June 2014

Battelle does not engage in research for advertising, sales promotion, or endorsement of our clients' interests including raising investment capital or recommending investments decisions, or other publicity purposes, or for any use in litigation.

Battelle endeavors at all times to produce work of the highest quality, consistent with our contract commitments. However, because of the research and/or experimental nature of this work the client undertakes the sole responsibility for the consequence of any use or misuse of, or inability to use, any information, apparatus, process or result obtained from Battelle, and Battelle, its employees, officers, or Trustees have no legal liability for the accuracy, adequacy, or efficacy thereof.
The Project Team

**Battelle**—Every day, the people of Battelle apply science and technology to solving what matters most. At major technology centers and national laboratories around the world, Battelle conducts research and development, designs and manufactures products, and delivers critical services for government and commercial customers. Headquartered in Columbus, Ohio since its founding in 1929, Battelle serves the national security, health and life sciences, and energy and environmental industries. For more information, visit www.battelle.org.

In 1991, Battelle created the Technology Partnership Practice (TPP). We focus Battelle’s broad experience to better serve economic development organizations, universities, and nonprofit technology organizations across the U.S. For further information, please contact Mitch Horowitz at horowitzm@battelle.org or Ryan Helwig at helwigr@battelle.org.

**BIO—Biotechnology Industry Organization**—BIO is the world’s largest trade association representing biotechnology companies, academic institutions, state biotechnology centers and related organizations across the United States and in more than 30 other nations. BIO members are involved in the research and development of innovative healthcare, agricultural, industrial and environmental biotechnology products. BIO also produces the BIO International Convention, the world’s largest gathering of the biotechnology industry, along with industry-leading investor and partnering meetings held around the world. BIOtechNOW is BIO’s blog chronicling “innovations transforming our world” and the BIO Newsletter is the organization’s bi-weekly email newsletter.

**PMP Public Affairs Consulting, Inc.—PMP**— is an independent consulting firm serving the public and constituent relations needs of bioscience-related companies and associations.

**Bravo Group**—We help our clients win tough fights, anywhere. Our difference is an integrated, campaign-style approach, where we match smart strategies with key relationships, a wide range of tactics, and the experience needed to get things done. We bring energy and urgency to every campaign... understanding the importance of tight timelines and winning every day... in the toughest circumstances. Winning requires understanding the challenge... making strategic choices for victory... and using clear, compelling communications to move audiences to action. With our integrated campaign-style approach, we’re built to win. Every day. Our work in public relations, advocacy, advertising and research, when integrated into a comprehensive campaign, is unbeatable. Bravo Group... win tough fights. thebravogroup.com
Highlights

A Robust Bioscience Industry with Strong Prospects for Growth

While not immune to the economic crisis and resulting recession, the bioscience industry weathered difficult economic times better than most industries, and is on course to regain its previous high employment levels. Indeed, the promise of bioscience-based solutions to global grand challenges in human health, food security, sustainable industrial production and environmental protection provides an optimistic picture for the biosciences as a key economic development engine in the U.S.

In this sixth biennial report, Battelle and BIO continue the tradition of reporting national and state statistics for the bioscience industry in the U.S. Returning for this edition are bioscience metrics for leading U.S. metro areas.

The latest Battelle/BIO data indicate that:

- In 2012, U.S. bioscience companies employed 1.62 million personnel across more than 73,000 individual business establishments.
- Over the past decade the industry has added nearly 111,000 new, high-paying jobs or 7.4 percent to its employment base.
- Economic output of the bioscience industry has expanded significantly with 17 percent growth for the biosciences since 2007, nearly twice the national private sector nominal output growth.
- The industry continues its tradition of creating high-wage, family-sustaining jobs with average wages 80 percent greater than the overall private sector and growing at a faster rate.

Requirements for Sustaining the Promise of this Important Industry

While the prospects for bioscience-based economic growth in the U.S. remain strong, attention must be paid to maintaining the innovation ecosystem that powers the industry. Battelle/BIO does see signs of stress that are a concern for the future if not addressed. Federal funding for scientific research is critical to assuring progress in fundamental discoveries that underpin national bioscience innovation, yet bellwethers, such as NIH funding, are trending in the wrong direction. Similarly, risk capital has also fallen off in recent years, creating barriers to advancing biosciences innovation.

The threat from international competition is strong and growing. Bioscience-based economic development is the target of both first-world and developing nations, and assuring U.S. competitiveness requires:

- Research funding that supports both the understanding of basic biological precepts and their ultimate translation into bioscience-related products and services.
- Regulatory systems firmly grounded in science and predictable in their application.
- Strong protections for intellectual property, both domestically and internationally.
- Medical reimbursement and payment policies that are favorable to the development of new and innovative biomedical products.
- Government trade actions that sustain and improve the “openness” of international markets for U.S. bioscience goods and services.
- Federal and state tax policies and incentive systems that sustain industry competitiveness.
- Education and workforce development programs providing the skilled workforce needed for today and tomorrow.
State-by-State & Metropolitan Area Bioscience Industry Trends

The bioscience industry is well distributed across states and plays a major role as an economic driver, with many states maintaining niche strengths in specialized areas across the major industry subsectors. Highlights of state industry performance include:

- Thirty three States and Puerto Rico have an employment specialization in at least one of the five bioscience subsectors in 2012. These include:
  - 14 states specialized in Agricultural Feedstock & Chemicals
  - 10 states and Puerto Rico specialized in Bioscience-related Distribution
  - 13 states and Puerto Rico specialized in Drugs & Pharmaceuticals
  - 14 states and Puerto Rico specialized in Medical Devices & Equipment
  - 11 states and Puerto Rico specialized in Research, Testing and Medical Labs.

- Remarkably, 17 states and Puerto Rico are specialized in at least two of the five bioscience subsectors, suggesting that there may be spillover impacts from specialization in one niche into another.

- New Jersey and Puerto Rico stand out in having a specialization in four of the five bioscience subsectors.

- The longer term growth of the bioscience industry during the 2001 to 2012 period is widely distributed across the nation, with 36 states sharing in job gains (Figure A).

- In the recent 2007 to 2012 period, which includes the recession and early years of the recovery, 28 states had overall job gains in the biosciences (Figure B).

Figure A. Change in Bioscience Employment by State, 2001–2012
Highlights of metropolitan area industry performance include:

- The bioscience industry footprint is well distributed across the nation’s metropolitan areas with 216 of the nation’s 381 metro regions having a specialized employment concentration in at least one of the bioscience subsectors.

- Twenty nine metro regions have a specialized employment concentration in at least three bioscience subsectors. The industry hubs differ significantly in size, ranging from as few as 600 bioscience jobs in the smallest region to more than 60,000 jobs among the largest. They are (number of specializations in parentheses):
  - Indianapolis-Carmel, IN (5)
  - Allentown-Bethlehem-Easton, PA-NJ (4)
  - Kalamazoo-Portage, MI (4)
  - Lafayette, IN (4)
  - Logan, UT-ID (4)
  - Madison, WI (4)
  - Oxnard-Thousand Oaks-Ventura, CA (4)
  - San Diego-Carlsbad-San Marcos, CA (4)
  - South Bend-Mishawaka, IN-MI (4)
  - Ames, IA (3)
  - Bloomington, IN (3)
  - Boston-Cambridge-Quincy, MA-NH (3)
  - Boulder, CO (3)
  - Danville, IL (3)
  - Durham-Chapel Hill, NC (3)
  - Greensboro-High Point, NC (3)
  - Hickory-Lenoir-Morganton, NC (3)
  - Iowa City, IA (3)
  - Kankakee-Bradley, IL (3)
  - Knoxville, TN (3)
  - Lebanon, PA (3)
  - Lincoln, NE (3)
  - Memphis, TN-MS-AR (3)
  - Philadelphia-Camden-Wilmington, PA-NJ-DE-MD (3)
  - Raleigh-Cary, NC (3)
  - Salt Lake City, UT (3)
  - San Francisco-Oakland-Fremont, CA (3)
  - St. Joseph, MO-KS (3)
  - Trenton-Ewing, NJ (3)

Indianapolis-Carmel, Indiana is the only metropolitan area with a specialized employment concentration in all five bioscience subsectors in 2012.