A large graphic on the left side of the page, consisting of a red trapezoidal shape that tapers to the right. Inside this shape, the text 'IOWA STATE UNIVERSITY' is written in white serif font, and 'Economic Development and Industry Relations' is written in white sans-serif font below it. Below the red shape are two overlapping, slanted rectangular bars in gold and yellow.

**IOWA STATE UNIVERSITY**

**Economic Development and Industry Relations**

# **ECONOMIC DEVELOPMENT & INDUSTRY RELATIONS**

**DAVID SPALDING**

*Vice President, Economic Development and Industry Relations*

CONNECT WITH US FOR:

# IOWA STATE UNIVERSITY

## Economic Development and Industry Relations

### IOWA STATE UNIVERSITY Office of Innovation Commercialization

- Commercialize technologies
- Negotiate industry research & partnerships
- Innovations and IP resulting from the research efforts at ISU
- Industry funded research
- Execute research agreements with industry and commodity groups



### IOWA STATE UNIVERSITY ResearchPARK

- Economic development asset
- Space for lease
- Job creation, workforce solutions
- Access to talent, research and specialized equipment



- One-on-one counseling
- Training and webinars
- Market research
- Rural Business Innovators



- Business and technical assistance
- Training and education
- Growth, leadership, Productivity, Technology & workforce

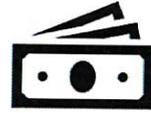
### IOWA STATE UNIVERSITY Pappajohn Center for Entrepreneurship

- In-classroom
- Out-of-classroom experiences
- Programs and competitions
- Competitive funding opportunities
- Venture support

IOWA STATE UNIVERSITY

# IOWA STATE UNIVERSITY

**\$5**  
**BILLION**  
**ECONOMIC IMPACT**



\$123 million financial impact



\$41.1 million in capital raised



1,661 jobs + 211 business starts



\$301.3 million in research funding



1,336 workforce grants for high demand jobs



\$5 + million ROI

IOWA STATE UNIVERSITY

# 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

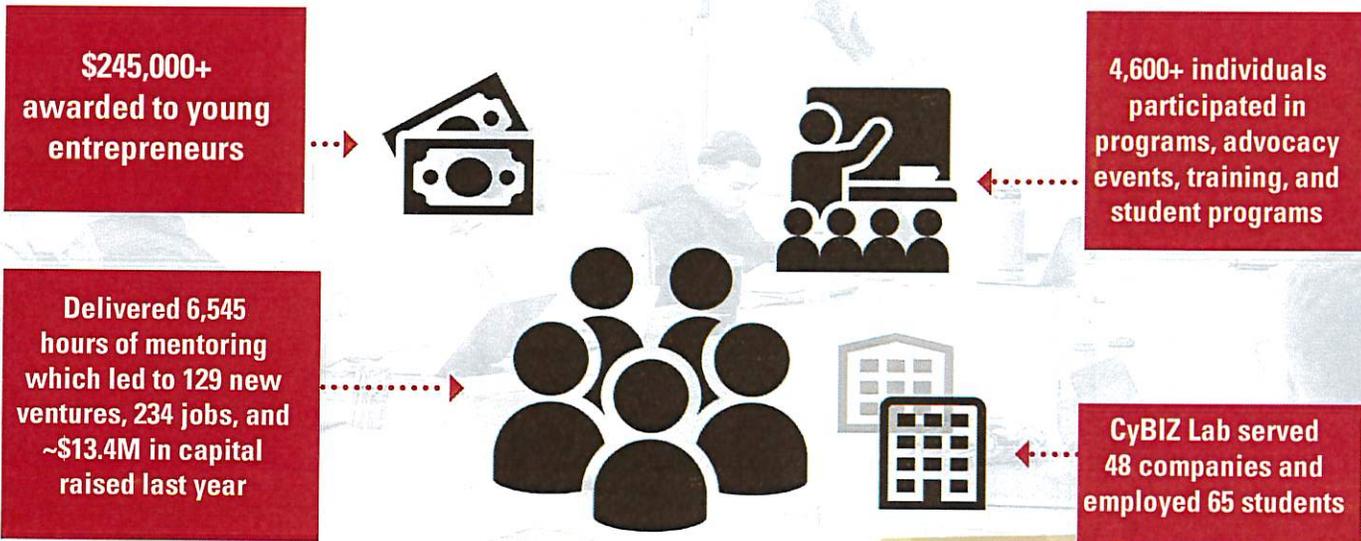


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# ISU Pappajohn Center for Entrepreneurship

## Recent Awards:

- 2025 – Ranked #14 Princeton Review
- 2024 – USASBE Model University Accelerator
- 2024 – Ranked #12 Princeton Review
- 2023 – ACEEU's Triple E Awards Entrepreneurial University of the Year in the Americas
- 2022 – Nasdaq Center for Entrepreneurial Excellence from the GCEC
- 2021 – USASBE Model Program Award



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# ISU Startup Factory



137

# of companies that have completed the Startup Factory Program

21

# of companies completed the program last FY

147

# of jobs created by the program

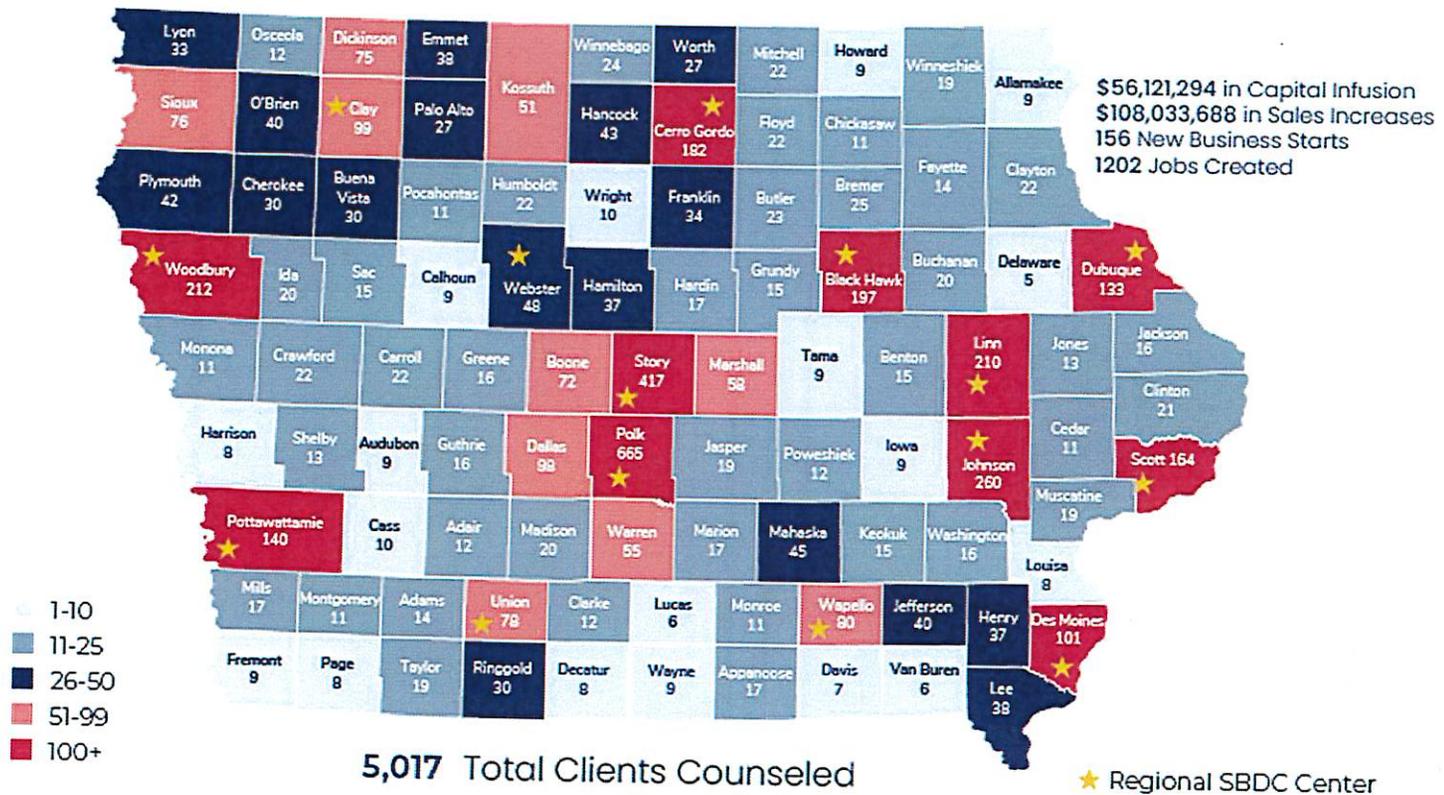
\$98M

Total capital raised since 2016 (non dilutive)

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## America's SBDC Iowa – Clients Counseled State FY24



# SBDC Disaster Relief Efforts

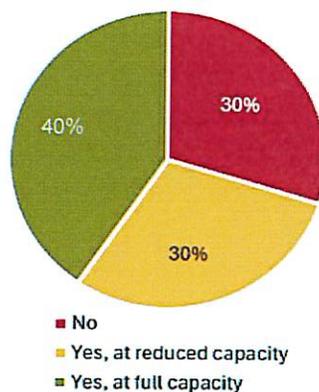
## Tornados

- Assisted with obtaining the Disaster Recovery Centers for SBA in both Minden and Greenfield.
- Staffed both centers immediately with a team in both locations.
- Worked directly with the SBA Disaster team as a point of contact for Iowa.

## Floods

- Affected 25 counties with six communities being affected the most.
- Modified the way that the Iowa SBDC does business
- Partnered with ISU Surplus to deliver furniture and computers to businesses devastated by flooding

## Initial Survey Results



# CIRAS

The Center for Industrial Research and Service (CIRAS) helps Iowa businesses solve complex problems and stay one step ahead by providing **expertise**, **connections**, and the **confidence** to move forward.

Over the past five years, CIRAS and our partners have helped more than **4,600** clients in all **99 Counties**; generating an economic impact of more than **\$2.8 billion**.

## Innovative Problem Solving



### Koomia Ag

**Employees:** 125

**Impact:** Empowered significant growth and innovation through advanced technology, successful grant applications, market expansion, and improved workplace ergonomics.



### Puck Custom Enterprises

**Employees:** 117

**Impact:** \$750K impact and improved relationships with key suppliers.



### Prairie Farms of Dubuque

**Employees:** 205

**Impact:** Costs avoided of up to \$400K per day of production loss.



# Iowa State Research Park Construction:

Pipeline construction:

Completed construction:



**BUILDING HIGHLIGHTS:**

- \$14M Project
- 36,000 sq ft
  - 20,000 sq ft office space
  - 16,000 sq ft high bay
- 200-person capacity training room
- **Pivot has added 70+ employees in Iowa**



**BUILDING HIGHLIGHTS:**

- \$18M Project – partnership with Alliant Energy
- 87,000 SF Multi-tenant facility
  - 60,000 SF state of the art shop space
  - 20,000 SF office area
  - 7,000 SF atrium
- **Iowa State's Digital Ag Innovation Lab (tenant) is responsible for more than 50% of Iowa State's industry research portfolio**



**BUILDING HIGHLIGHTS:**

- New Iowa State tennis team facility
- Helped create a partnership between Ames Fitness for dual use of existing indoor tennis courts
  - Expanded square footage
  - Doubled indoor tennis capacity
- **Facility has the only outdoor clay courts in Ames**



**MIXED USE CONSTRUCTION:**

- Three phases
- Retail amenities
- Office
- **125 housing starts**



**BUILDING HIGHLIGHTS:**

- \$15M Project (phase I),
- Phase II additional 9k sqft
- 27,000 sq ft (pl)
- **Facility will accommodate Iowa-based growth**



**BUILDING HIGHLIGHTS:**

- \$175-225M project
- 8 structures
- 100,000 square feet of additional high end office space
- **Facilitates Live Work Play and amenities for workforce**

# Iowa State Research Park Engagement:



This year, the Research Park organized nearly

**30 EVENTS**

including workshops, seminars, and networking sessions, attracting more than

**1,000 PARTICIPANTS.**

In Q4, the Park attracted

**60+ PROSPECTS.**

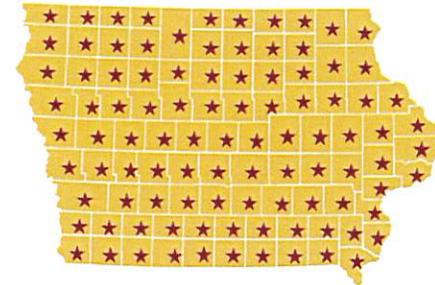
In 2024, the Park welcomed

**24 NEW TENANTS.**

**85 COMPANIES**

have additional locations throughout Iowa.

**5 COMPANY STARTS > IPO**



The Research Park has a 99 county tenant research impact.

**140 TENANTS**

**2491 EMPLOYEES**

**400 STUDENT INTERNS**

# Office of Innovation Commercialization

Iowa State received a record \$364.2 million in external research funding in FY24  
Top 3% national ranking for research among universities without a human medical school

Iowa State University  
researchers submitted

**101 INTELLECTUAL  
PROPERTY DISCLOSURES**

(not including datasets) and ISURF filed

**129 PATENT APPLICATIONS.**

In FY24, Iowa State was awarded

**64 U.S. UTILITY PATENTS**

and an additional **15** patents from  
foreign countries for an overall total of

**79**

In calendar year 2023, Iowa State  
was recognized for having

**49 ISSUED U.S. UTILITY PATENTS**

ranking **42nd** of the top 100 U.S. universities  
and **64th** of the top 100 worldwide universities  
granted U.S. utility patents by the  
National Academy of Inventors.

ISURF executed

**25 LICENSE AND  
OPTION AGREEMENTS**

for ISU technologies in FY24, **13** of  
which were with Iowa companies.

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# Iowa Appropriations for Economic Development

**\$3.473  
MILLION**

**SBDC = \$0.936 MILLION**

**CIRAS = \$1.365 MILLION**

**ISURP = \$0.122 MILLION**

**Regents Innovation Fund = \$1.050 MILLION**

# Regents Innovation Funding Impacts

**TOTAL FUNDING: \$1,050,000**

**42% IAF FACULTY  
RESEARCH GRANTS**

Provided faculty support taking science to market.

**24% IOWA STATE  
UNIVERSITY RESEARCH PARK**

Supported tenant and prospect engagement.

**22.5% PAPPAJOHN CENTER  
FOR ENTREPRENEURSHIP**

Supported staff entrepreneurship programming.

**10% SMALL BUSINESS  
DEVELOPMENT CENTER**

\$7,000 given to each of the 15 centers.

**1.5% OFFICE OF INNOVATION  
COMMERCIALIZATION**

Validated projects in the Iowa market.

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IOWA STATE

RESEARCH

OFFICE OF THE VICE PRESIDENT FOR RESEARCH



IOWA STATE UNIVERSITY  
OF SCIENCE AND TECHNOLOGY

# IOWA STATE | RESEARCH

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)***



## Biobased Products

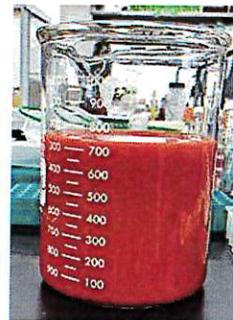
### ROI in 2024

- \$3 M Federal and private funding for basic research
- 3 new start-ups thriving
- 18 Iowa-based companies engaged as partners
- 12 growing start-up company partnerships
- Invitation from DOD BioMADE to plan a \$40M scale-up facility for industry partners

## Seed Grants – Incubating Innovation

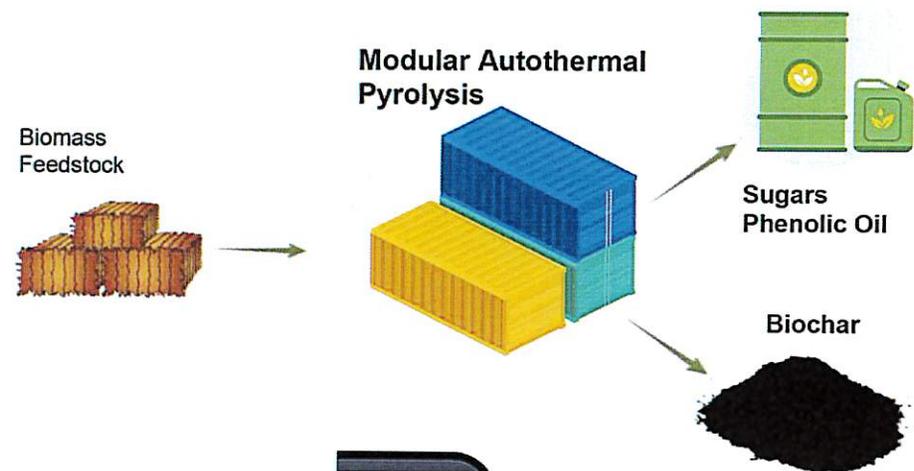
ISU's Biobased Products platform has provided funding for more than 50 different projects supporting 12 ISU startups and partnering with 25 Iowa-based companies, including:

- Production of Sustainable Aviation Fuel (SAF) using Ethanol Dry Mill assets
- Probiotics for immune enhancement in poultry
- Carotenoid production via fermentation
- Biochar enhanced concrete



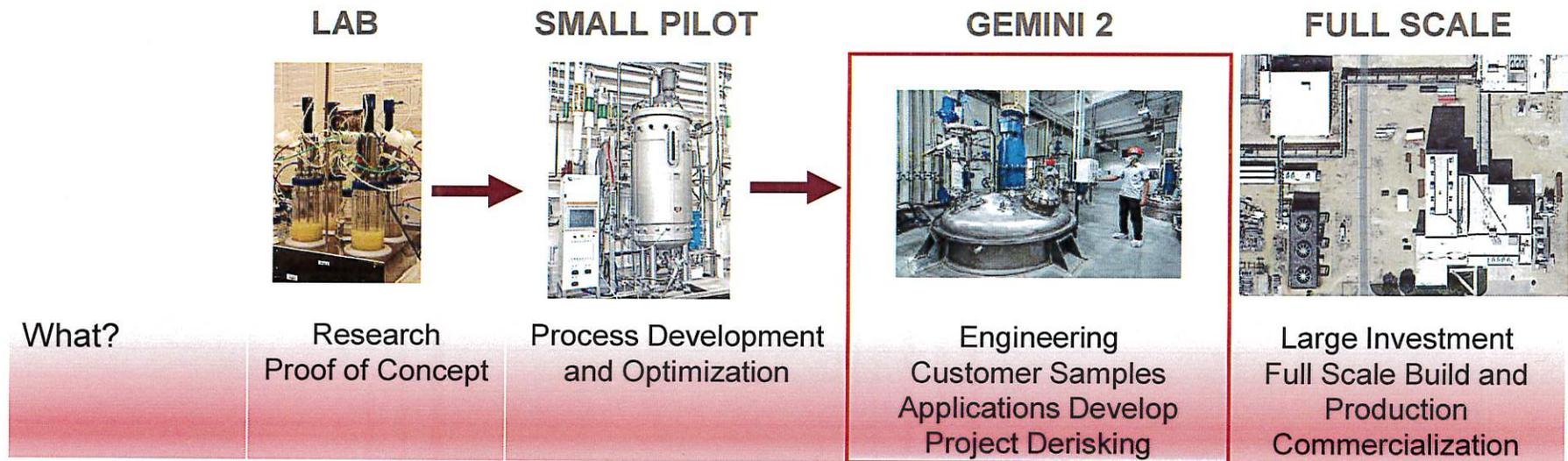
## Startup – Rise Energy

- Designing modular biomass refineries using pyrolysis technology developed at ISU
- Converting stover / straw / wood waste feedstock to biofuels and biochar soil amendment
- Selected as initial partner company for BioConnect Iowa Fast Path / Venture Studio model



# Gemini 2: Addresses Scale-Up Gap for Project De-risking

- \$40 million project with BioMADE (DOD)
- Two 5,000-liter and one 10,000-liter fermenters with full set of down stream processing and finishing equipment





## Vaccines, Diagnostics, and Immunotherapeutics

### ROI in 2024

- ISU Research Park CyVAX scale-up facility
  - Hosted 12 Iowa-based companies
  - Training facility for 100 learners in 4 sessions
  - Microcredentialling in bioproduction/processing
- Developing an expansion plan with corporate partners
- Hosted the inaugural Iowa Bioscience Showcase

# Bioscience Platform Drives Success

## CyHawk Collaboration



### Innovation Ecosystem

- VPR Seed Grants
- VPR Commercial Fellowship
- Startup Factory
- Innoventure Iowa
- Bioscience Showcase
- CYVAX



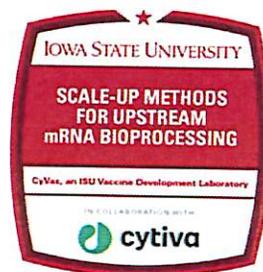
<b>Inhalable dry powder delivery platform</b>	<b>Safe &amp; Effective preclinical data</b>	<b>Shelf stable at room temperature</b>
<ul style="list-style-type: none"><li>• Needle-free</li><li>• Combination products</li></ul>	<ul style="list-style-type: none"><li>• Improved immunity</li><li>• No adverse events</li></ul>	<ul style="list-style-type: none"><li>• No refrigeration</li><li>• No wastage</li></ul>

# Workforce Development

## CYVAX



- Antigen Production
- Antigen Processing
- Potency/Product Testing
- RNA Manufacturing



## Supporting Established Companies and Startups

### Established

- Merck
- Elanco
- Boehringer Ingelheim

### Startups

- Immuno Nano Med
- Genvax Technologies
- Syntherna
- Phagelux
- Hermes Biomaterials



## Digital and Precision Agriculture

### ROI in 2024

- Partner in the new Digital Ag Innovation Lab building
- ISU start-up EnGenious Ag sold to CropX
- ISU start-up Hermes BioMaterials – faculty + student
  - Iowa InnoVenture Challenge finalist
- Developed Iowa State Fair public engagement display

# IOWA STATE | RESEARCH

Office of the Vice President for Research

## Startups Commercializing Technologies



EnGenious Ag  
Hermes Biomaterials



### FINALIST SPOTLIGHT

Hermes Biomaterials Inc. is pioneering advancements in gene transformation and gene-editing for food and bioenergy crops. As the global demand for resilient, high-yielding crops surges, Hermes empowers Agtech companies with technological solutions that enhance biolistic gene transformation and gene-editing efficiencies by 5x while reducing costs by 50%.

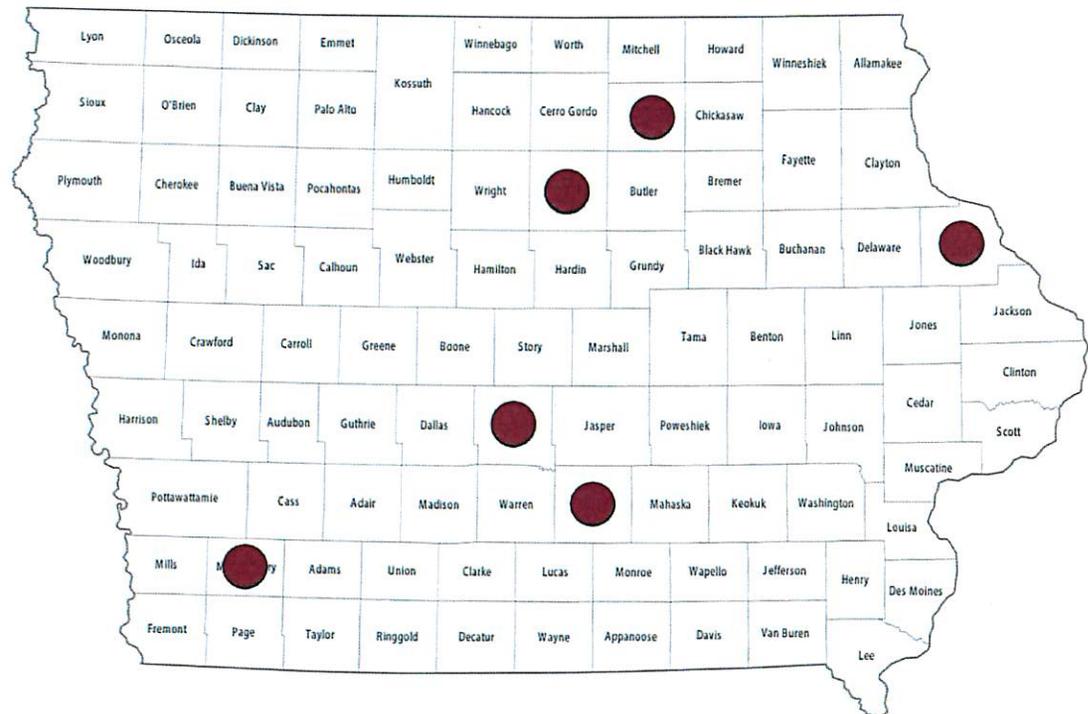
Connor Thorpe  
FOUNDER

**InnoVenture**  
Challenge

## Collaborations with Iowa-Based Companies

### Projects

- Digital Twins
- Drones for spraying
- Drones for water quality monitoring
- Microalgae soil amendments
- Gene-delivery precision system
- Digital decision support tools for nitrogen
- Small-plot sprayer technology
- AI-enhanced precision planting tools
- Automation for seed storage and drying
- AI-enhanced weed control
- Digital tools for land management and valuation



# IOWA STATE | RESEARCH

Office of the Vice President for Research

## Connecting technologies with lowans



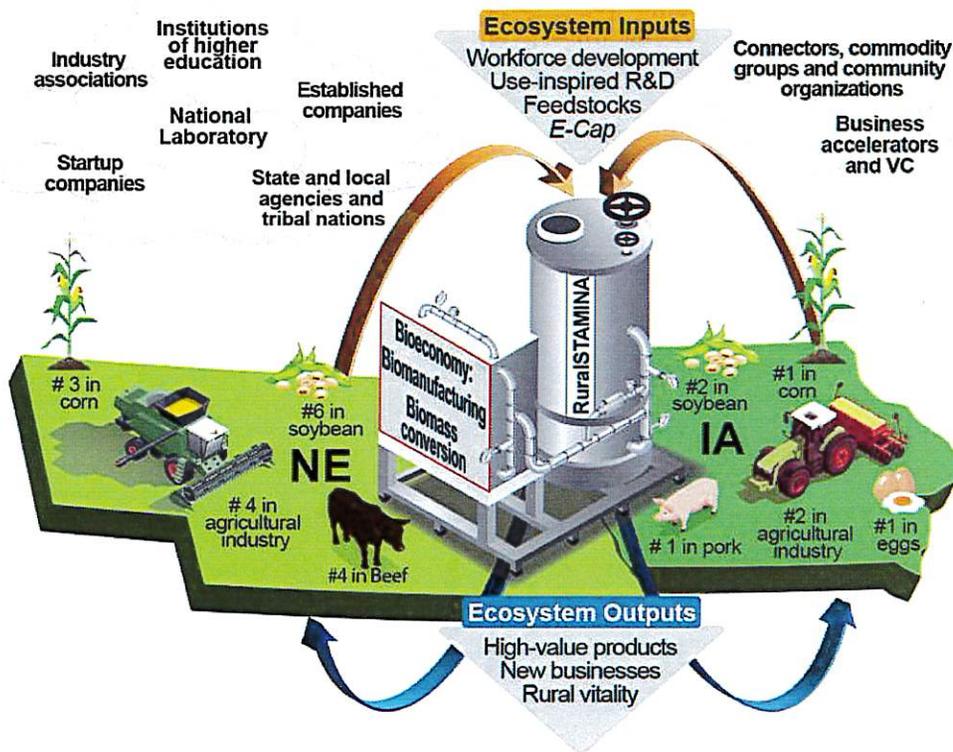
# Inaugural Iowa Biosciences Showcase



# IOWA STATE | RESEARCH

Office of the Vice President for Research

## NSF Regional Innovation Engine - \$150M



**Questions?**

IOWA STATE UNIVERSITY