

Bioscience Basics in Washington State



WEBSHOTS

Washington State is Leading the Way

- **The Seattle metro area and Washington State have long been a leading center of technology advancement.**
- **The region is gaining international prominence as a center for medical innovation.**

Signs of Life: The Growth of Biotechnology Centers in the U.S.

Based on a survey of the nation's 51 largest metropolitan areas, the biotechnology industry is concentrated within nine of these regions.



The Brookings Institution,
Center on Urban and
Metropolitan Policy

Biotech Leaders



- San Francisco



- Boston

Biotech Challengers



- San Diego



- Raleigh-Durham



- Seattle

Other Biotech Centers



- Philadelphia



- New York City



- Washington--Baltimore



- Los Angeles

Washington Biotechnology & Biomedical Association Vital Signs for Bioscience Centers

- Strong Academic Research Institutions
- Successful Technology Transfer
- Access to Early Stage Capital
- Highly Skilled Workforce
- Stable and Supportive Public Policy Structure

Signs of Life: Research Institutions

Biotech advancements come from cutting edge research:



Institute for Systems Biology



Signs of Life: Research Institutions

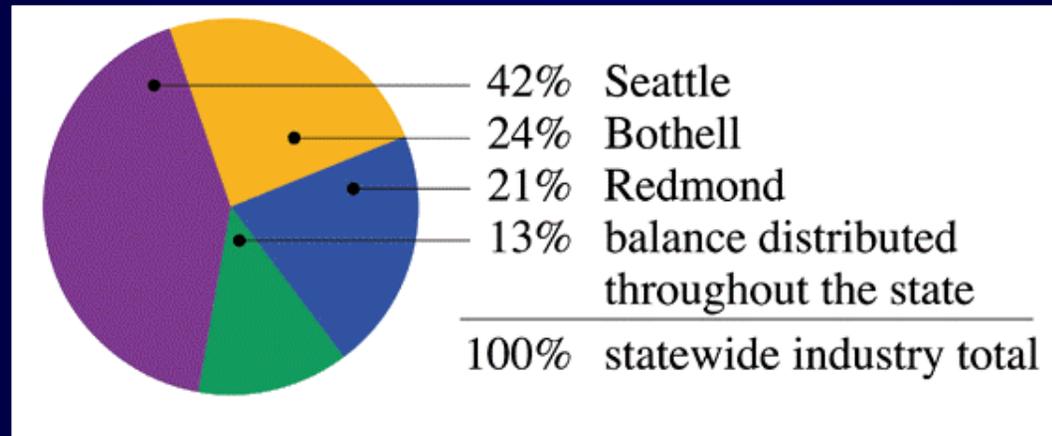


Local research institutions continue to be national leaders in securing federal research funding

- UW ranks 1st among all public universities in NIH funding
- In fiscal 02 -- \$649 million from NIH
- Combined with other government funds ~ \$1.5 billion annually

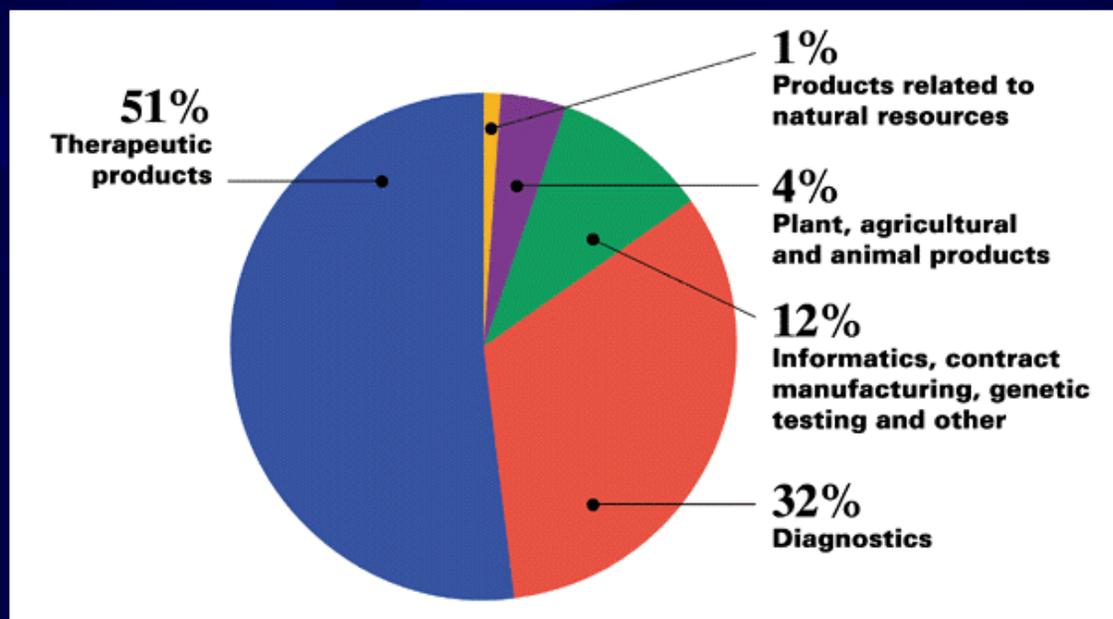
Biotechnology & Medical Device Industry in Washington State: An Economic Analysis

- 190+ biotechnology and medical device companies
- Nearly 30 percent formed in the last five years
- Concentration is in the greater Seattle area:



Biotechnology & Medical Device Industry in Washington State: An Economic Analysis

Focus areas for Washington's 190+ bioscience companies:



Washington State is Leading the Way

Amgen

ICOS

Corixa

Chiron

Targeted Genetics

Cell Therapeutics

ZymoGenetics



Philips Ultrasound

Medtronic PhysioControl

Hollister-Stier

GenPrime

Biotechnology & Medical Device Industry in Washington State: An Economic Analysis



Typical Washington biotech companies:

- Research and development stage
- Less than 10 years old
- Fewer than 50 staffers, most with advanced degrees and specialized skills.
- Facility needs: 10,000 – 20,000 sq. ft.

Biotechnology & Medical Device Industry in Washington State: An Economic Analysis

More than 19,300 Washingtonians work in the industry, earning an average annual salary of \$68,000, and generating an estimated \$1.8 billion in revenues and nearly \$500 million in exports.



Industry Economic Impact - 2002

- 19,360 workers directly employed
- Multiplier effect = 2.23 jobs
- Indirect 43,170+ jobs
- Total: $19,360 + 43,170 = 62,530$

Amgen's Helix Campus is open for science and innovation.



© Sundance Aerial Photography



At Amgen we are extremely proud of our Seattle campus,
our staff and our goal to dramatically improve people's lives.

We would like to thank Skanska USA, Flad & Associates and our many talented
colleagues through whose dedicated efforts the campus was built:

Altkor Engineers	Delcor Seven Interworking	Holzer Park	Mix Electric	Siemens
Aurubium & Stone Fabricating	City & Associates	Hyman Electric	Murphy Associates	Star Heavey
ARFC	Estabrooke Stone & Builders	HCB Bros. Construction	NBSU	Stark Corporation
Apex Steel	MacDonell Miller	Hudson Bay Insulation	Neustetter Engineers	Stirling Construction
Bergman-Gilgren	Engineering Companies	Interior Manufacturing Specialists	Cynquest Project	Superior Air Handling
BRAC Construction	Environmental Activities	International Steel	Pacific Construction Systems	SurgeNet
Bush Architectural	Expert Drywall	Insulation Coverings	Pacific Rooter Ruffing	Todd Landpage
Calmar Coatings	F.D. Thomas	JPS Kelly	Quality Flooring	The Home Team
Cocharon Electric	Fire Systems Meter	J.P. Perrot	R&D Masonry	Tubular Engineers
Conex Concrete	Flyer-Koehler	Johnson Architecture & Planning	Reliance Fire Protection	Vanorby & Company
Columbia Wire & Iron Works	Palmer	KPFF Consulting Engineers	RFS Communications	VESCO Electric Co.
Conrad Hardware	CSBC	Kuether, Kim & Associates	Roberts-Smith Contract Carpet	Wasson Tile & Marble
Covald Fire Protection	Chambers-Tanaka	L.H. Swales	Seattle King County Building & Construction Trades Council	Wm. Dress
Cramer Building Services	Hayward-Rose	Lung Keating	Seawater Corporation	Wing
D.S. Perrot	Helmreich	McCauley-Thompson	Shaw International	
Data Air Systems	Hering-Davis			

Thank you also to the hundreds of Amgen staff who gave time and energy
to the creation of this new scientific center.

AMGEN

The National Science Foundation estimates that biotechnology and its ancillary fields will account for \$1 trillion in the U.S. economy by 2020.

Regions across the U.S. are in direct competition with each other and with communities around the globe for the billions of dollars in revenues, investment dollars and thousands of jobs expected over the next five years in the BioEconomy.

New Economic Strategies

“The Emerging 21st Century BioEconomy”

Biotech Recruitment is Competitive

Other States and counties are proactively pursuing life sciences companies:

- Direct investments in research
- Enticing tax incentives
- Government-sponsored investment funds
- Aggressive marketing

South Lake Union



Accelerator Corp.



Carl Weissman, President and CEO of Accelerator, and Leroy Hood (right)

- MPM Capital
- Arch Venture Partners
- Versant Ventures
- Institute for Systems Biology
- Alexandria Real Estate Equities

Amgen Moves Cancer Research to Seattle's Helix Facility



AMGEN®

Dramatically Improving People's Lives

Gates Gives \$70 Million to UW for Human-genome Research

Record \$70 million gift boosts UW's position as leader in genomics research

Thursday, April 24, 2003

The UW today announced a major gift from the Bill & Melinda Gates Foundation that enhances the University of Washington's position as the emerging world leader in genomics research.

The \$70 million gift is by far the largest single private donation ever to an institution of higher education in the Northwest. Most of the gift — \$60 million — ensures construction of new, critically needed research space for the UW School of Medicine and its Department of Genome Sciences. The balance will be applied to collaborative global health programs at the UW related to genome sciences.

The Gates gift will enable the UW to construct a \$150 million, 265,000 square-foot building at the southeast corner of Pacific Street and 15th Ave. NE in Seattle. The future building will be shared by the departments of Genome



Biotechnology Is Facing Major Challenges

- * **Public awareness** — Good intentions can create unintended consequences.
- * **Research** — Continued funding is crucial to medical innovation.
- * **Access** — Price controls would limit money for research, prevent new drugs and treatments from entering the pipeline, and reduce hope for patients.

Biotechnology is Facing Major Challenges

- * **Money** — it costs an average of \$800 million to develop a new prescription drug.
- * **Time** — it takes 10-12+ years to develop, test and bring a new drug to market.
- * **Risk** — the likelihood of a new compound getting FDA approval is only one out of 5,000 — 10,000.



The WBBA is nationally recognized as the regional leader in advancing the state's biosciences through:

- Political Advocacy
- Business Development
- Industry News & Information
- Member Services



Biotech Leaders



- San Francisco



- Washington



- Boston

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Fundamentals

- Academia/Research
- Capital
- Commercialization
- Infrastructure
- Workforce
- Public Policy
- Marketing