of 2007 at the Phoenix Biomedical Campus.

2004: ASU and the City of Scottsdale agree to partner on a new research and office park to be based on the old Los Arcos Mall site. The \$320 million facility, to be called SkySong, will feature 1.2 million square feet of space and will house private companies as well as ASU entrepreneurial support programs. The facility is scheduled to open in early 2007.

2003: Construction begins on facilities for new multidisciplinary university bioscience research institutes, today known as the Biodesign Institute at Arizona State University and BIO5 at the University of Arizona. By mid-2006, the two facilities will account for more than 525,000 square feet of research space.

2003: Legislation successfully passes to authorize \$440 million for construction of university research facilities, primarily in the biosciences. As a result, a dozen buildings are now either completed or under construction on the campuses of the three state universities and in downtown Phoenix.

2002: A public-private partnership raises more than \$120 million to form the Translational Genomics Research Institute (TGen) in Phoenix. Land, office space and building construction occurred in less than 18 months, creating the catalyst for revitalization in downtown Phoenix. In addition, the International Genomics Consortium moves to the Phoenix area.

2000: Voters approve Proposition 301, a 0.6 percent sales tax increase to fund education in Arizona. Roughly \$1 billion over 20 years is slated to support science and technology at the state universities.

Sources

- "Arizona's Bioscience Roadmap," Battelle, 2002 ~ www.flinn.org/bio/roadmap.cms
- "Growing The Nation's Biotech Sector: State Bioscience Initiatives 2006," Battelle, 2006 ~ <http://www.bio.org/local/battelle2006>
- Flinn Foundation ~ www.flinn.org

About the Arizona BioIndustry Association

The Arizona BioIndustry Association is a statewide organization that promotes the growth of bioindustry in the areas of public policy, member services, education, business networking, and entrepreneurial endeavors. To learn more about the Arizona BioIndustry Association, visit www.azbioindustry.org.

For more information

Jon W. McGarity
President/CEO
Arizona BioIndustry Association
480-483-6380
info@azbioindustry.org

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