



CHIPS & Science Act of 2022: Indiana's Response

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Who is



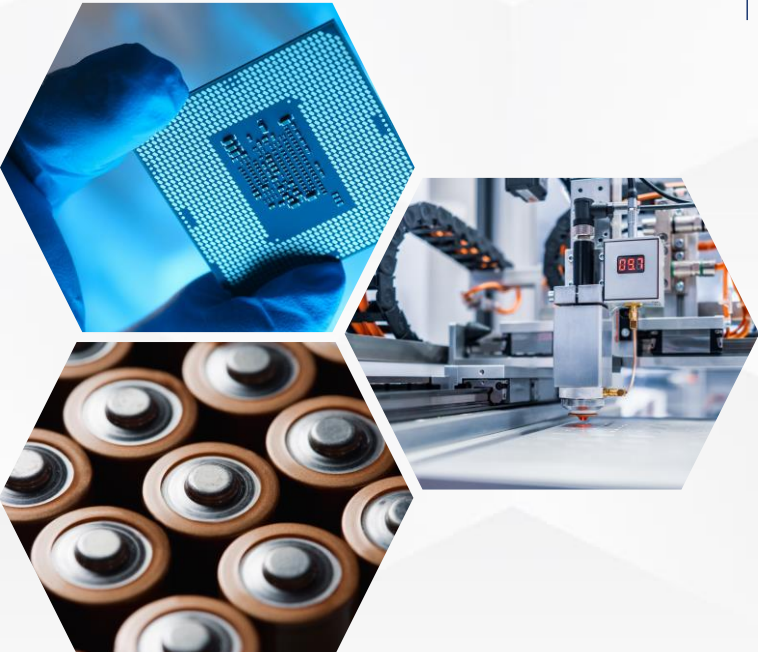
Mission

We catalyze opportunities that enhance national security and drive economic prosperity.

Catalyze Opportunities: *Create or facilitate opportunities for our partners and stakeholders*

Enhance National Security: *Security and defense of our state and its economy*

Drive Economic Prosperity: *Foster a competitive culture, create jobs and growth*



**Neutral non-profit
established in 2017 to
foster innovation**



**Innovation orchestrator
that fosters collaboration and
executes through innovative
thought leadership**



**Nationally known
leaders that
revolutionize and
disrupt innovation**

LEVERAGING FEDERAL FUNDING FOR OUR MOST AMBITIOUS INITIATIVES

REGIONAL TECH HUBS

Secure funding for non-coastal tech development

- **\$500M in FY23**
- Federal Designations (20+)
 - Phase 1 due Aug. 15th
- Implementation Grants (5-10 nationally in the \$50-75M range)
 - Late Fall 2023

SEMICONDUCTOR INNOVATION

Attract opportunities in Semiconductor manufacturing & training

- \$52B total nationally
- **\$2B ME Commons**
- 2/27/23: DOD Submission
- April/May 23: Negotiations
- ~~June 23~~: Award

CLEAN HYDROGEN HUB

Establish a landmark hub for clean hydrogen fuel

- \$7-8B total nationally
- **\$1.25B per hub**
- 33 concept papers encouraged
- Teamed with MI, IL, WI
- 4/7/23: Final Submission
- Awards: Fall 2023



GWC Engagement & Collaboration

Pursuit Phase

- Commitment to workforce development
- Demonstrated success
- Capacity for growth / need for additional investment

Implementation Phase

- Matching commitments / resource enhancements
- Scaling potential – intra/inter-industry
- Monitoring success



CHIPS & Science Act: The Origin Story

2019: Endless Frontier Act

- Senators Todd Young and Chuck Schumer
- \$100B investment in innovation
- Regional Tech Hubs, NSF Tech Directorate

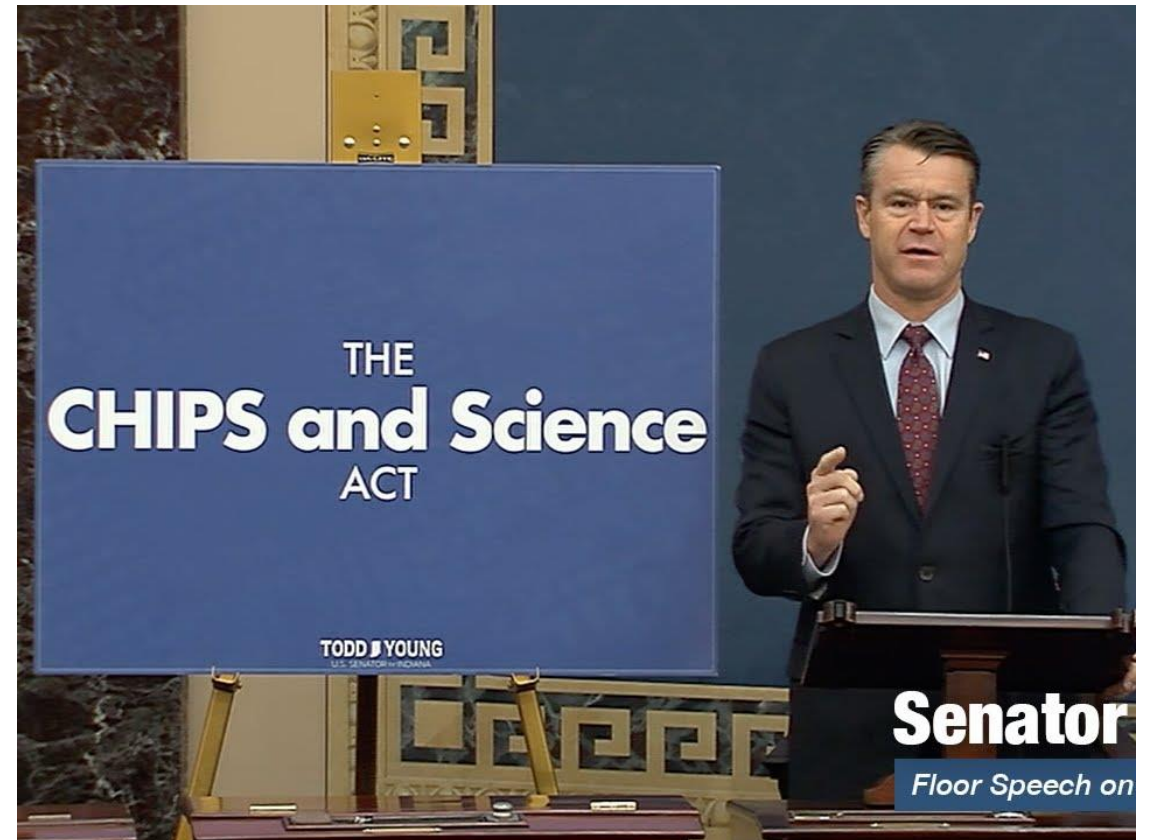
2020: CHIPS for America Act

2021: U.S. Innovation & Competition Act

- Passed Senate in June of 2021 (68-32)

2022: CHIPS & Science Act

- America COMPETES Act – House passed in February of 2022
- Senate stripped/inserted USICA
- Conference Committee February – July
- POTUS signed into law in August 2022
- \$280B bill – \$52B for CHIPS; \$10B for Tech Hubs



Heartland BioWorks: Indiana's Tech Hub




Heartland BioWorks


Manufacturing Biotechnology Innovations in Human, Animal, and Plant Science

TRANSFORMING HOW LIFE SCIENCE PRODUCTS ARE DESIGNED, MADE, AND MOVED FOR THE NATION

Indiana stakeholders are uniting to pursue a Regional Innovation and Technology Hub designation through the U.S. Economic Development Administration, which could lead to a \$65 million investment in the region. Led by the Applied Research Institute (ARI) and utilizing ARI's proven Innovation framework, a Tech Hub would catalyze Indiana's life sciences manufacturing economy, create inclusive and high-wage job opportunities, and cement the region as a global leader in life sciences talent development, start-up creation, reshoring, and supply chain resilience — all of which are essential to national security and the health of our people.




Indiana: Poised to Revolutionize Life Sciences




UNMATCHED LOGISTICS

2nd largest FedEx hub in the world + one-day drive to 80% of the US population



BIO-MANUFACTURING LEADER

#1 State for pharmaceutical exports + Only state to make all three COVID-19 vaccines




INNOVATION DRIVER


3rd in US for academic biosciences R&D investment growth

How a Regional Tech Hub Accelerates Indiana's Momentum


Indiana Ecosystem Challenges	Tech Hub Opportunities
Workforce – Siloed programs and insufficient training facilities	Modernized and flexible training curriculum driven by industry needs; hub-and-spoke training facility model
Diversity – Current workforce does not utilize talent in underrepresented communities	Training located in, and designed for, under-served communities with alignment to high-wage jobs
R&D Facilities – Lack of access to testing and prototyping space	Centrally-located, collaborative testing facility
Tech Translation – Reliance on university tech transfer offices	Regionally-coordinated seed funding, IP and licensing processes
Commercialization – Lack of scale-up facilities	Small-batch manufacturing facility with flexible FDA-compliant suites, and additional infrastructure for quick-build bio-manufacturing facilities



www.indianatechhub.com



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Heartland BioWorks

Manufacturing biotechnology innovation in human, animal, and plant science


Heartland BioWorks is a consortium of Indiana stakeholders pursuing a Regional Tech Hub designation through the U.S. Economic Development Administration's Regional Technology and Innovation Hub Program. The EDA plans to designate approximately 20 Regional Tech Hubs nationwide in the Fall of 2023."



Indiana leads the nation in pharmaceutical exports



Indiana is the only state in the nation to manufacture all three COVID-19 vaccines



One of the top three states in exports for all life sciences products – pharmaceuticals, medical devices, and agbiosciences — for more than a decade

www.IndianaTechHub.com
www.HeartlandBioWorks.com

Consortium Members



Industry: Eli Lilly, Elanco, Corteva, Cook Medical, Roche Diagnostics, Catalent, Evonik, INCOG, BiomEdit, MBX Biosciences

Academia: Purdue University, Indiana University, Notre Dame, Ivy Tech Community College, Tougaloo College R&D Foundation (TCRDF), Martin University

Labor: Central Indiana Building Trades Council

Government/Economic Development: State of Indiana/IEDC, CICP, BioCrossroads, AgriNovus, Ascend, Conexus, Central IN RDA (CIRDA), City of Indianapolis, City of Fishers, 16 Tech Community Corporation, Indiana Biosciences Research Institute

What is the problem: Need to maintain a leadership position in biotechnology innovation and ensure US biomanufacturing capacities and capabilities are in place to support domestic production.

What's been done to address the problem?

- National prioritization of biotechnology and biomanufacturing advancements (e.g., White House memos)
- Small, regionally-scoped efforts (e.g., BBB efforts focused on biomanufacturing); primarily targeting local workforce development

What gaps need to be addressed?

- Workforce identification, development, training, placement
- Affordable, US capacity to support small-scale, late-stage clinical development and launch of biopharmaceutical innovation (focused on small biotechs, including start-ups)
- Development of biomanufacturing innovation – e.g., drive down capital investment requirements, lower cost of manufacturing, enable new product modalities

Heartland BioWorks – the Solution



Leverage Indiana's strong assets and momentum in the life sciences

Coordinate regional resources through a robust innovation and workforce development model

Take on three new initiatives to help **propel Indiana to become a world-leader in biomanufacturing**

1. BioWorks Training Institute
2. BioWorks Launch Network
3. BioWorks Innovation in Advanced Manufacturing Network

Goal: Prepare trainees for high-paying jobs that support the growing biomanufacturing sector

- State-of-the-art facility, providing flexible classroom and hands-on education and training
- Utilize the industry-recognized NIBRT curriculum
- Partner with local/regional academia to provide stackable credentials
- Job placement cooperation – Ascend Indiana, EmployIndy
- Potential to attract businesses and students from outside the region
- Located at 16 Tech (historically disadvantaged community)

White House Report: *Building the Bioworkforce of the Future: Expanding Equitable Pathways to Biotechnology and Biomanufacturing Jobs* (June 2023):

Recommendations (summarized/paraphrased):

1. Expand and diversify the talent pool for biotechnology and biomanufacturing jobs
2. Strengthen worker-centered sector strategies and other partnerships between employers, labor organizations, community colleges, and other training providers to grow and diversify the bioworkforce.
3. Develop and rigorously evaluate innovative approaches to education and training [and] scaling and promoting those found to be most effective.
4. Partner with ... [biotech and workforce] stakeholders to raise awareness about the promise and potential of careers in the bioworkforce.
5. Improve data and analytic capacity and cross-sector collaboration to advance equity and support effective workforce development—including the development of industry recognized credentials and competency models.

The White House. *Building the Bioworkforce of the Future: Expanding Equitable Pathways to Biotechnology and Biomanufacturing Jobs*. June 2023, available at <https://www.whitehouse.gov/wp-content/uploads/2023/06/Building-the-Bioworkforce-of-the-Future.pdf>.

THANK YOU

