IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

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

Biobased Products

Innovation Ecosystem 2022 Year-End Update

KEY AREAS OF EMPHASIS

The Biobased Products innovation ecosystem continues to expand, supporting commercially relevant research and development at Iowa State, and connecting industry to university faculty:

- Eight total projects were supported in calendar year 2022 with emerging technology and technology demonstration grants in areas such as biobased fertilizers, animal probiotics, biopesticides, asphalt additives, and soil amendments;
- Ten project submissions are in process for seed and technology demonstration grants for FY23 in areas from plastics upcycling to biobased acoustic tiles to nutraceutical production via fermentation. Partner companies in these grant programs include Kent Corp., Kemin Industries, Cargill, Verbio, Colorbiotics and CJ Bio.

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

- Initiated stakeholder engagement to bring a flexible, large scale fermentation demonstration facility to Iowa ("Project Gemini").
- Three Iowa State teams are finalists for the Schmidt Futures challenge in bioreactor/fermenter technology development;

KEY ACCOMPLISHMENTS

- The Department of Defense-funded BioIndustrial Manufacturing and Design Ecosystem (BioMADE) issued a $2.1 million grant – its largest to date – to Iowa State and industry partners, Cargill and Genomatica. Fermentation scale-up predictive modeling has begun.
- Project work also began on a $2.7 million Department of Energy (DOE) award for a project involving Iowa State, ADM, 3M and Diageo, which grew out of a seed grant researching biodegradable polymers.

Iowa State-related biobased startup company progress includes:

- Asphalt additive company Soylei Technologies expanded product sales in 2022, negotiated an additional technology license with the ISU Research Foundation, and continues to progress strategic alliances with outside industry partners.
- Pyrone Systems, which has unique technology for biopesticides, has received initial funding.
- Janas Materials, a prior biobased seed grant recipient with novel solvent-free wood-based coating technology, is in negotiation with a large established coating company to demonstrate the technology.

2023 KEY OPPORTUNITIES

- Develop the initial project package for an Iowa-based large-scale fermentation demonstration facility to be ready to respond to federal initiatives for biomanufacturing infrastructure.
- Continue to advance the Iowa State startup company pipeline.
- Support the Iowa/Illinois/Kansas/Missouri/Nebraska submission for the $160M National Science Foundation (NSF) Regional Innovation Engines program.
- Support the $20M proposal on biomanufacturing and aligned workforce development submitted by Iowa State University, University of Northern Iowa, Dordt University and Central College to NSF.

IOWA STATE UNIVERSITY POINTS OF CONTACT

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