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Mark J. Braun, Executive Director

March 30, 2021

Mr. Charlie Smithson
Secretary of the Senate
State Capitol Building
Des Moines, IA 50319

Ms. Meghan Nelson
Chief Clerk of the House
State Capitol Building
Des Moines, IA 50319

Tim McDermott, Director
Legislative Services Agency
State Capitol Building
Des Moines, IA 50319

Dear Members of the Iowa General Assembly:

Pursuant to [2019 Senate File 608 §17.1.b.2.c](#) and [2019 Iowa Acts, Ch. 154.17](#), attached is the annual report prepared by Iowa State University's Center for Industrial Research and Service (CIRAS). This report updates the legislature on the status of the Technology Assistance Program (TAP), its efforts, and a summary of the Industrial Incentive Program (IIP)'s activities.

If you have any questions or need more information, please do not hesitate to contact this office.

Sincerely,

Mark J. Braun

FY20 Progress Report on the CIRAS Technology Assistance Program

Per the code of Iowa, Iowa State University's Center for Industrial Research and Service (CIRAS) is to provide an annual report to the legislature on the status of the Technology Assistance Program (TAP), which is to include information on the Industrial Incentive Program (IIP). Specifically, ISU must "report annually to the joint appropriations subcommittee on economic development and to the legislative services agency the total amount of private contributions, the proportion of contributions from small businesses and other businesses, and the proportion for directed contract research and non-directed research of benefit to Iowa businesses and industrial sectors." This report highlights the CIRAS/TAP efforts, including a summary of IIP activities.

There are three components to the CIRAS/TAP program: directed applied research with individual Iowa companies (IIP), non-directed applied research for the good of industry clusters in Iowa, and technical assistance to individual Iowa companies. Results of each component are provided below.

Background

Iowa State University's Center for Industrial Research and Service (CIRAS) has been helping businesses and their communities prosper and grow since 1963. The CIRAS mission is to improve the quality of life in Iowa by enhancing the performance of industry through applied research, education, and technical assistance. CIRAS does this by working across the state to share its expertise in leadership, growth, productivity, technology, and workforce.

In 2019, 1,664 businesses across Iowa received assistance on projects or attended educational workshops from CIRAS staff and partners. Companies responding to surveys reported \$678 million of total economic impact and nearly 8,500 jobs added or retained.

The CIRAS Technology Assistance Program, funded by the Iowa Legislature through the Economic Development Appropriations Bill, serves as the primary platform for CIRAS to deliver technology services to Iowa businesses. Details of the impact of CIRAS's technology work with Iowa businesses is detailed below.

CIRAS/TAP: Industrial Incentive Program

The goal of the TAP IIP effort is to help companies incorporate technology improvements into their company through applied research projects with ISU faculty and staff. FY20 Highlights are detailed below.

- Five new directed research projects were initiated.
 - One project (20% of the total projects) were with a small company (20 or fewer employees).
 - Four projects (80%) were with larger companies.
- Eight projects were completed.
- Five research projects remain active and have been carried forward into FY21.
- Companies invested \$221,258 in research projects. These funds were matched with \$171,637 of TAP-IIP funding.

CIRAS/TAP: Non-directed Applied Research

The goal of the TAP Non-directed Applied Research effort is to support faculty-led research at ISU centers that meet two criteria:

1. The center must have a mission that is aligned with the State of Iowa economic development roadmap.
2. The center must be partially funded by Iowa industry to investigate near-term technology issues of importance to industry.

CIRAS/TAP funding was used to help support one ISU consortium:

- Polymer and Food Protection Consortium

This consortium has 8 distinct Iowa company members. Appendix A contains the list of active research projects, either funded in FY20 or still underway from FY19.

CIRAS/TAP: Technical Assistance

The goal of the TAP Technical Assistance effort is to connect Iowa companies to a number of technologies, including materials, quality systems, and nondestructive evaluation.

The past year was impacted by COVID-19, as we moved to 100% virtual technology-based educational events. We were able, before the virus hit, to complete events in all four corners of the state. Our “four corner” focus continues to be a strategic objective to give more small Iowa companies the opportunity to gain insights on numerous technologies and technology developments. Our virtual event marketing has a focus to reach out to companies throughout the state.

Technical assistance for Iowa companies continues to be major part of the program. FY20 highlights are detailed below.

- 28 events held with a total of 412 attendees from various companies.
- 173 projects were completed
- 64 counseling sessions were completed in support of companies.

Summary

The Center for Industrial Research and Service (CIRAS), a joint program of the Office of Economic Development and Industry Relations and the College of Engineering at Iowa State University, took over management of the TAP program in July 2014. Since then, impacts of the program have increased substantially. The CIRAS/TAP program is the primary vehicle for CIRAS to deliver technology services to Iowa businesses.

The aggregated impact from all three CIRAS/TAP program areas are detailed below.

- There were 276 distinct companies served.
- These companies resided in 67 different Iowa counties. See Figure 1.
- Total reported impacts were:
 - \$305 million from new investments, new or retained sales, and savings or avoided costs; and
 - 1452 jobs created or retained.
- Impacts have increased by over a factor of ten since the TAP program administration was moved to CIRAS.

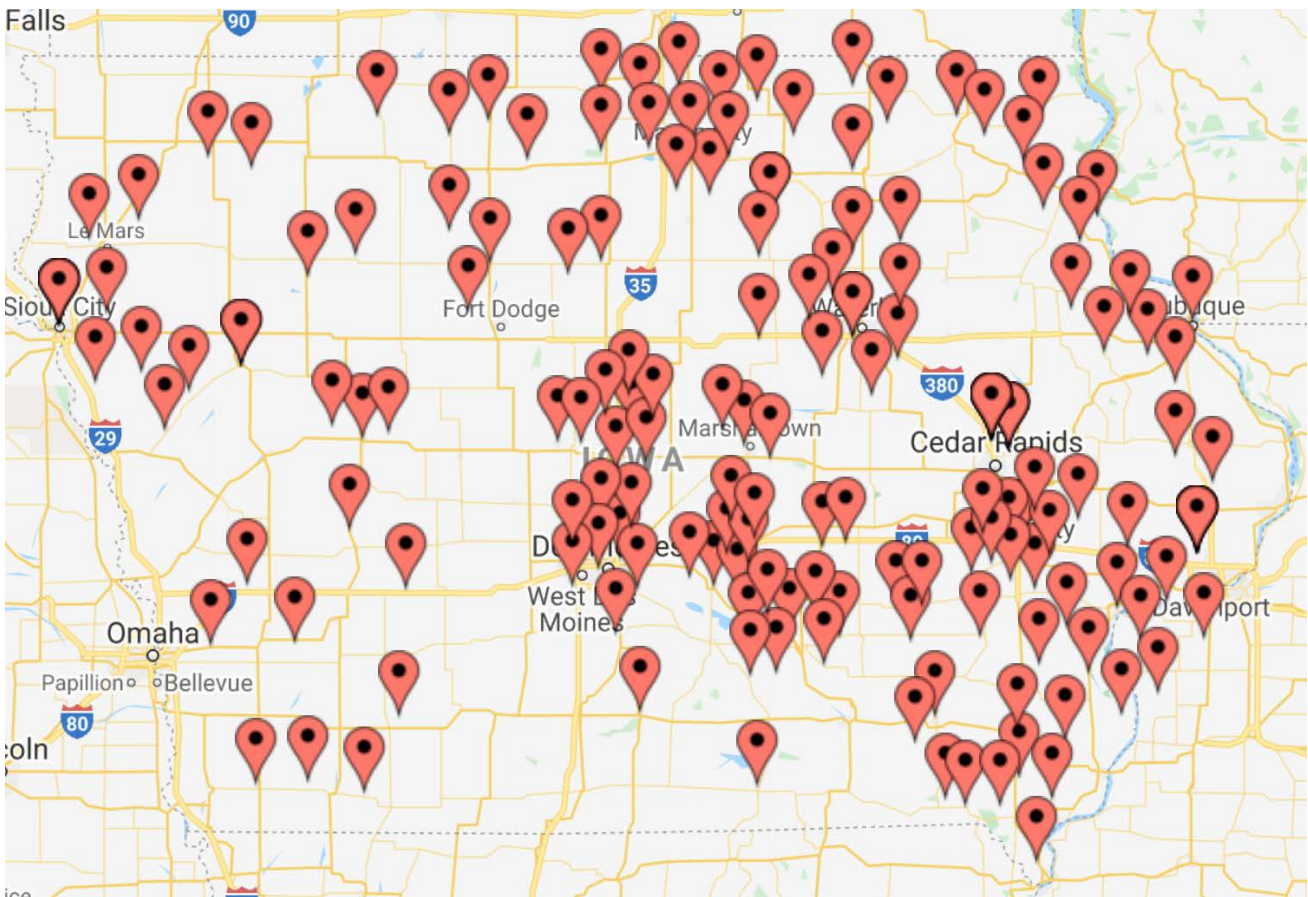


Figure 1: Approximate locations of companies receiving CIRAS/TAP assistance in FY20.

The CIRAS/TAP financials are included as Appendix B. A log of active directed contract research projects are included as Appendix C.

FY20 program activities and results were impacted by COVID-19 mitigation measures taken throughout the State. The program quickly adjusted to provide support services 100% virtually. During this disruption companies focused on employee wellbeing rather than expansion and technology. We were able to expand the industry 4.0 (I4.0) technologies being showcased in our Digital Manufacturing Lab with the addition of sensor and vision systems. This Lab was created with funding from Federal (Manufacturing Extension Partnership - MEP), State (IEDA and TAP), and Company (Alliant Energy) sources.

FY21 will focus on building out I4.0 technologies within the Digital Lab in support company responses to COVID-19. This support will include tools including augmented reality (AR) and remote access technologies. Another key objective will be to add two new technology partners within the Lab to expand available technologies for companies to evaluate.

The CIRAS Technology Assistance Program will continue to improve processes, leverage state funds with aligned federal programs, and expand outreach across the state. For each \$10,000 of investment in the CIRAS TAP program by the Iowa Legislature, companies report:

- More than 10 Iowa jobs; and
- More than \$2,230,000 in Iowa company investments, revenue, and savings.



Chris Hill
Director, CIRAS Technology Assistance Program

Appendix A: CIRAS/TAP FY20 Active Project Log - Non-directed Applied Research

- Bio-based Coatings Research
- PCR Validation and Performance
- Refrigeration and Display case lighting effect on food
- Packaging Regulatory for PFOA/PFOS & heavy metals
- Shelf life extension studies
- Compostability test methods

Appendix B: CIRAS/TAP FY20 Revenue and Expenses

CIRAS/TAP FY20 Revenue and Expenses		FY20
Carryforward*		
	TOTAL CFW	\$ 481,306
Revenue		
	State appropriation	\$ 1,365,602
	Company Fees (Directed Contract Research)	\$ 265,170
	TOTAL REVENUE	\$ 1,630,772
TOTAL FUNDS AVAILABLE FOR FY20		\$ 2,020,547
Expenses		
	Nondirected research - Centers	\$ 17,500
	Nondirected research - Faculty grants	\$ 11,633
	Sub-total	\$ 29,133
	Directed Contract Research (IIP)	\$ 109,363
	Directed Contract Research (Company)	\$ 104,833
	Sub-total	\$ 214,196
	Technical Assistance - CNDE	\$ 143,835
	Technical Assistance - Materials	\$ 92,117
	Technical Assistance - CIRAS Engineering	\$ 265,320
	Technical Assistance - ISU Faculty/staff	\$ 100,463
	Technical Assistance - Other	\$ 50,569
	Sub-total	\$ 652,304
	Equipment	\$ 135,861
	Administration	\$ 237,768
	Sub-total	\$ 373,629
	TOTAL EXPENSES	\$ 1,269,262
Carryforward*		
	TOTAL CFW	\$ 751,285
* Predominantly carryforward funding for ongoing Directed Contract Research projects		

Appendix C: CIRAS/TAP FY20 Active Project Log - Directed Contract Research

FY18 CIRAS Technology Assistance Program			
<i>Company</i>	<i>Status</i>	<i>Industry Funding</i>	<i>CIRAS/TAP-IIP Funding</i>
KINGLAND SYSTEMS CORPORATION	Closed FY19	\$26,954.68	\$30,710.00
FEED ENERGY COMPANY	Closed FY19	\$17,562.00	\$17,559.11
IOWA CAGE FREE LLC*	Closed FY19	\$44,000.00	\$40,000.00
NUTRAFERMA	Closed FY19	\$29,807.00	\$29,807.00
ARCHER DANIELS MIDLAND COMPANY	Closed FY19	\$27,514.00	\$27,513.00
UNITED EQUIPMENT ACCESSORIES	Closed FY20	\$24,952.00	\$24,952.00
FY19 CIRAS Technology Assistance Program			
<i>Company</i>	<i>Status</i>	<i>Industry Funding</i>	<i>CIRAS/TAP-IIP Funding</i>
FARRPRO*	Closed FY20	\$16,036	\$16,036
LINK MANUFACTURING	Closed FY20	\$40,121	\$40,121
SSAB	Closed FY20	\$39,965	\$21,330
AMERICAN ATHLETIC	Active	\$33,214	\$22,828
AMERICAN PACKAGING	Closed FY20	\$46,000	\$33,999
GRACE ENGINEERED PRODUCTS	Closed FY20	\$19,970	\$19,381
KAY DEE FEED	Closed FY19	\$12,506	\$10,330
FREEMONT FARMS*	Closed FY20	\$10,698	\$10,697
FY20 CIRAS Technology Assistance Program			
<i>Company</i>	<i>Status</i>	<i>Industry Funding</i>	<i>CIRAS/TAP-IIP Funding</i>
RENEWABLE ENERGY GROUP	Closed FY20	\$17,811	\$17,811
MEDILINE ISOTHERMAL SOLUTIONS*	Active	\$32,621	\$32,621
ALAMCO	Active	\$40,000	\$50,000
INSTA-PRO INTERNATIONAL	Active	\$21,205	\$21,205
KENT CORPORATION	Active	\$109,621	\$50,000
<i>FY20 CIRAS/TAP Directed Research New Funding Total</i>		\$221,258.00	\$171,637.00
* Small company (20 or fewer employees)			