



ANNUAL REPORT – Calendar Year 2024

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In 2024, BioConnect Iowa continued to fuel the growth and impact of Iowa's bioscience sector, building upon its previous successes and introducing new initiatives. Leveraging its Innovation Flywheel, BioConnect Iowa facilitated the acceleration of entrepreneurs, enabling a streamlined journey from inception to investment, and ensuring promising ideas could swiftly progress toward commercialization.

Highlights include:

BioConnect Iowa Innovation Flywheel

- The InnoVenture Iowa Fund, Iowa's pioneering venture capital initiative supported by federal funds awarded to the Iowa Economic Development Authority (IEDA), bolstered early-stage startup companies. Attendance at the 2024 InnoVenture Iowa Challenge nearly doubled, and the number and level of sponsorship increased.
- BioConnect Iowa and Iowa State University Startup Factory launched the Iowa Go-to-Market Executive Services, working with Rise Energy, a startup from Iowa State University's Bioeconomy Institute.
- The Iowa G2M Accelerator, a collaborative effort between Iowa State Startup Factory, VentureNet Iowa, and BioConnect Iowa, continued to provide invaluable support to entrepreneurs, enabling them to expedite the scaling process for their startups.
- Continuing their strategic partnerships, the BioConnect Iowa team maintained close collaboration with the Bioscience Platform Chief Technology Officers at Iowa State University and University of Iowa.
- BioConnect Iowa and InnoVenture Iowa finalized a strategic map for supporting and building Iowa's innovation ecosystem:

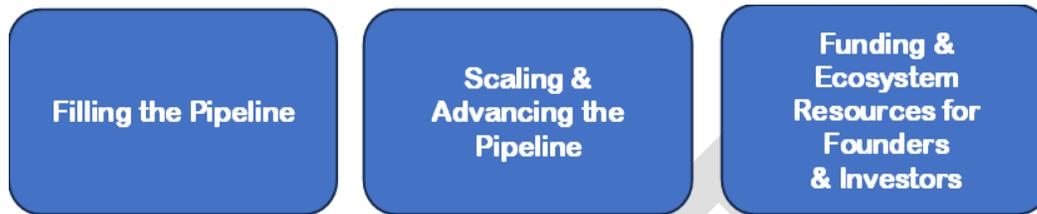


IOWA'S BIOSCIENCE STRATEGY:

BioConnect Iowa continues its collaboration with the Iowa Economic Development Authority, which released a refreshed Iowa Bioscience Strategy in June 2023. The refreshed strategy identified emerging bioscience opportunities, trends, technologies, and market dynamics across four core bioscience platforms and identified four key focus areas for the next five years. The Strategy and Action Plan reaffirms BioConnect Iowa's vital role tasked with working closely with

Iowa State University and the University of Iowa associated with the four core bioscience platforms described below, executing the state's first public venture capital fund and fostering connections among internal and external stakeholders.

BioConnect Iowa core efforts are built around three strategic pillars, focused on bolstering Iowa's innovation ecosystem, increasing the number of fundable startups, and driving economic growth in the four core bioscience sectors, including advanced energy and advanced manufacturing.



1. **Filling the Pipeline:** BioConnect Iowa cultivates a robust influx of promising technology-based startups. This involves identifying high-potential technologies and coachable founders, leveraging a coordinated approach for parallel technical and business development to ensure the startup is better positioned for scaling and growth.
2. **Scaling and Advancing the Pipeline:** Once startups are in the pipeline, the focus shifts to accelerating their growth and development with access to market and customer insights and strategic executive business development services tailored to each startup's needs to scale their operations and advance from concept to commercialization.
3. **Funding and Ecosystem Resources for Founders and Investors:** For founders, this includes training programs, networking opportunities, and access to potential partners and experts in their fields. For investors, it means creating transparency and providing databases and tools that highlight investment opportunities in Iowa's startup landscape.

IOWA'S BIOSCIENCE STRATEGY EXECUTION AND PLATFORMS

BIOBASED PRODUCTS PLATFORM (Kevin Moore, Chief Technology Officer, Iowa State University): The Biobased Products innovation ecosystem continues to support commercially relevant research and development and connecting industry to university faculty. This platform also continues to focus on adding scale-up capability and infrastructure to support commercialization of biobased products. (*Biobased Products Platform Innovation Ecosystem 2024 Year-End Update, Office of the Vice President for Research*)

Key Areas of Emphasis:

- Eleven total projects were supported in calendar year 2024 with grants in areas such as essential oils as a seed coating for soybean disease management and novel wastewater treatment management with 3D printed microbials.
- A record number of proposals were received for the FY2025 Biobased Products Innovation grant program, and ten were awarded. Partner companies include Iowa Select Farms, new ISU startup company ImPETus, VIA Biofuels, and Kent Corporation.
- Including FY2025, the Biobased Products platform will have funded over 40 different research projects led by 35 primary investigators supporting 12 ISU startup companies and partnering with 18 established Iowa-based companies.

The platform also continues to focus on adding scale-up capability and infrastructure that supports biobased products commercialization:

- The Biobased Products platform has taken the lead in a partnership with BioMADE, a Department of Defense manufacturing institute, for the design and construction of a fermentation scale up facility in Iowa, proposed to be located at ISU's BioCentury Research Farm.
- The facility would include one 10,000-liter and two 5,000-liter fermenters and associated downstream equipment, representing an investment of \$30M. The project de-risking and proof of scalability outputs the facility will provide will make it a go-to for companies evaluating a wide range of bioprocessing projects. It will also create more value for Iowa feedstocks and more distributed manufacturing jobs across the state.

Key accomplishments and economic impacts: More than \$3 million in research awards have been received by ISU in Biobased Products areas in 2024, including:

- \$2.25 M from the Department of Energy.
- \$576,000 from Schmidt Sciences.
- \$160,000 from DOE for a new device.

DIGITAL AND PRECISION AGRICULTURE PLATFORM (Nadilia Gomez, Chief Technology Officer, Iowa State University): The Digital and Precision Agriculture Platform continues to support innovation-driven enterprises by providing funding, guidance and meaningful connections to experts at Iowa State University and in the state of Iowa. (*Digital and Precision Agriculture Platform Innovation Ecosystem 2024 Year-End Update, Office of the Vice President for Research*)

Key Areas of Emphasis:

The primary emphasis was to increase the number of university researchers and scientists exploring the commercial viability of AgTech innovations. This involved three aspects: (1) helping researchers identify their areas of discovery that had the greatest commercial potential, (2) encouraging them to see themselves as part of the process of translating innovation into business products and services, and (3) helping them successfully apply for DPA seed grants.

Prior to 2024, on average, 3 grant applications were successful each year. In calendar year 2024, 20 applications were submitted and 11 were selected for funding. The others will be refined for future funding opportunities.

Support of the new Digital Ag Innovation Lab was another key area of emphasis. The platform provided specialized equipment that will accelerate the translation of research into commercial products and partnerships with Iowa-based ag companies.

Key Accomplishments and Economic Impacts:

- The 11 proposals receiving DPA seed grants this year cover a broad spectrum of technologies and company partners in six counties across the state of Iowa were engaged.
- EnGeniousAg, a startup in which three of the four founders are Iowa State faculty members, was sold to CropX, a leader in digital agronomic solutions. The sale of the company, which commercialized ISU-developed technology, increases the awareness of the value of ISU research and the business support ecosystem that is in place to support the creation of new business opportunities for Iowa-based companies.

- Another startup success is Hermes BioMaterials Inc., led by ISU faculty member Shian Jiang and graduate student Connor Thorpe. Hermes' Flow Guiding Barrel technology has reached international markets, generating over \$80,000 in initial sales. The company has established a fully equipped 1,800-square-foot lab, grown to four employees, and expanded its services to include consumable sales and consulting, creating new jobs and driving economic growth in Iowa. The company was a top 10 finalist in the Iowa InnoVenture Challenge.

VACCINES, DIAGNOSTICS AND IMMUNOTHERAPEUTICS PLATFORM (Mike Roof, Chief Technology Officer, Iowa State): *Vaccines, Diagnostics and Immunotherapeutics (VDI) Platform Innovation Ecosystem 2024 Year-End Update, Office of the Vice President for Research*

Key Areas of Emphasis for the VDI platform for 2024 were:

- **Seed grants** – 11 have been funded for 2024/25, utilizing \$500,000 in funds. A second round of funding is planned for the second quarter of 2025.
- **Commercial fellowships** – two commercial fellowships were approved for Halide Biologics and ImmunoNanoMed. These fellowships are intended to help retain top talent and bridge the gap between grant-based funding and venture capital.
- **CYVAX and workforce development** – CYVAX is a commercial development lab focused on early-stage scale-up and manufacture. CYVAX serves as a transition space for startup companies to bring product development to regulatory standards and as a wet lab training site. The facility has hosted four workforce development wet labs with more than 100 participants representing 12 Iowa-based companies. ISU and CYVAX implemented a formal micro-credential program in 2024 to validate the training CYVAX offers.

Key Accomplishments and Economic Impacts:

- VDI, along with the other three Biosciences platforms, hosted the inaugural Iowa Biosciences Showcase. The Showcase was an opportunity for early-stage ideas or pre-venture capital/pre-sales businesses to connect and present to the ecosystem to help accelerate their efforts. Seventy-five innovators participated, representing 15 early-stage startups.
- Following the recommendation of the TEconomy report, the VDI platform made a concerted effort to increase workforce development-focused activities. ISU launched a graduate level class focused on biotechnology and competency, and the CYVAX space was used to conduct formal micro-credentialed training focused on commercially relevant topics: potency assay development; filtration and purification; bioreactors and fermentation; and mRNA production.
- Four companies currently utilize the CYVAX facility – Elanco, HERMES, GENVAX, and ImmunoNanoMed – supporting the strategic goal of accelerating company growth and commercial development.

MEDICAL INNOVATIONS PLATFORM (Jordan Kaufmann, Chief Technology Officer, University of Iowa)

The focus areas for the Medical Innovations Platform in 2024 were:

- Supporting the expansion of the Nurse Innovators program statewide,
- Continuing to improve knowledge of commercialization among early career talent, and
- Building stronger, more resilient startups.

Key emphases and accomplishments in 2024 included:

- The Nurse Innovators Program began expanding into critical access hospitals across the state. In addition to supporting early medtech innovation, the program has demonstrated an ability to provide improved recruitment and retention of nurses. Since its inception, the program has reached over 1,000 nurses and generated 45 projects. Each year, nurses are invited to present their projects to a panel of judges in a pitch competition. In 2024, 12 nurses presented and 5 were awarded funds to continue their development beyond the program.
- Innovation Fellows Program—A third cohort of Fellows was selected to enhance their knowledge of commercialization and to gain exposure to industry experts. The Fellows also acted as a conduit between their respective labs and the commercialization ecosystem to gain and distribute information. Cohorts 1 and 2 continue to attend events and remain engaged with the Office of Innovation.
- Construction began on the Medical Innovation Launch Lab (MILL), a leading-edge facility on the University of Iowa medical campus to engage clinical faculty and external companies in developing and quickly iterating their ideas. It is expected to be completed in February 2026.
- Funding became more targeted toward specific milestones as a way to encourage rapid, targeted progress.
- Continue to support new and existing startups in the medtech ecosystem. Five medtech companies were formed in 2024.

INNOVENTURE IOWA FUND

Launched in August 2022, the InnoVenture Iowa Fund is a \$30 million co-investment fund designed to support early-stage startup companies in biosciences, advanced manufacturing and information technology.

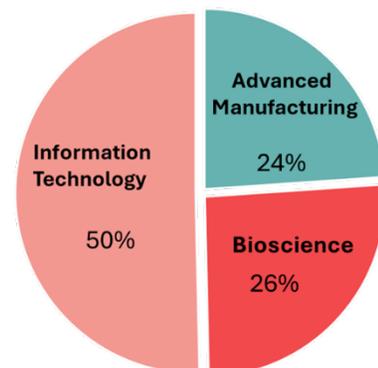


As the state's first public venture capital fund, the InnoVenture Iowa Fund is uniquely positioned to close the gap in funding for early-stage Iowa startups while spurring future innovation in industries where Iowa is naturally competitive. InnoVenture Iowa's active involvement underscores its commitment to fostering innovation and entrepreneurship in Iowa's startup ecosystem.

Funding is provided by the Iowa Economic Development Authority through the U.S. Treasury Department's State Small Business Credit Initiative (SSBCI), a small business aid program which was expanded through the federal American Rescue Plan Act.

In 2024, the InnoVenture Iowa Fund team continued its strong support for Iowa-based startups. By the end of the year, the InnoVenture Iowa Fund had invested in \$5.6 million in 34 startups with an average investment of approximately \$233,000.

Investment decisions are made by the InnoVenture Iowa Investment Committee. These investments play a crucial role in fostering innovation, creating jobs, and driving economic growth within the state. Venture capital investment is a vital catalyst for emerging companies, helping them scale their operations and contribute to Iowa's overall economic development.



Broadly, investments by the InnoVenture Iowa Fund represent between 10% and 25% of startup fundraising rounds, spanning from \$250,000 to \$2 million. Companies seeking investment funding from InnoVenture Iowa are primarily focused on bioscience, advanced manufacturing or information technology and must submit a signed term sheet from a lead investor for consideration by the InnoVenture Iowa Investment Committee.

The **2024 InnoVenture Iowa Challenge** is the largest pitch competition in the Midwest and is produced by InnoVenture Iowa Fund and BioConnect Iowa. This event features the region's only \$100,000 grand prize, awarded to an Iowa-based, early-stage bioscience, advanced manufacturing or information technology company. Each year, three finalists are chosen from hundreds of applicants to compete on stage for the prize.



The 2024 InnoVenture Iowa Challenge was won by Billie Asmus, founder and CEO of Repaint Studios. In 2021, Billie invented the Repaint Tray, a reusable paint tray that revolutionizes the world of painting, home improvement, and DIY. ImmunoNanoMed won the Nyemaster People's Choice Award and the third finalist was NarrateAR.

IOWA GO-TO-MARKET (G2M) ACCELERATOR PROGRAM

The Iowa Go-To-Market (G2M) Accelerator program, launched in 2021, was initially funded through a grant from the US Economic Development Administration (US EDA) as part of its Build To Scale initiative. In October 2024, BioConnect Iowa, ISU Startup Factory, and VentureNet Iowa continued the Iowa G2M Accelerator partnership as part of BioConnect Iowa's strategic focus on Scaling and Advancing the Pipeline.



The Iowa G2M Accelerator program is specifically designed to support Iowa companies developing technology-driven, innovative products or services. This program is intended for companies that have previously participated in another incubator, accelerator, or business assistance program that can benefit from targeted, customized guidance to bring their products or services to market. Entrepreneurs receive focused one-on-one mentoring and pro bono business support and have access to group workshops tailored to meet their specific needs at this stage of their business launch. Key areas of focus include legal, financial, and corporate development; branding and marketing; and human resources and recruiting. The program also facilitates connections with support services and providers across Iowa.

As part of the final report to the US Economic Development Administration (EDA), a Net Promoter Score (NPS) assessment was conducted with the 17 Iowa G2M Accelerator participant companies. The NPS was 9.4 out of 10, indicating an exceptionally high level of customer satisfaction and loyalty with the program. Additionally, one of the Iowa G2M startups, Rise Energy, joined Iowa State University's Fast Path program and became the first company to participate in BioConnect Iowa's new Iowa G2M Executive Services pilot initiative. This has provided Rise Energy with additional hands-on market insights, customer understanding, and business development services to support its growth and scaling efforts.

HIGHTECH CONNECT IOWA

HighTech Connect Iowa (www.hightechniowaconnect.org) is an online guide that connects Iowa's research-driven high-tech startups to relevant public and private resources. The needs of High-tech startups to grow and thrive are unique and complex because they typically involve intellectual property and product development timelines are often long and costly. For public resources, HighTech Connect Iowa directs users to content on IASourceLink. For private resources, users are connected directly to each resource's website.



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