



Iowa State continues to expand the reach and impact of the university's Bioscience-focused Innovation Ecosystems with the critical support of the Iowa Legislature, and in close partnership with [BioConnect Iowa](#).

INNOVATE  
at  
Iowa State

# Digital and Precision Agriculture

## Innovation Ecosystem 2022 Year-End Update

### KEY AREAS OF EMPHASIS

During calendar year 2022, the Digital and Precision Agriculture platform (DPA) allocated approximately \$400,000 in a combination of initiatives to strengthen research seed grants, industry-relevant innovation challenges, and grant support.

Approximately \$250,000 were dedicated to research seed grants focused on swine instrumentation, environmental controls and prediction systems. By the end of 2022, the platform expects to allocate an additional \$550,000 in support of research seed grants, technology commercialization, fellowships and scale-up grants, representing a 250% increase in the number projects considered in CY21.

In addition, DPA is investing approximately \$100,000 in market intelligence and consulting services to strengthen the Iowa-led, multi-state NSF Regional Engine application for \$160 million over 10 years. If funded, this project will accelerate research, workforce development, economic development, DEIA and policy initiatives supporting climate-

resilient agriculture. Digital and Precision Ag is a critical component of climate-resilient agriculture.

### KEY ACCOMPLISHMENTS

- The DPA works closely with ISU centers (e.g., [TrAC](#) and [WiCI](#)) focused on innovative technologies and methodologies that support a variety of industries including agriculture. These centers attract faculty, industry experts and future talent interested in artificial intelligence, cloud-based deep learning technologies, and wireless connectivity. DPA's involvement elevates awareness of the challenges in agriculture these technologies can help address.
- This year John Deere and Iowa State announced a strategic partnership to establish an [80-acre demonstration farm](#) that will enable the company and university to test sustainable farming practices in real-world scenarios. Over a five-year production cycle, four different crop production systems will be implemented. The data and insights collected will enhance our understanding of crop

productivity, economic cost of production, soil health, water quality, carbon intensity and biodiversity.

### 2023 KEY OPPORTUNITIES

- Increase partnering opportunities with companies large and small. For example, DPA collaborates with ISU Research Park, CIRAS, Digital Ag group, John Deere, and increases their opportunities to engage entrepreneurs to advance the adoption of ag products and services alongside with advancements in infrastructure for wireless connectivity in rural areas.
- Increase the number and diversity of multi-disciplinary research teams working on industry-relevant issues seeded by market research analyses recommendations. For example, ISU College of Ag and Life Sciences and DPA contracts with Wazoku to co-develop an innovation management platform which includes an online tool to disseminate agriculture-related challenges and connects research teams across colleges to propose technical solutions and business ideas.

### IOWA STATE UNIVERSITY POINTS OF CONTACT

Dr. Peter K. Dorhout, Vice President for Research: 515-294-1785: [dorhout@iastate.edu](mailto:dorhout@iastate.edu)  
Dr. Patrick S. Schnable, Platform Lead, Digital and Precision Agriculture: [schnable@iastate.edu](mailto:schnable@iastate.edu)  
Dr. Nadilia Gomez, Chief Technology Officer, Digital and Precision Agriculture: [nadilia@iastate.edu](mailto:nadilia@iastate.edu)  
Carolann Jensen, State Relations Officer: 515-294-7239: [cjensen3@iastate.edu](mailto:cjensen3@iastate.edu)