

We Connect

We Educate

We Invest



2016 annual report



A blue-tinted microscopic image showing complex, branching biological structures, possibly neurons or dendrites, with a textured, fibrous appearance. The structures are set against a dark, blurred background, creating a sense of depth and focus on the intricate details of the cells.

2016

For the biotech sector, national and even global forces drive constant change for business models, product approvals and investments, and ultimately, innovation, but Indiana's life sciences industry maintained its strong leadership position in 2016 with an outsized number of employees, companies and exports.

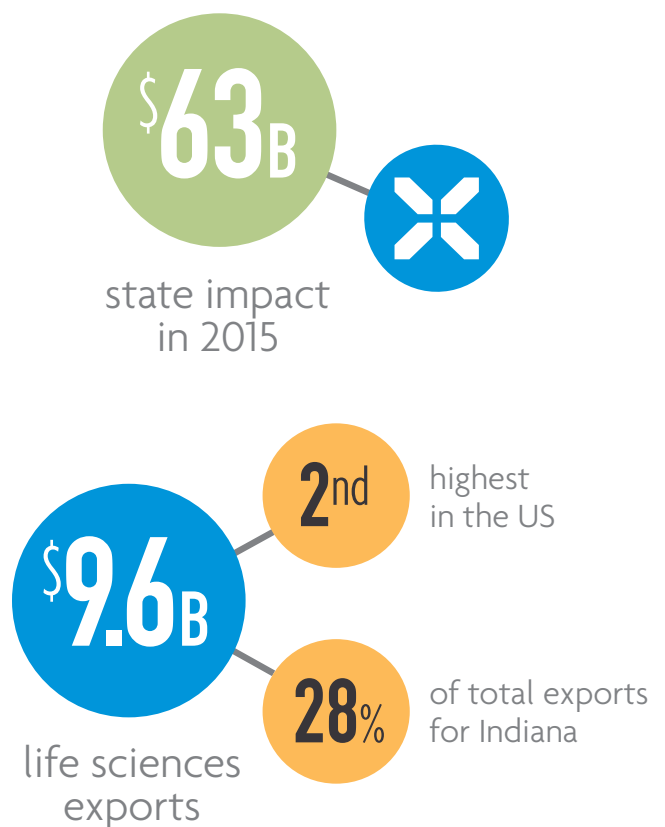
The economic impact of pharmaceutical, medical device and equipment, agbiosciences, research, testing and medical laboratories and biologistics climbed to \$63 billion – a result of more than 56,000 employees and nearly 1,700 companies exporting nearly \$10 billion in products, the second highest in the U.S.

And while this vibrant industry is strong throughout the state, seven Indiana cities have been cited for particularly significant activity, according to the 2016 Biotechnology Industry Organization (BIO) and TEconomy Partners bi-annual report “The Value of Bioscience Innovation in Growing Jobs and Improving Quality of Life 2016”: Bloomington, Evansville, Indianapolis, Lafayette, Michigan City, South Bend and Terre Haute. In addition, Bloomington, Indianapolis, Lafayette and South Bend were named as having some of the strongest industry performance in the U.S. In Indiana, Warsaw—still the “orthopedics capital of the world”—would also readily fit within this distinguished leadership group, but with a population of under 20,000 (about a third of whom work in the orthopedics sector), Warsaw is simply too small to be included among the cities that are surveyed.

Other indicators of advancement were detailed in BioCrossroads’ report “Indiana’s Health and Life Sciences Talent and Workforce: Developing Strategies to Compete in a Global Economy.” The health and life sciences industry accounts

for one of every 10 private sector jobs in Indiana and has experienced job growth of more than 22 percent since 2001.

There are solid job gains across a broad range of skill levels and diverse job opportunities. Wages for these jobs continue to run well above the overall average wages in Indiana. However, the ratio between job openings and workers is unbalanced. While demand is strong and continues to grow, there are capacity challenges to meet the needs of industry for health and life sciences workers due to several interrelated talent supply and workforce preparedness pressures. BioCrossroads and our sister organization, Ascend Indiana, are developing programs to begin to address these gaps in 2017.





Advancing a Catalytic State

BioCrossroads cultivates our entrepreneurial environment by investing in startup companies through the Indiana Seed Fund, and by connecting these companies with industry and development partners, and linking them to talent and other resources.

The Seed Fund invested in three companies in 2016, including SpeechVive, a startup focused on developing medical devices to improve speech clarity of Parkinson's patients based on the research of Jessica Huber, Ph.D. at the Department of Speech, Language and Hearing Sciences, Purdue University. The SpeechVive device, which fits like a hearing aid in the patient's ear, detects when a patient is speaking and elicits louder and clearer speech through an involuntary reflex known as the Lombard Effect. Allinaire Therapeutics also received an Indiana Seed Fund investment. The company's

development of novel therapeutics for pulmonary disease is based on technology from Indiana University School of Medicine.

In order to highlight what powers Indiana's life sciences entrepreneurial success, a white paper, "Powering Indiana's Life Sciences Community: Profiles of Money, Molecules and Management," was released in October. The paper takes a look at the funding, science and people that provide the vision, drive discovery, and form and support new entities.

In the fifth annual BioCrossroads New Venture Competition, Scioto Biosciences took home the top prize of \$25,000. The startup develops medicines to support microbiome health through a novel micropartical platform leveraging probiotic biofilms. Daylight OB was awarded second place for a medical device to improve health and safety in labor and delivery

units. Third place went to VinSense for its innovative software that helps wine growers make better decisions based on real-time sensed data to enhance crop uniformity, production and profitability (Purdue University). The pre-venture prize was given to Rusher Medical which is developing a portable positive expiratory pressure therapy device that helps those compromised by lung function to breathe easier.

Over the last five years, the competition has awarded more than \$300,000 to 20 startup companies, which have, in turn, gone on to secure \$21 million in additional funding.

944 patents

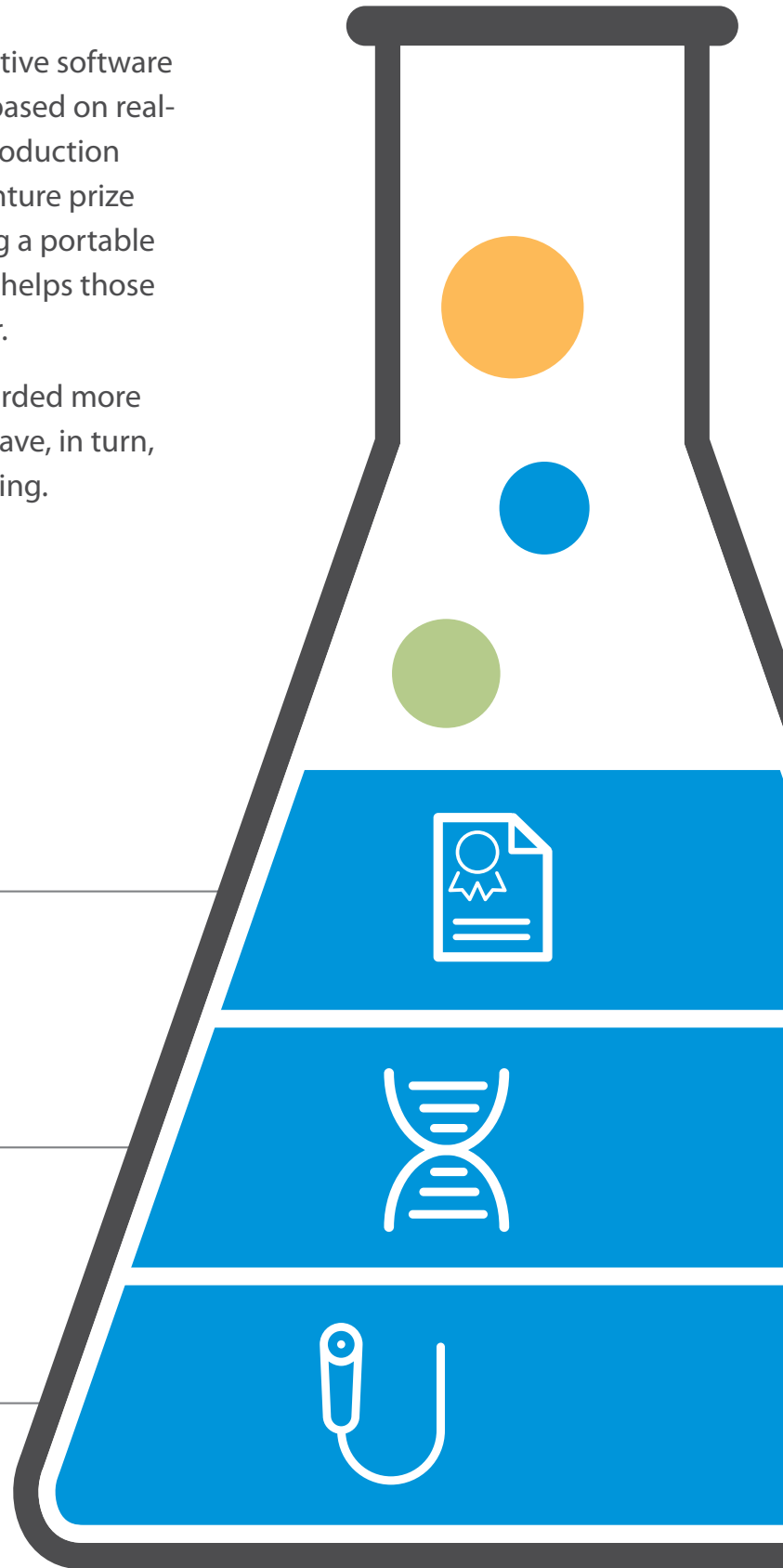
were granted to
Indiana companies

145 patents

were granted to
Indiana universities

77 new products

were approved
by the FDA



Sharing Information

The events calendar was very full for BioCrossroads in 2016. Eight Framework sessions addressed and educated our community across a wide range of issues in talent, science and innovation over the year:

-  **The Microbiome:** Uncovering answers in human, animal and environmental research
-  **Indiana Agbiosciences:** Ensuring a sustainable workforce for our future
-  **Indiana Health Information Exchange:** An Indiana success story and a national model in healthcare
-  **Accelerating Innovation:** How Indiana's universities are taking innovative ideas to market
-  **Innovative Cancer Research:** A showcase of novel work at Indiana's academic institutions
-  **Indiana Life Sciences Talent and Workforce:** Developing strategies to compete in a global economy
-  **Concussions:** How Indiana is leading the nation in sports injury prevention and treatment
-  **Prescription Drug Misuse Epidemic:** How Indiana's healthcare and life sciences industries are responding and developing solutions

1,687 companies

working in the areas of drugs and pharmaceuticals, medical devices and equipment, agricultural chemicals and feedstock, medical, research and testing laboratories and biologistics



56,198 people employed



\$98,934 wages

per person in life sciences;
\$44,121 per person
in private sector



\$5.6B total wages





Celebrating Innovation

In October, BioCrossroads hosted the thirteenth annual Indiana Life Sciences Summit. More than 225 attendees discussed the topics of success in innovation districts, entrepreneurial experiences, and breakthroughs and innovations at life sciences companies and universities.

John Swisher, founder of JBS United, was named the 2016 Watanabe Life Sciences Champion of the Year. Ag-focused technologies form a large component of Indiana's diverse life sciences industry, and Swisher has become an international icon for what it means to be a reputable, effective and visionary agbiosciences entrepreneur. Some of his achievements include engagement in international joint ventures, investment in leading agtech companies, and donating to underserved communities.

New at this year's Summit were a scientific track and a poster session. Keynote presentations included internationally renowned speakers Dr. Gary Pisano from Harvard Business School and Dr. Rainer Fischer from the Fraunhofer Institute (now the chief scientific and innovation officer for the Indiana Biosciences Research Institute).

BioCrossroads harnesses Indiana's impressive life sciences assets into actionable, innovation-driven outcomes. It's a strategy that continues to deliver, after 15 years, for our prospects of living in a more prosperous, healthier State of Indiana over the century ahead.



Board of Directors

2016 BioCrossroads Board of Directors members represent the state's industry, academic and government sectors. The senior leaders on the Board are essential to BioCrossroads' success, and they are united in their common commitment to find even more ways to collaborate, sustain investments and build upon the energy and assets Indiana already has.

Darren J. Carroll is the Chairman of the Board of BioCrossroads.

Len Betley

Retired Chairman

Richard M. Fairbanks Foundation, Inc.

Dr. D. Craig Brater

Retired Dean

Indiana University School of Medicine

Dr. Thomas G. Burish

University of Notre Dame

Wayne C. Burris

Roche Diagnostics Corporation

Darren J. Carroll

Eli Lilly and Company

Daniel F. Evans, Jr.

Indiana University Health

Claire Fiddian-Green

Richard M. Fairbanks Foundation, Inc.

Daniel J. Hasler

Purdue Research Foundation

Dr. Jay L. Hess

Indiana University School of Medicine

David L. Johnson

BioCrossroads and Central
Indiana Corporate Partnership

Deb Keller

Covance

Kay Kuenker

Dow AgroSciences

Dr. Jan M. Lundberg

Eli Lilly and Company

Dennis D. Oklak

Duke Realty Corporation

Daniel Peterson

Cook Group, Inc.

William R. Ringo

Sofinnova Ventures

Dr. Craig Samitt

Anthem, Inc.

Charles E. Schalliol

Faegre Baker Daniels

Stephen J. Schlegel

Anthem, Inc.

Jon C. Serbousek

Retired President

Biomet

Derek Small

Assembly Biosciences, Inc.

William B. Stephan

Indiana University

Micah Vincent

State of Indiana

Dr. J. Anthony Ware

Eli Lilly and Company



300 N. Meridian St., Suite 950
Indianapolis, IN 46204
317-238-2450

www.biocrossroads.com | www.biointellex.com

Data used in graphics are the most recent available, and were compiled by the Indiana Business Research Center at the Indiana University Kelley School of Business and BioCrossroads.

© Copyright BioCrossroads 2017