

CSG GROWTH & PROSPERITY >>> VIRTUAL SUMMIT OF THE STATES 2.0 CSG

Encouraging American Innovation & Competing in a Global Economy – Health Care

Wednesday, April 13, 3 p.m. EDT


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IF YOU HAVE QUESTIONS DURING THE WEBINAR:

Please type your questions in the provided window on the GoToMeeting module that appears on your screen, if you need assistance asking questions, please contact helpline@csg.org or email your question directly to questions@csg.org. We will try to answer as many of your questions as possible during the Q&A section of this presentation

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Bioscience Industry Development In The States 2011



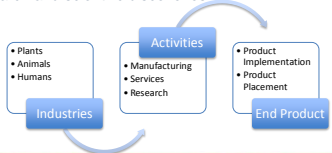
Peter M. Pellerito
Biotechnology Industry Organization
Vice President for State Government Relations/Alliance Development

Bio
BIOTECHNOLOGY INDUSTRY ORGANIZATION

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What is BIOSCIENCE?

- The biosciences are a diverse group of industries and activities with a common link—they apply knowledge of the way in which plants, animals, and humans function. The sector spans different markets and includes manufacturing, services, and research activities.
- By definition, the biosciences are a unique industry cluster and are constantly changing to incorporate the latest research and scientific discoveries.




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The biosciences industry sector is defined as including the following four subsectors:




Agricultural Feedstock & Chemicals



Drugs & Pharmaceuticals



Medical Devices & Equipment



Research, Testing & Medical Laboratories

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Bioscience industry employment continued to grow, even during the first year of the recession

Bioscience Subsector	2008 Establishments	Change in Establishments, 2001-08	Change in Establishments, 2007-08	2008 Employment	Change in Employment 2001-08	Change in Employment 2007-08
Agricultural Feedstock & Chemicals	2,440	16.0%	6.4%	114,793	1.9%	4.6%
Drugs & Pharmaceuticals	2,771	6.4%	2.0%	311,882	2.3%	-2.3%
Medical Devices & Equipment	15,227	0.4%	1.6%	435,509	2.0%	2.4%
Research, Testing, & Medical Laboratories	27,154	57.7%	6.1%	558,140	46.1%	2.1%
Total U.S. Biosciences	47,593	28.3%	4.4%	1,420,324	15.8%	1.4%

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Bioscience employment greatly outpaced national employment growth from 2001–2008

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Bioscience sector continues to be a source of high-wage jobs

- The overall bioscience sector paid average annual wages of \$77,595 in 2008, \$32,366 more than the average annual wage of the total U.S. private sector.
- Real earning for bioscience industry workers have increased by 10.1% since 2001, compared with 3.2% for the U.S. private sector

U.S. Average Annual Wages per Employee, 2008	
Drug & Pharmaceuticals	\$ 93,378
Finance and Insurance	\$ 85,274
Research, Testing, & Medical Labs	\$ 80,785
Total Biosciences	\$ 77,595
Professionals, Scientists, and Technical Services	\$ 74,354
Agricultural Feedstock & Chemicals	\$ 72,279
Information	\$ 70,780
Medical Devices & Equipment	\$ 63,606
Manufacturing	\$ 54,392
Construction	\$ 49,014
U.S. Total Private Sector	\$ 45,229
Real Estate and Rental and Leasing	\$ 43,239
Transportation and Warehousing	\$ 42,969
Health Care and Social Assistance	\$ 42,150
Retail Trade	\$ 26,181

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Why the Industry is Valuable to State Economies

- 1st** The bioscience industry provides an important contribution to a state's durable goods manufacturing and development base in the face of mounting international competition.
- 2nd** The industry has assisted state efforts to diversify the economic base with new, higher paying jobs and an improved standard of living.
- 3rd** The industry takes advantage of the research and development infrastructure already in place at the outstanding universities and federal research facilities that provide vital support to the industry.

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Consensus Industry Development Building Blocks

- Available Capital Formation Options
- Moving Technology Forward
- Specialized Facilities and Equipment
- Workforce Initiatives

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BUILDING BLOCK # 1: Capital Formation Options

- Encourage Private Investment
- Direct Public Funding to Firms
- Valley of Death Challenges

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The "Valley of Death" awaits all companies

Sources

- Grants
- Specialized investment funds and/or angels
- "National" funds based locally and their syndicate partners elsewhere
- Specialized programs, friends/family
- Funds with side agreements to source locally

Deal stage

- R&D
- Pre-seed
- Early seed-stage venture capital
- 2nd round venture capital
- Mezzanine
- Venture capital
- pre-IPO or sale

Typical functions

- Discovery
- Proof of principle
- Engineering prototypes
- Production prototypes
- Late trials/product introduction/ramp up

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BUILDING BLOCK # 2:
Moving Technology Forward



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BUILDING BLOCK # 3:
Talent Pool/Workforce Development


- Interactions with colleges and universities to develop both sponsor programs and forums to support interest in and development of the industry
- Quality in-service and continuing education options for life science company employees.



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BUILDING BLOCK # 4:
Specialized Facilities and Equipment

- Affordable space essential for smaller companies
- Specialized Biotechnology Centers
- Physical Infrastructure Leverage Funds



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BROADEN INDUSTRY OPTIONS
Focusing on Diverse Bioscience Industry Sectors

- Bioinformatics
- Contract Research and Manufacturing
- Nanotechnologies
- Alternative Energy – Biofuels, Forest Biotechnology
- Nutraceuticals
- Personalized Medicine



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Dr. Christine Grygon
Head, BI Partnering
Boehringer Ingelheim Pharmaceuticals

Encouraging American Innovation & Competing
in a Global Economy – Health Care



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BI - Who We Are

We think long term and invest heavily in science



Our products help patients and their families



We're committed to doing the right thing





Where We Are in the United States

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Established in U.S. in 1971
9,000 U.S. Employees
Headquartered in Ridgefield, CT
Six U.S. Subsidiaries

- BI Vetmedics, Inc. St. Joseph, MO (Animal Health)
- Ben Venue Laboratories, Inc. Bedford, OH (Sterile Injectables)
- BI Pharmaceuticals, Inc. Ridgefield, CT (Prescription Medicines, Consumer Health Care, Research & Development)
- BI Chemicals, Inc. Petersburg, VA (Active Pharmaceutical Ingredient Manufacturing)
- BI Rovane, Inc. Rossone Laboratories Columbus, OH (Generics and Distribution)

Boehringer Ingelheim

Focused on Innovation

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Innovation: It's About Jobs, Our Economy, & Intellectual Property

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Biopharmaceutical research companies directly employ more than 686,000 people in the US and generate millions of jobs in other industries (2.5 million in 2006)

- A recent report¹ from the Global Intellectual Property Center (GIPC) found industries that rely significantly on IP create more jobs, pay higher wages, drive US exports and sustain economic growth better than non-IP-intensive industries
- Our employees are valuable members of their local communities—supporting local businesses and infrastructure, contributing taxes and boosting economies
 - Without IP protection, Americans lose out on job opportunities resulting from industry growth, and patients lose out on the benefits of future discoveries
- Protecting American IP is also an issue for competitor countries. R&D investment in Mexico tripled after the nation adopted full IP protection in 1991; South Korea, Japan and Italy have all experienced similar growth in sectors reliant upon strong IP protection

¹ "The Impact of Innovation and the Role of Intellectual Property Rights on U.S. Productivity, Competitiveness, Jobs, Wages and Export"

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Innovation: What's At Stake

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The United States leads the world in R&D for new and innovative medicine

- Life-saving medicines don't just happen; they depend on policies and laws that enable innovation and protect IP, ultimately helping to secure a brighter, healthier future for patients and their families
- Ensuring innovation and encouraging investment is about protecting jobs in your community. It's about growing local and national economies. And it's about finding a cure.
 - When an investment pays off, everyone benefits. The industry employs hundreds of thousands of the best and brightest workers in high skill, high wage jobs.

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Chad Cornell

Vice President, Business Development
Medtronic, Inc.

Medtronic

The U.S. Medical Technology Industry An American Success Story

- Industry Quick Facts (2008 / Lewin)
 - 422,778 workers
 - Paid \$24.6 billion in earnings
 - Shipped \$135.9 billion worth of product
 - Each MedTech job generates an additional 1.5 jobs in that state
 - Each MedTech payroll dollar generates an additional \$.90 in earnings in that state
 - CA, MN, MA, PA & FL leading MedTech states

Medtronic

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Medtronic Founded in 1949...

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Medtronic Overview

Employees	40,000
Countries	120
Locations	270
Manufacturing Facilities	44
Training & Education	22
R&D Centers	25

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A Broad Portfolio of Medical Devices & Therapies

Cardiac Rhythm Disease Management

CardioVascular

Neuromodulation

Diabetes

Surgical Technologies

Spine

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Combining Core Technologies for Greater Impact

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Utilizing Information Technology to Monitor Patients & Lower Costs

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Targeted Drug/Biologic Delivery


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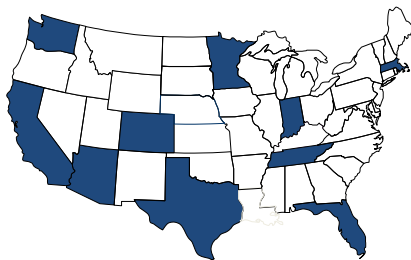
Making Procedures Less Invasive







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States of Major Presence






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Factors that Drive Expansion / Locations



- Availability & Quality of Workforce**
- Tax Structure / Incentives**
- Regulatory Climate**
- Access to Research Universities / Centers**
- Quality of Life**
- MedTech Cluster**
- Infrastructure**




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Q & A:

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COMING UP TOMORROW:

- Challenges to State Revenue Structures & Responses to Revenue Reductions, 1 P.M. EDT**
- The Future of Federalism: State/Federal Relations in an Era of Austerity, 3 P.M. EDT**

****Attendees will use the same login information you used today****