

ihif

INDIANA HEALTH
INDUSTRY FORUM



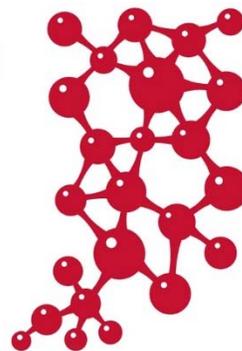
Roadmap 2020

Statewide Strategic Plan

Presented by:

ihif

INDIANA HEALTH
INDUSTRY FORUM



...

IHIF is a 501c6 not-for-profit, statewide trade association representing companies across the bioscience spectrum. To learn more, please visit us on-line at www.ihif.org.

Indiana Health Industry Forum, Inc. | 429 E. Vermont Street, Suite 304 | Indianapolis, IN 46202

www.ihif.org | Twitter: @IHIF1

-Inspiration-

“Don’t fool yourself: having a strategy map is not the same as having a strategy”

“A strategy, even a great one, doesn’t implement itself”

“The essence of strategy is choosing what not to do.”

- Michael Porter

"Plans are only good intentions unless they immediately degenerate into hard work."

- Peter Drucker

Table of Contents

Welcome Letter.....	3
Executive Summary.....	4
Building the Map with Forums.....	7
Capital Formation.....	8
Research and Technology Commercialization.....	9
Indiana’s Patent Landscape.....	10
Business Development.....	11
Workforce and Education.....	12
Public Policy.....	13

Acknowledgements

IHIF would like to thank the following individuals for their contribution to the development of Roadmap 2020:

- Steve Bryant, Ivy Tech, Bloomington
- Carletta Sullivan, The McKenzie Center for Innovation and Technology
- Deborah Pollack-Milgate, Barnes & Thornburg
- Roger Harvey, Bose Public Affairs Group
- Eric Marr, Diversity Accords
- Dale Buuck, RJE Furniture
- Andy Cothrel, Blue Marble Medical

A Letter from the President



Dear Friends,

As a statewide trade association, the Indiana Health Industry Forum (IHIF) exists to coalesce and amplify the individual voices in our bioscience business community and channel that guidance into policies and initiatives that further company formation and growth. With Roadmap 2020, IHIF builds upon a framework that has directed our organization's efforts for the past several years and helped define our role in the state's bioscience ecosystem.

Roadmap 2020 uses the same fundamental activity categories as our previous plans. These categories align with IHIF's core functions and each will now have member working groups (Forums) to further coordinate and address the recommendations made in this report. These recommendations have been developed from submissions made during a wide-ranging data-gathering process intended to reflect the opinions and interests from business leaders and industry members across the state. As with the previous plan, we saw a great deal of alignment in the feedback we received – helping to make this plan even more targeted and concise.

I would like to thank the IHIF Board of Directors and those members who have volunteered their time and thought towards producing this plan. Please use **Roadmap 2020** as the starting point in our joint efforts to grow Indiana's bioscience sector. We cannot achieve these goals by working alone or in institutional silos. Hoosiers are collaborative by nature and together we can work towards a common framework for discussion and action on all these important topics.

To learn more about IHIF, the plan, and to engage with discussion Forums, please visit us on-line at www.ihif.org. We hope to see you soon!

Most sincerely,

Kristin Jones, President and CEO

Indiana Health Industry Forum

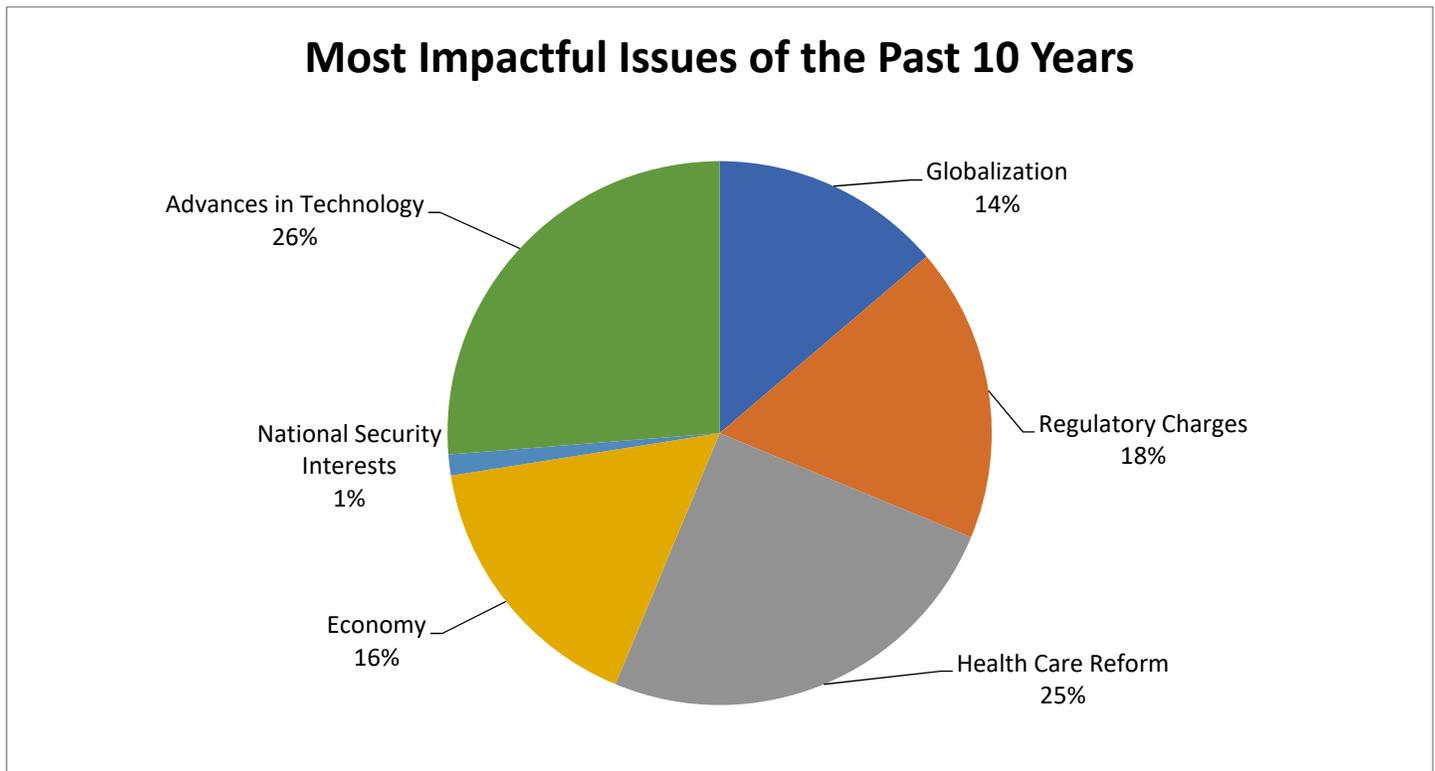
Executive Summary

In 2008, the Indiana Health Industry Forum began work on an asset mapping and strategic planning initiative that laid the groundwork for the organization's efforts over the past decade. Closely tied to our mission, to connect key stakeholders to: enhance business **networks**, **advocate** for member interests, develop **workforce skills**, and provide **strategic vision** in the interest of growing the state's health industry economy and reputation, the plan has provided structure and guidance and been a primary communication tool to describe IHIF's role in the bioscience landscape.

As the industry in the state has grown, so has IHIF. Now with over 150 corporate members, large and small, we are using **Roadmap 2020** to help guide more member driven conversations as we implement "Forums" – special interest groups within our membership that will be instrumental in building an engaged and empowered bioscience cluster in the state.

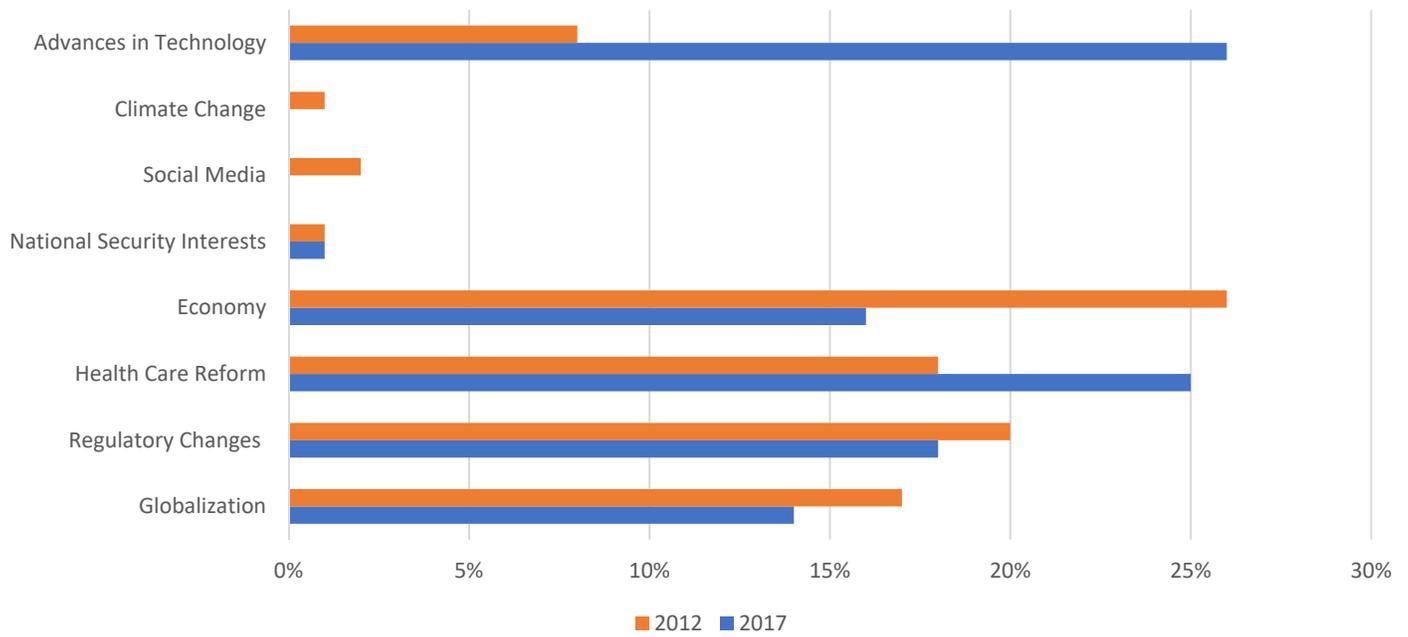
Roadmap 2020 was written using the same process developed for our initial strategic plan in 2012. We have solicited broad input on the issues and challenges facing the industry. The feedback received has been used to develop a set of recommendations that will drive initial conversations in the respective Forums.

We began our survey with an assessment of the influencing factors on the business environment.



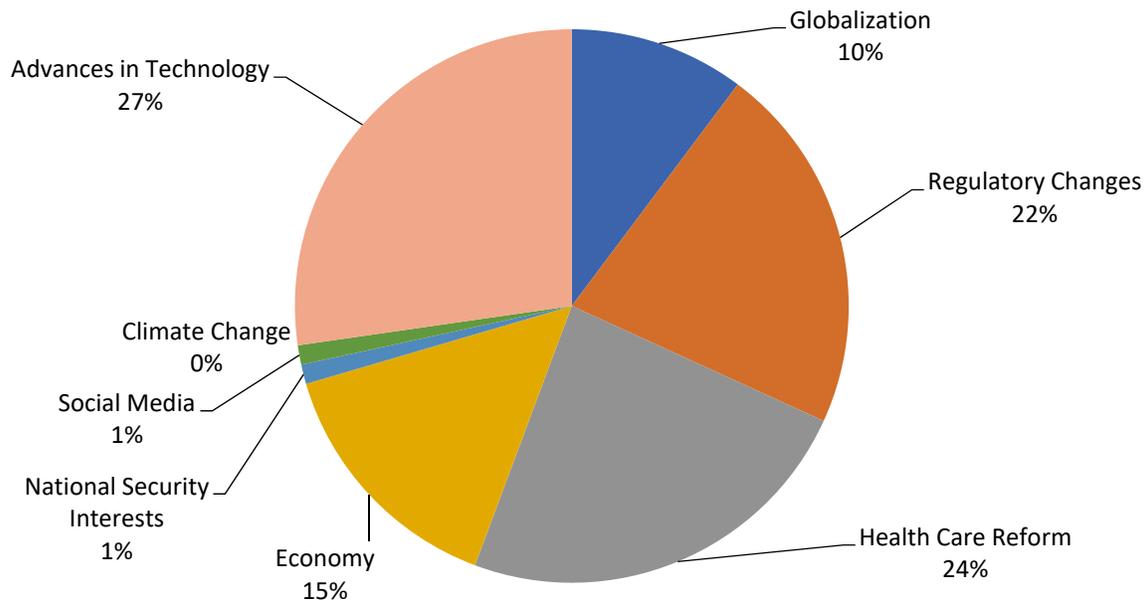
Compared to the 2012 survey, we see that "Advances in Technology" is playing a larger role in the development of the industry (up to 26% of responses from only 8% in 2011), while "Health Care Reform" grew from 18% to 25%.

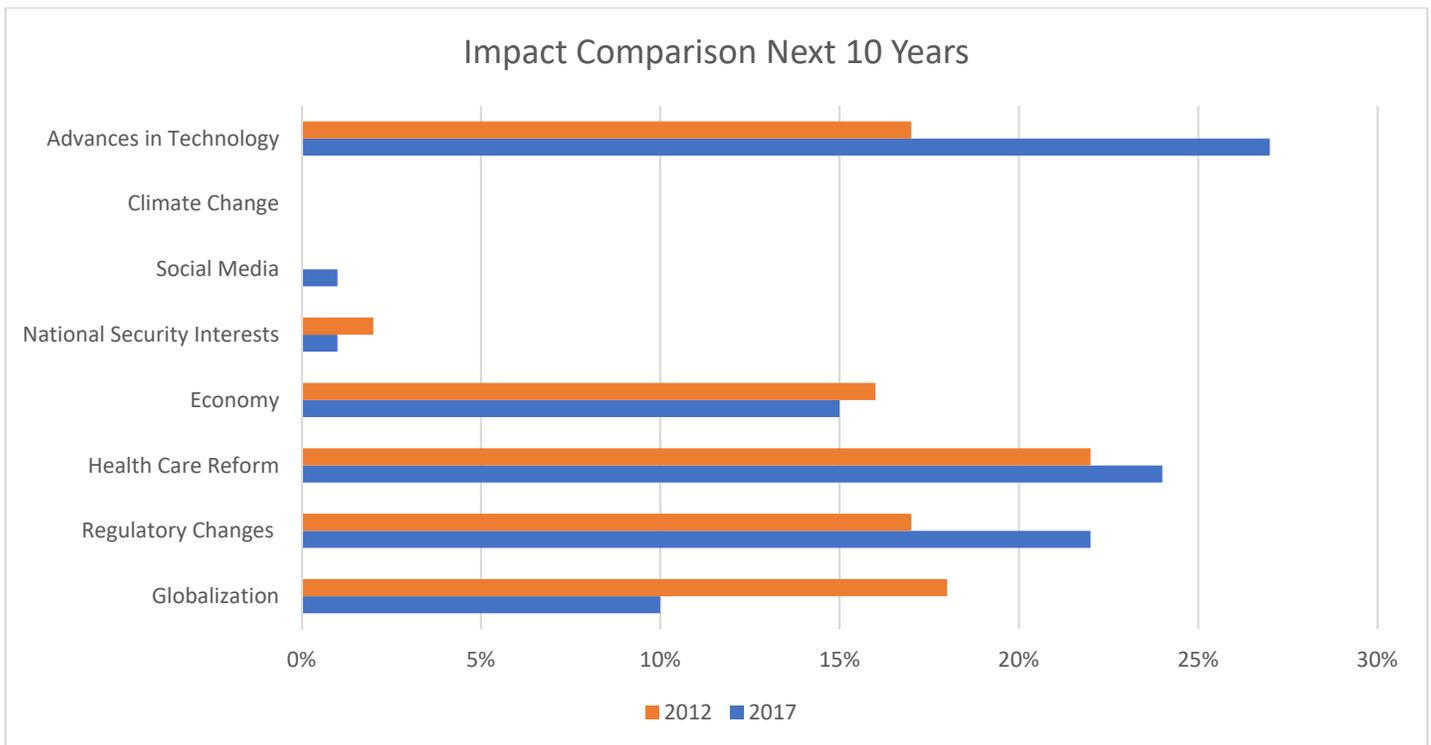
Impact Comparison - Past 10 Years



Looking ahead, we see a landscape that is driven by innovation but also tempered by uncertain health care delivery reforms and regulatory changes.

Most Impactful Issues for the Next 10 Years





Environmental factors, such as climate change, social media, and national security have essentially disappeared from consideration. Interestingly, the impact of globalization has reduced dramatically, perhaps portending more focus on established markets.

Even though the impact of technological change can be felt strongly here, the survey does not address the factors truly driving the next level of development – how companies are leveraging pervasive data to guide decisions across healthcare delivery, manufacturing, quality, R&D, and patient care. Acknowledging and integrating digital health and all its iterations into our FORUM discussions should create opportunities for innovation.

Importantly, we strive to align our efforts with the business goals of all of our members. While the responses were generated from the diverse perceptions of many individuals, they reflect strong consensus among industry members on the direction and challenges facing companies of all sizes. We know that the topics presented here are not unique to Indiana, so we hope to join with others, share our thoughts and learn from their experiences, and craft solutions that fit our culture, assets, and resources.

Roadmap 2020 Summary of Recommendations:

- 1) Create a small Seed Fund that will provide seed to early Series A investments.
- 2) Add an Entrepreneur Assistance Grant Fund to help with small-dollar, concrete projects
- 3) Examine and assess the innovation landscape to better understand the sources, drivers, and trends in innovation.
- 4) IHIF needs to assume a leadership position in the promotion of Indiana’s life science industry and assets.
- 5) To reach the broadest possible audience, IHIF should provide on-going educational opportunities and current resource materials to interested partners in economic development.
- 6) Increase awareness of current, industry-related public policy activities and issues.
- 7) Facilitate opportunities for industry engagement with state and federal legislators.
- 8) Evaluate and endorse programs that connect companies with students in order to provide more practical learning experiences and early engagements.
- 9) Advocate for resources and programs that develop a skilled workforce to support the diversity of needs across the bioscience sector.

Building the Map with Forums



About Forums

What are they?

Forums are self-organized interest groups within the IHIF Membership.

What is the role of a Forum?

Forums will develop their own mission statements and objectives but also will support IHIF efforts in several areas:

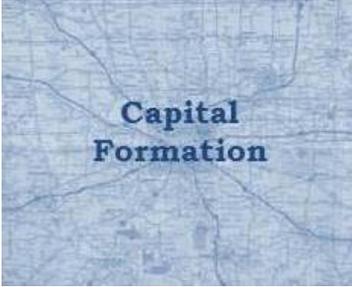
- Forums provide guidance, leadership, and assistance with the execution of IHIF's Strategic Plan – Roadmap 2020.
- Forums identify cross-Forum networking opportunities to build new collaborations and identify new interest areas.
- Forums help to recruit new members to IHIF and broaden the conversation and community.
- Forums will develop discussion topics and panels that feed into the Life Sciences Luncheon Program.

How can Forums Benefit my company?

Forums allow multiple employees from an IHIF member company to participate in outreach and networking activities. This allows individuals to explore areas of interest to them and for IHIF member companies to have involvement in more than one group. It builds leadership and team skills. Forums encourage members to set the direction for their interest areas by building a more customized and valuable membership experience.

To Join A Forum

Please visit <https://ihif.org/2017/03/03/forums/> to register for a Forum of your choice!



Capital Formation

Preamble: Indiana has a growing reputation as a source of viable bioscience innovation but despite years of efforts to generate sustainable funding, the state is still lacking in seed/early stage investment capital for many of these projects. One of the biggest challenges has been the difficulty in finding knowledgeable fund administrators willing to take the lead (and assume the risk) on early stage projects.

These days, many investment models combine investment with mentoring and services – factors that require start-up companies to reach out to the broader bioscience community and engage with national and international players. Can we construct a model that encourages outside investors to engage with early-stage companies and grow those businesses here?

Recommendations:

- 1) Create a small Seed Fund that will provide seed to early Series A investments.
- 2) Add an Entrepreneur Assistance Grant Fund to help with small-dollar, concrete projects

For FORUM Discussion:

- 1) What would it take to develop and manage an early stage fund?
- 2) How can the Forum partner with outside investors and groups to further support and de-risk these investments?
- 3) Start-up bioscience companies must all follow regulated pathways to develop their products. When funding is scarce, getting needed information or data can stop a company in its tracks. Can we identify resources and define the types of projects where supplemental grant funding would be most useful?



Research and Technology Commercialization

Preamble: Innovation is the lifeblood of the industry but the journey from discovery to patients is long, expensive, and fraught with risk and failure. Indiana is an innovative state. According to a recent report from the Biotechnology Innovation Organization (BIO), “Indiana has a large volume of patents, with Hoosier inventors associated with 4,148 awarded from 2014 through 2017 in bioscience-related technology classes”¹.

Indiana has made great strides recently in growing our university technology transfer activities – supported by repeated rounds of funding from the National Institutes of Health (NIH), the Indiana Clinical and Translational Sciences Institute (CTSI) works with all three major research universities to provide an expedited pathway from discovery to pre-clinical development, to early research and beyond. Indiana University, Purdue University, and the University of Notre Dame have all re-tooled and adjusted their Technology Transfer Offices (TTO’s) to make the process easier, smoother, and more accessible to faculty and industry partners. Smaller universities and colleges across the state have found ways to engage their resources and faculty with community partners and national research projects.

Private companies are a significant driver and developer of innovation but their role is frequently under-appreciated in the landscape. According to the US Patent Office, the vast majority of utility patents granted in Indiana go to corporate entities². However, many privately developed innovations face the same challenges as university-developed technologies – no clear understanding of market potential, lack of resources to develop innovations, or discoveries that do not align with the company’s mission/direction/product offering. What can be done with those technologies to help move them, “off the shelf”?

Recommendation:

- 1) Examine and assess the innovation landscape to better understand the sources, drivers, and trends in innovation.

For Forum Discussion:

- 1) IHIF can both promote Indiana’s innovational capacity and bring together the resources to further build and develop organizational capacities around bioscience innovation.
 - i. Develop an “innovation index” to help with assessment.
 - ii. Build resource capacity around the development of these technologies
 1. Work with IHIF member companies
 2. Look at Rolls-Royce IP mining process, to brainstorm and identify alternative uses for technologies in patent portfolios.

¹ TEconomy/BIO, “Investment, Innovation and Job Creation in a Growing U.S. Bioscience Industry” 2018 – State report for Indiana

² https://www.uspto.gov/web/offices/ac/ido/oeip/taf/stcasg/in_stcorg.htm

Indiana's Patent Landscape

In 2016, IN ranked #20 in the country for total patents issued - 2,295*



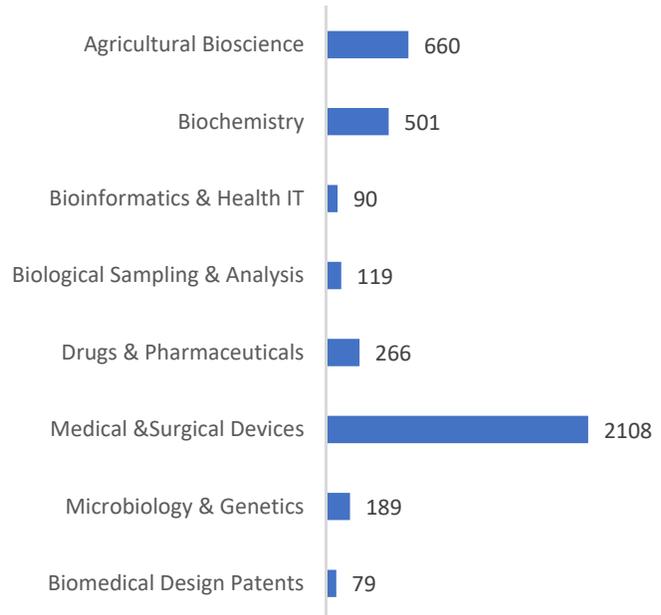
- The **United States Patent and Trademark Office** issued a record 53 patents in the 2015-16 fiscal year to the **Indiana University Research and Technology Corp.**
- **Purdue University ranks 12th among top 100 worldwide universities granted U.S. patents for 2016 (IU #44)** Source: National Academy of Inventors TOP 100 Worldwide Universities Granted U.S. Utility Patents 2016
- **St. Mary's and Notre Dame Researchers Collaborate on Patent to Detect Low-Quality Pharmaceuticals (7/16)**

Bioscience related U.S. Patents (IN)***
2012-2015



Between 2000-2015, the **Indianapolis-Carmel MSA** ranked #35 for patents issued – 8,161**

Bioscience-Related U.S. Patents by Segment (IN)***
2012-2015



Indiana Patent Income Tax Exemption

Certain income derived from qualified patents and earned by a taxpayer are exempt from taxation. The total amount of exemptions claimed by a taxpayer in a taxable year may not exceed \$5 million. (Source: *Indiana Economic Development Corp.*)



Sources:

*STATS Indiana

**U.S. Patent and Trademark Office

Electronic Information Products Division – PTMT

***TEconomy/BIO The Value of Bioscience Innovation in Growing Jobs and Improving Quality of Life 2016

Infographic developed by the Indiana Health Industry Forum (1/18)



Business Development

Preamble: To support bioscience company growth, businesses need to operate in an ecosystem that supports and values their contributions. Indiana’s bioscience business sector has a \$78 billion economic impact on the state – directly employing more than 55,000 people and paying an average wage of \$94,749 – well above state and national averages.³

To remain a competitive player in the bioscience industry, Indiana must also broadcast our extensive capabilities and expertise to the broader business community. Interactions with other market hubs and regions build bridges and relationships for our companies to use to expand their resource networks and partner on new innovations. Because of IHIF’s extensive background in economic development and network of partners - locally, nationally, and globally - IHIF is strategically positioned to be a lead voice for Indiana’s bioscience sector.

Recommendations:

- 1) IHIF needs to assume a leadership position in the promotion of Indiana’s life science industry and assets.
- 2) In order to reach the broadest possible audience, IHIF should provide on-going educational opportunities and current resource materials to interested partners in economic development.

For Forum Discussion:

- 1) IHIF should work with other economic development partners to promote Indiana as a preferred location to start and grow a bioscience business.
 - a. Engage with state and local economic development groups and organizations, to determine their needs and answer questions about the industry.
 - b. Communicate regularly with site location experts specialized in the bioscience industry
- 2) Economic Development Toolbox
 - a. Re-work asset maps and regional strategic plans
 - b. Produce new marketing materials, including:
 - i. Maps
 - ii. Infographics
 - iii. BioFutures
 - c. Identify trade show event calendar with exhibition or participation options

³ “Investment, Innovation and Job Creation in a Growing U.S. Bioscience Industry”, 2018. BIO/TEconomy Partners, LLC <https://www.bio.org/sites/default/files/IN-BIO2018%20-%20state%20profile.pdf>



Public Policy

Preamble: Most large companies keep close watch on developments and changes to national and international policies and regulatory requirements with experienced staff to advocate on their behalf. For small to mid-sized companies it becomes more challenging to stay updated about policy discussions and feeling connected with their elected representatives. Trade associations play an important role in bridging this gap for their members and educating both legislators and executives on the impact of policies and issues on the industry.

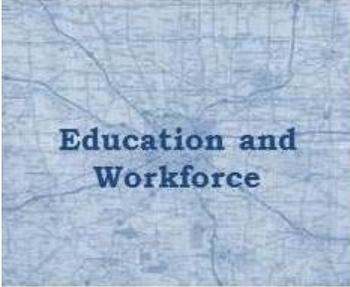
Survey feedback pointed to strong industry interest in engaging with legislators and the need for assistance in making those connections.

Recommendations:

- 1) Increase awareness of current, industry-related public policy activities and issues.
- 2) Facilitate opportunities for industry engagement with state and federal legislators.

For Forum Discussion:

- 1) Through IHIF's engagement with local and national advocacy organizations, IHIF has a wide range of programs, educational tools, and issue briefings that it can make available to members and legislators.
 - a. Make sure those resources are posted appropriately on IHIF's website.
 - b. What other resources are needed?
- 2) Throughout the year, IHIF and other industry partners recognize members of Indiana's legislative community for their work to support the bioscience industry.
 - a. Find more effective ways to communicate these achievements with constituents and legislators.
- 3) IHIF should be a primary resource for legislators to become and stay informed about the impact of the bioscience industry on Indiana's economy and workforce.
 - a. Work with industry leaders and legislators to provide direct, in-district interactions focused on the drivers, development timelines, and regulatory requirements for these businesses.



Workforce and Education

All companies are concerned about securing access to a well-trained pool of employees. Particularly in regulated fields, finding workers with experience and the proper certifications to perform advanced techniques can be challenging. As a state, Indiana offers a number of programs to help connect people and companies but businesses also need to be proactive about engaging students early in their lives and offering them insight into the work environment.

Recommendations:

- 1) IHIF should be an advocate for resources and programs that develop a skilled workforce to support the diversity of needs across the bioscience sector.
- 2) Connect companies with students to provide more practical learning experiences and early learning engagements.

For Forum Discussion:

- 1) A number of successful pilot programs have already been developed and deployed in parts of the state.
 - a. SMC/McKenzie Institute for Innovation and Technology
 - b. My Cook Pathway / Achieve Your Degree
 - c. Perkins Grant/Brown Co.
 - d. Lilly Drug Development Certificate Course
 - e. Penguin Innovation digital clean room - <https://penguin-innovations.com/>
- 2) Some central coordination is needed to help employers and students learn about and connect with these programs
- 3) IHIF's Workforce and Education Forum can:
 - a. Evaluate these programs and others for effectiveness and ability to transfer/scale to a local or statewide audience
 - b. Survey, evaluate, coordinate workshops, develop reports
- 4) IHIF can help communicate with the business community and further support and endorse programs benefitting bioscience companies and students/employees.
- 5) The Forum should develop and track metrics for measurement of program uptake and student engagement.