



Life Sciences

Maryland is a premier location for life sciences companies. With one of the nation’s largest clusters, a community of more than 2,200 life science businesses have unparalleled proximity to leading federal institutions such as the National Institutes of Health, National Institute of Standards and Technology and the Food and Drug Administration. More than 90 percent of the life sciences companies and strategic partners are located within one hour of each other. Companies also can take advantage of two-hour access to 80 percent of the U.S. pharmaceutical industry. The state is a major recipient of National Institutes of Health research and development dollars, and Johns Hopkins University is first in the nation in total NIH awards. The state’s 2,260 life sciences organizations generate \$15.31 billion in economic activity.

Major Life Sciences Employers in Maryland

Employer	Employment	Product / Service
MedImmune*	2,290	Biologics R&D and manufacturing
Westat**	2,280	Contract research and statistical surveys
Leidos Biomedical Research	1,870	Contract research
BD Diagnostics	1,600	Medical devices
Quest Diagnostics	1,200	Laboratory services on biological samples
Otsuka America Pharmaceutical*	630	Biopharmaceuticals R&D
U.S. Pharmacopeia**	600	Standards-setting authority for medicines and healthcare products
GlaxoSmithKline (GSK)	540	Biologics manufacturing
Lonza Walkersville*	520	Supplier of stem cells and tissue culture products
Pharmaceutics International (PII)**	480	Pharmaceutical contract manufacturing

Note: Employment counts are rounded.

* Foreign-owned company with U.S. headquarters in Maryland.

** Headquartered in Maryland.

Source: Maryland Department of Commerce, April 2014.

Selected Rankings

- Maryland has the highest concentration of employed doctoral scientist and engineers. The state ranks first in employed PhD scientist and engineers per 100,000 employed workers (1,288), with first place rankings for total PhD scientists (1,031), as well as PhDs in biological sciences (466) and health (83).
- Johns Hopkins University ranks first among U.S. colleges and universities in total National Institutes of Health awards, including grants and contracts for research, development, training and fellowships.
- According to U.S. News & World Report’s Best Colleges survey, Johns Hopkins University holds the following rankings:
 - Third among top research medical schools, with top ten rankings in multiple specialties
 - First in graduate and second in undergraduate biomedical engineering
 - Fifth in graduate biology, with top ten rankings in biochemistry, cell biology, immunology, neuroscience, and molecular biology
- In addition, Johns Hopkins ranks first and the University of Maryland, Baltimore ranks eighth nationally in nursing, with each holding multiple “top ten” rankings in various nursing specialties.

Industry Snapshot –Life Sciences in Maryland

- Employment (2015) – 37,720 private sector jobs (39,820 including public sector)
Leading subsectors:
 - Research and development – 18,146 jobs
 - Testing, medical and diagnostic laboratories – 7,400 jobs
 - Pharmaceutical and medicine manufacturing – 7,300 jobs
- Business establishments (2015) – 2,260
- Total wages (2015) – \$4.14 billion
- Average salary (2015) – \$104,010
- Gross state product (2014) – \$15.31 billion
- Federal procurement (FY2015) – \$1.30 billion

Sources: Maryland Department of Labor, Licensing and Regulation; U.S. Bureau of Economic Analysis; U.S. Census Bureau.

Employment by Occupation

Maryland Employment – May 2015

Selected Occupations	Employment	Location Quotient*	
		Index	Rank
Biochemists and biophysicists	1,570	2.70	2
Microbiologists	1,880	4.72	1
Epidemiologists	340	3.30	1
Biological scientists, all other	3,420	5.67	1
Medical scientists, except epidemiologists	4,900	2.49	2
Life scientists, all other	380	2.25	6
Chemists	3,070	1.92	2
Physical scientists, all other	1,540	3.86	1
Biomedical engineers	660	1.67	7
Biological technicians	3,370	2.45	3
Medical and clinical laboratory technicians	3,940	1.29	4

* Location Quotient indicates concentration of the occupation in Maryland, with national average equal to 1.0.
Rank indicates Maryland's rank among the 50 states.

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics.

Assets & Resources

- **BioHealth Innovation** – Private-public partnership acting as a regional innovation intermediary facilitating technology transfer of research in federal labs, universities, and biohealth companies.
- **National Institutes of Health** – Headquarters for federal biomedical and health-related research, with 18,000 employees in Bethesda, Rockville, Frederick and Baltimore.
- **Food and Drug Administration** – Headquarters for federal food and drug regulation, with over 7,000 employees in Maryland.
- **Institute for Bioscience and Biotechnology Research** – Joint research enterprise to enhance collaboration among University System of Maryland institutions and NIST.
- **Battelle Eastern Science and Technology Center** – Non-profit research center in Harford County devoted to biological and chemical sciences and technology research.
- **J. Craig Venter Institute** – Genomics research institute located in Rockville.
- **Biomedical Research Institute** – Not-for-profit research institute, with a major emphasis on basic research in schistosomiasis.
- **Walter Reed National Military Medical Center** – Medical research and health care for the uniformed services.

- **U.S. Army Medical Research Institute of Infectious Diseases** – The Army’s main institution and facility for infectious disease research that may have defensive applications against biological warfare.
- **National Biodefense Analysis and Countermeasures Center** – Federally funded R&D center for laboratory-based threat assessment and bioforensics.
- **Science + Technology Park at Johns Hopkins** – Research and biotechnology park adjacent to the Johns Hopkins Medical Campus in East Baltimore.
- **University of Maryland BioPark** – University-associated research park in downtown Baltimore that accelerates biotechnology commercialization.

New & Expanding Businesses

- **Novavax** (Montgomery County) – Clinical stage vaccine company is planning to build out its research, development, and clinical trial support operations in Gaithersburg. As part of the expansion, plans to retain its current 400 full-time employees and add up to 850 new jobs to accommodate its growing pipeline of vaccine candidates.
- **BioFactura** (Frederick County) – Biopharmaceutical development company that recently constructed a new headquarters facility in the Riverside Research Park plans to create 25 new jobs over the next four years. The company graduated from the Frederick Innovative Technology Center, a technology business incubator.
- **IDT Biologika** (Montgomery County) – German-based life sciences company opening its first U.S. vaccine manufacturing facility in Rockville. The organization will share a 75,000-square-foot facility with a nonprofit global biotech organization.
- **EAG** (Talbot County) – The company is opening a 29,000 square foot facility expansion to support growth in its chemistry, environmental and aquatic toxicology testing services, with plans to add to its scientific staff.
- **GraftWorx** (Harford County) – A \$500,000 investment through the Maryland Venture Fund will allow this medical device development company to hire staff and continue development of its “smart” vascular prosthetics.
- **United Therapeutics** (Montgomery County) – One of the region’s largest bioscience firms is planning a major expansion of its Silver Spring campus with plans to hire about 100 employees in the next three to six years.
- **Emergent BioSolutions** (Baltimore City) – Global specialty biopharmaceutical company is expanding its Baltimore facility, potentially doubling its 58,000 square-foot space to include additional manufacturing, quality control labs and warehouse space. Company is expected to add 158 new jobs over the next four years.
- **MedImmune** (Frederick County) - \$200 million project will increase production capacity and help position the company to meet growing demand for its biologics products. The expansion is expected to bring a total of 300 new jobs to the site.

Programs & Incentives

- **Maryland Biotechnology Investment Incentive Tax Credit** – Income tax credits equal to 50 percent of an eligible investment for investors in qualified Maryland biotechnology companies, up to \$250,000.
- **Maryland Venture Fund** – State funded seed and early-stage equity fund.
- **Maryland Technology Development Corporation** – Facilitates technology transfer from academic and federal labs into the private sector with seed funding, technical assistance and entrepreneurial support programs.
- **Research & Development Tax Credit** – Credit for R&D expenses for certified businesses.

Contact for assistance:

Brad Fackler
 Senior Director, BioHealth and Life Sciences
 (410) 767-3619 | brad.fackler@maryland.gov