

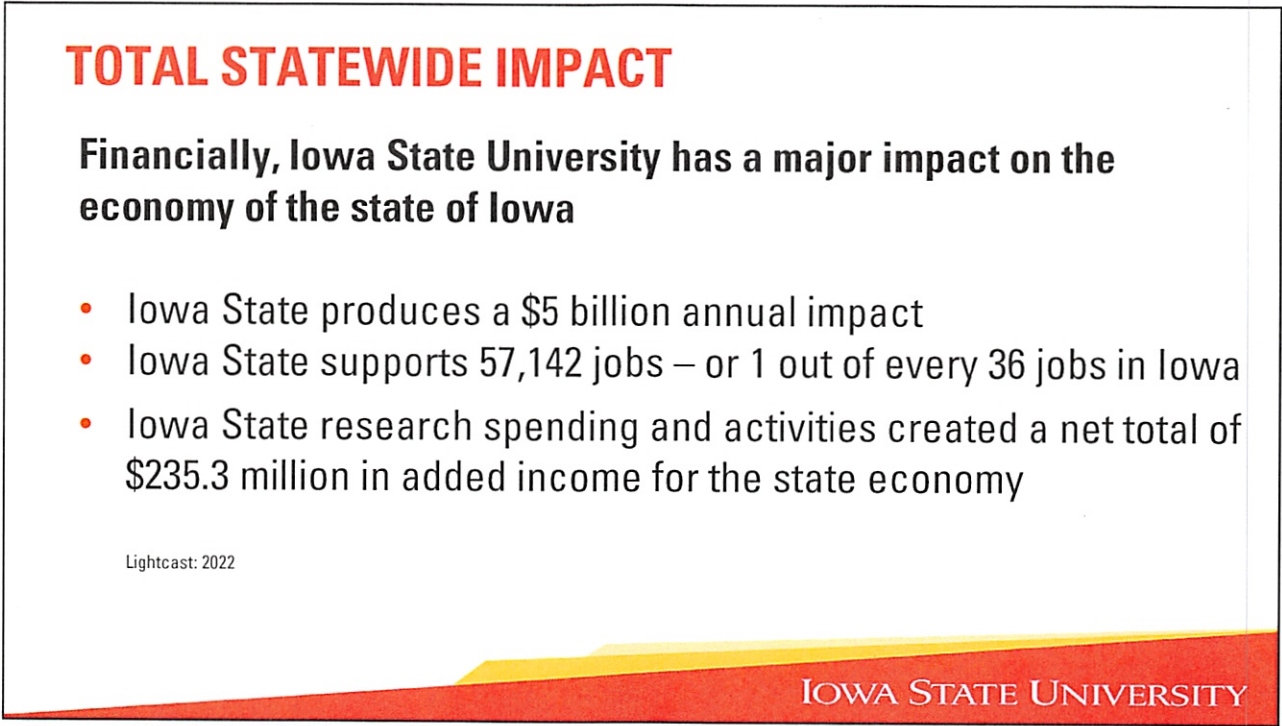


IOWA STATE UNIVERSITY
Economic Development and Industry Relations

ECONOMIC DEVELOPMENT & INDUSTRY RELATIONS

DAVID SPALDING
Vice President of Economic Development

1



TOTAL STATEWIDE IMPACT

Financially, Iowa State University has a major impact on the economy of the state of Iowa

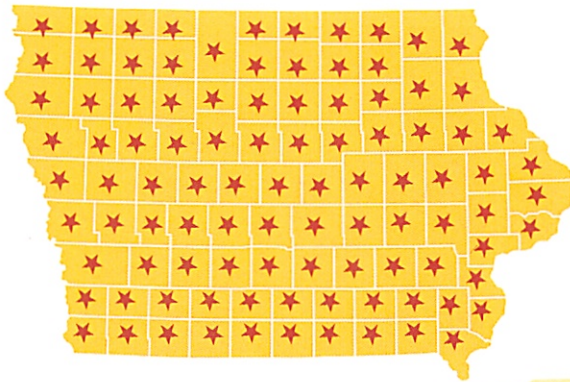
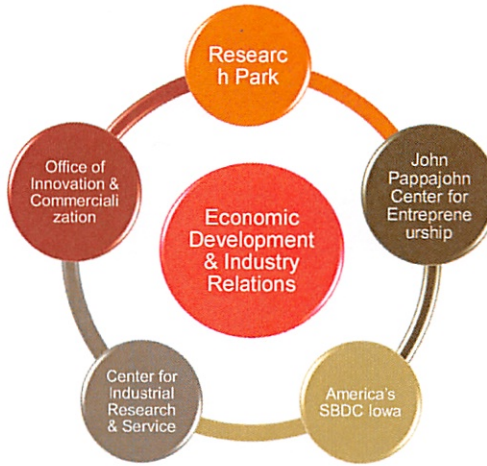
- Iowa State produces a \$5 billion annual impact
- Iowa State supports 57,142 jobs – or 1 out of every 36 jobs in Iowa
- Iowa State research spending and activities created a net total of \$235.3 million in added income for the state economy

Lightcast: 2022

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2

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Office of Economic Development and Industry Relations

Iowa State Economic Development and Extension units provide impact in all 99 Iowa counties

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3

Innovation & Economic Prosperity University Awards

Recognized nationally and globally for our work in Economic Development and Innovation. Iowa State has had an IEP University designation since 2016.




IEP Awards:

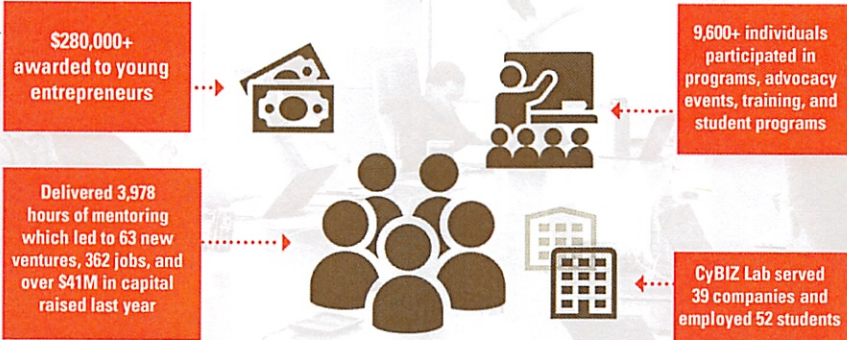
- 2023 – Connections Award Winner - top IEP prize
- 2022 – Innovation Award Winner
- 2021 – Place Award Winner
- 2020 – Innovation Award Winner
- 2018 – Innovation Award Finalist
- 2017 – Talent Award Winner

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4

Award Winning ISU Pappajohn Center for Entrepreneurship

Recent Awards:
 2024 – Ranked #12 Princeton Review
 2021 – USASBE Model Program Award
 2022 – Nasdaq Center for Entrepreneurial Excellence from the GCEC
 2023 – America’s Entrepreneurial University of the Year
 2024 – USABE Excellence in Entrepreneurial Education Model Program

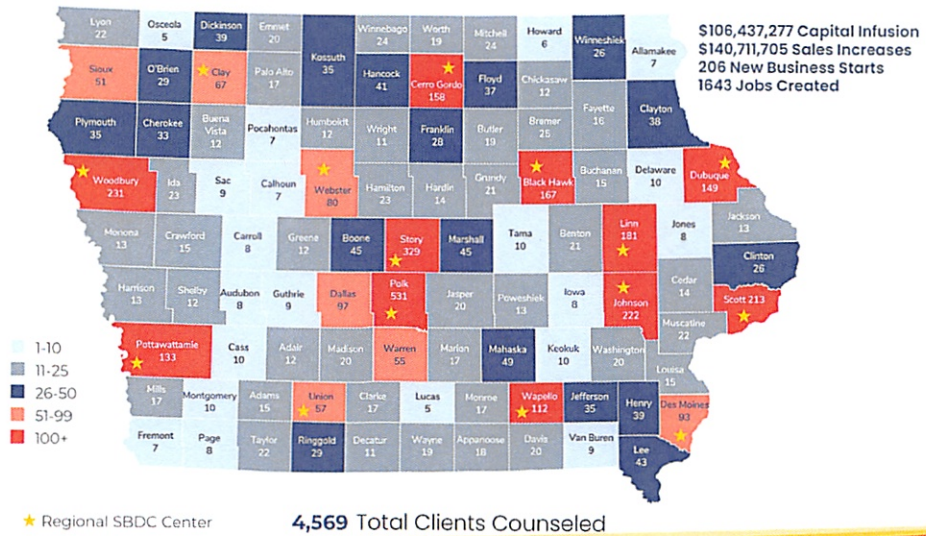


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5



America's SBDC Iowa – Clients Counseled FY23



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6

Center for Industrial Research and Service

Economic Impact, 2018–2022

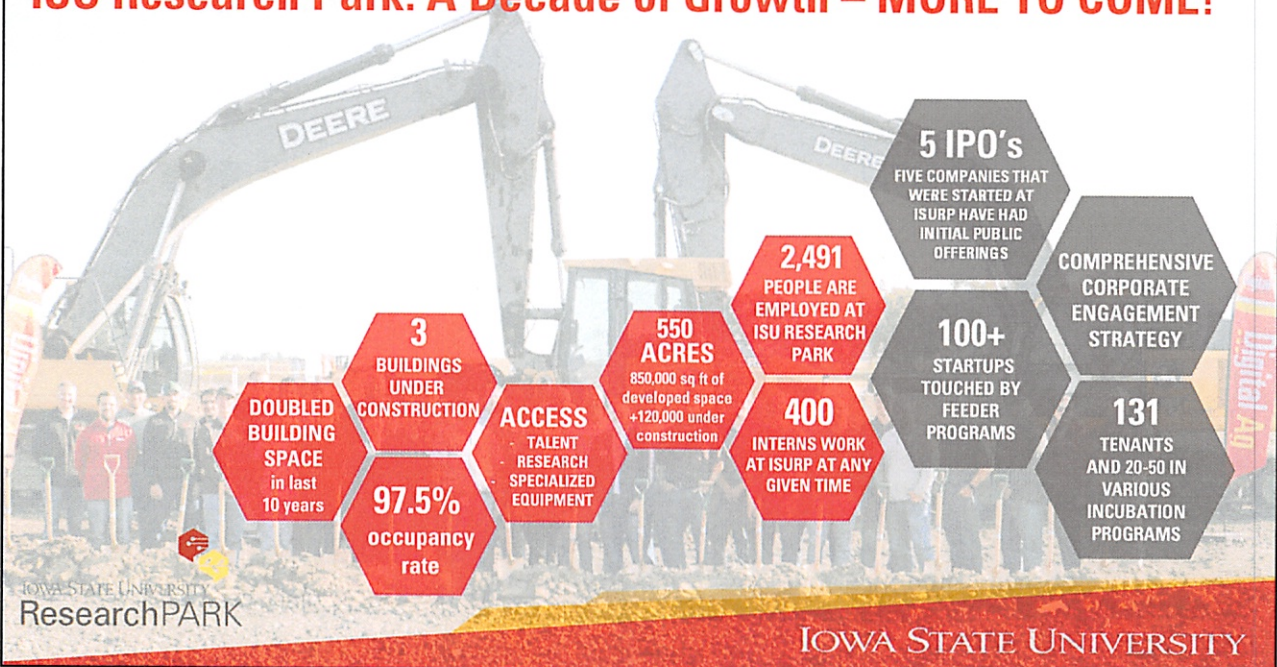
ADAMS	ADAMSON	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS	ADAMS
\$0.8M	-\$	\$1.8M	\$781,000			\$17.6M	\$1.2M	\$38.6M	\$4.2M	\$45,000	\$1.8M	\$8.1M	\$0.1M	\$8.1M						
\$17.3M	\$741,000	\$5.2M	\$22,000			\$6.8M	\$37.1M	\$2.2M	\$11.4M	\$31,000	\$17.8M									
\$14.2M	\$4.2M	\$3.4M	\$3.1M	\$15.5M	\$4.6M	\$27.8M	\$1.8M	\$32.7M												
\$164.2M	\$23.1M	\$1.3M	\$102,000	\$88.8M	\$28.5M	\$15.5M	\$15.5M	\$32.8M	\$18.6M	\$33M	\$35.6M									
\$5.4M	\$13.6M	\$3.8M	\$8.3M	\$7.1M	\$258.7M	\$927,000	\$4,000	\$772,000	\$274.8M	\$26.8M	\$4.5M									
\$1.8M	\$3.9M	\$17.1M	\$2.2M	\$38.8M	\$283.2M	\$73.7M	\$4.3M	\$1.9M	\$33.7M	\$496.8M	\$14M									
\$12.3M			\$42,000	\$1.2M	\$33M	\$3.3M	\$3M	\$12.5M		\$265,000										
\$3.3M	\$24,000	\$12,000	\$5M	\$2.8M	\$25,000	\$28.1M	\$13.5M	\$3.1M	\$37,000	\$5.7M										
\$5.1M	\$2M	\$274,000			\$1M	\$6.7M	\$11.1M	\$271,000		\$9.9M										

CIRAS Five-Year Impact: \$3.1 Billion

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7

ISU Research Park: A Decade of Growth – MORE TO COME!



8

Office of Innovation Commercialization

- Iowa State received a record \$301.3 million in external research funding in FY2023
- Annual ranking in the Top 100 world-wide universities for US patents granted

Pipeline:

- Approx 100 new technology disclosures and 100 new patent applications annually, portfolio of over 500 technologies at various stages of protection and development
- **Annual Transactions:** 40 licenses and options

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9

Bioscience Platforms Update

Peter K. Dorhout
Iowa State Vice President for Research

February 5, 2024



10

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Office of the Vice President for Research

- Iowa State continues to support and grow innovation ecosystems and foster tech transfer from the three ISU-advantaged Bioscience Platforms



BioBased Products (BBP)



Vaccines, Diagnostics, and Immunotherapeutics (VDI)



Digital and Precision Agriculture (DPA)

11

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Bioscience Platforms- Return on Investment

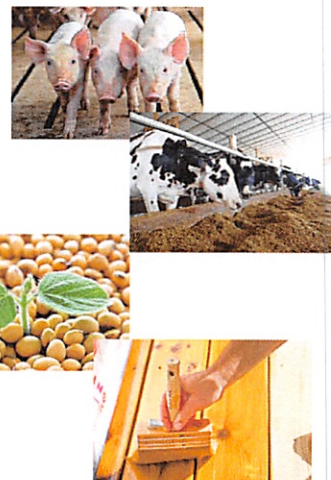
- Four years of investments (\$10 million) have enabled:
 - Hiring a Chief Technology Officer for each platform who has led and/or partnered
 - with innovators to launch/help over **35** startups
 - on workforce development involving over **220** researchers/students
 - with over **35** Iowa companies
 - Seed grants and Infrastructure support for helping technologies move closer to commercialization
 - Leveraging of external resources with over **\$115M** in federal or industry funding added to the innovation ecosystem in the platform areas

12

Seed Grants – Incubating Innovation

ISU's BioBased Products platform has provided funding for 30 different projects supporting 10 ISU startups and partnering with 15 Iowa-based companies, including:

- Protein coated feed additives for poultry and swine gut health
- Probiotics for methane reduction in dairy cattle
- Soybean seed pretreatments for soilborne disease management
- Additives for water-based wood stains that improve performance



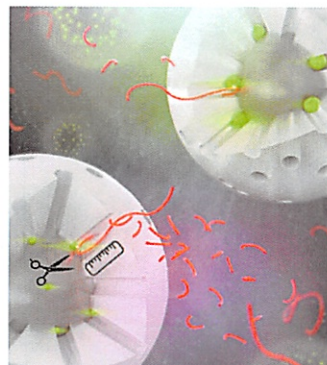
13



Startup – Upcycling+



- Upcycling+ is commercializing the “upcycling” of waste plastics to diesel fuel using catalysis technology developed at ISU
- “People’s Choice” winner at InnoVenture Iowa pitch competition
- BBP grant awardee, ISU Startup Factory graduate, 2024 BioConnect Iowa Go-2-Market participant



Ruler and Scissor Technology:
Directly cut polymer chains into refined products

14

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Startup - Hermes Biomaterials

Gene Gun Scheme

Plasmid Viral Plasmid Cas9 RNP

Biolistic Delivery

3D-printed flow-guiding barrel

Maze embryos Onion epidermis Juvenile soybean Juvenile corn

Side-by-side comparison - green color represents transformation events or efficiency for different types of plant cells

New device for improving gene editing and transformation for plant cells to introduce desired plant traits more efficiently like heat or drought tolerance, better yields, or disease resistance.

15

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Industry Expansion and Job Creation

Existing Iowa Industry

CYVAX

Iowa Based Startup

Job creation at ISURP focused on novel analytical methods

Creation of regulatory-compliant vaccine components

16

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Workforce Development



New class on biopharma



Industry Interfaces



Job Fair


Iowa Based Job Opportunities and Careers to Retain Top Talent

"These efforts couldn't be more timely as many students often contemplate seeking jobs beyond Iowa borders. These efforts have made me recognize the potential that exists right here in Iowa. The prospect of using my skills and securing a job within Iowa is reassuring and something that will now get strong consideration" - Imaobong Inyang, PhD candidate at Iowa State University.


17

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Global Partnerships / CSIRO



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OF SCIENCE AND TECHNOLOGY




Biosecurity




CSIRO

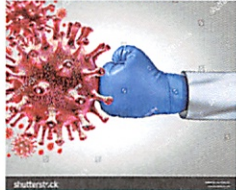
Vaccines



Diagnostics



Surveillance



18

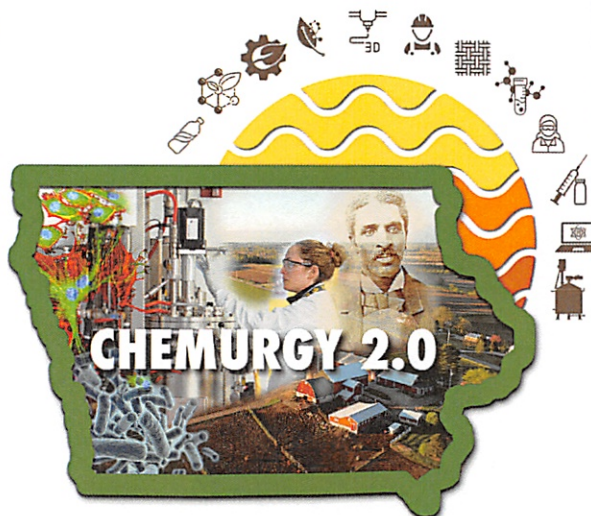
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Leveraging Federal Funding- NSF EPSCoR Award



- \$20 million, four-year grant
- Focused on creating new technologies and infrastructure and bolstering the workforce to grow microbe-based advanced biomanufacturing in Iowa
- Intersects Biobased Products and Vaccines, Diagnostics, and Immunotherapeutics platforms



19

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ARPA-H Catalyst Hub Network



- ISU selected as spoke in Investor Catalyst Hub
- Provides access to resources to accelerate commercialization of new discoveries in health-related fields
- ISU one of the few universities without a medical school that is a spoke

A spoke of the



20



21