



**University of Northern Iowa
Annual Economic Development and Technology Transfer Report – FY2019**

Section 1. UNI's Economic Development Activities to Enhance Economic Growth in Iowa – Highlights and Summary

The University of Northern Iowa (UNI) provided economic development assistance throughout all of Iowa's 99 counties for the 20th consecutive year. UNI's economic development outreach programs are housed in the Business and Community Services (BCS) division and work toward supporting the UNI strategic goal of contributing to the economic vitality of the state. Since 2000, BCS has engaged the entire university community in its outreach efforts, including faculty, staff, students, and alumni – all of whom play a critical role in enhancing economic development across Iowa.

Specific areas of service offered by UNI BCS include: entrepreneurship, community and economic development, market research, environmental research and sustainability, metal casting, and additive manufacturing.

Some exceptional recognition and milestones in the past year include:

- UNI's Tallgrass Prairie Center was awarded the Environmental Steward of Character presented by the Six Pillars of Character Association.
- Business and Community Services (BCS) was recognized by the Greater Cedar Valley Alliance as the Partner of the Year.
- The Iowa Waste Reduction Center (IWRC) was recognized by the U.S. Environmental Protection Association for the RCRA Sustainable Materials Management Program.
- The Iowa Green Brewery program was awarded the Pro H₂O Award from the Iowa Environmental Council.
- The Advance Iowa program received an award in the Place – Competitive Community category of the University Economic Development Association.
- James Hoelscher, Institute for Decision Making senior program manager, was recently appointed as chair of the Governor's Empower Rural Iowa Growing Rural Iowa Task Force.
- UNI's Green Iowa AmeriCorps program received the Service Year Alliance Higher Education Award from the Innovative Campus-Corp Partnership and Carmen Fink was the Nonprofit Leadership Alliance new staff of the year.
- CEEE's Community Energy Planning program won the Iowa Campus Compact Emerging Innovation Award.



Summary of BCS' key economic development program outcomes for FY2019:

Overall

- Provided service in all 99 counties to 3,362 unique business, community, and local government clients and served an additional 63,400 unique visitors to MyEntre.Net/IASourceLink
- Reached more than 351,000 Iowans through BCS programs and projects
- Engaged 161 faculty members and 345 students in the delivery of BCS services, and another 3,430 students were reached by BCS programs
- Leveraged each \$1 invested by the state with \$5 in private grants, fees, or federal funding

Summarized Impacts on the Iowa Economy

- Incubator graduates have created more than 1,000 jobs over the past several years, with companies such as Virtual Paint, Far Reach Technologies, id8, Discida, Rite Environmental, Braceability, and Red Lab Technologies. Economic modeling conducted by Emsi estimates an economic impact of \$67 million in the past year from start-up and spin-off companies.
- More than \$1 million of 3D printing casting molds and cores have been provided to industry in 2018 and this value represents only 5-10% of the value of the final parts for industry. More than 40 of these companies are based in Iowa.
- Three-fourths of all student entrepreneur graduates remain in business or have remained involved in an entrepreneurial venture
- Military bases and depots saved at least \$500,000 per year in painting and coating costs due to military painter training
- Iowa Workforce Development and the Iowa Economic Development Authority are creating the first statewide laborshed approach with assistance from the Institute for Decision Making's model

Entrepreneurship, Business Incubation and Technology Transfer

- Provided assistance to 153 second-stage Iowa companies in 72 counties through Advance Iowa, creating 293 jobs
- Increased participation of entrepreneurs in IASourceLink online resources, a joint program between UNI and the Iowa Economic Development Authority (IEDA), to 63,400 user sessions
- Supported 1,060 Iowa businesses with market information by the Business Concierge team
- Served 22 businesses through the new student consulting program
- Attracted 14 new companies to the UNI incubators
- Partnered with the Millrace to increase coworking space and assistance to 32 companies
- Graduated 85 innovators from Center for Business Growth and Innovation (CBGI) incubators during the past decade
- Served 286 new clients through UNI's Small Business Development Center (SBDC)
- Incubated 20 student businesses in the John Pappajohn Entrepreneurial Center's (JPEC) R.J. McElroy Student Business Incubator, and 25 additional student entrepreneurs were served as affiliate members
- Received 11 new intellectual property disclosures from UNI faculty and staff
- Filed 2 patent applications and received 2 patents and approved 2 new license agreements
- Continued to jointly work with the Iowa State University Research Foundation (ISURF) to assess and commercialize intellectual property and submitted a joint patent



Local Economic Development

- Received new funding from the Economic Development Administration (EDA) University Center program to launch an intrapreneurship and innovation initiative in a 6-county region in Northeast Iowa
- Provided strategic planning and comprehensive technical assistance to 42 community partners and 5 additional regional groups across Iowa through IDM
- Partnered with IEDA and Iowa utility companies to conduct an analysis of statewide existing industry data, which was a collaboration with the Institute for Decision Making (IDM) and Strategic Marketing Services (SMS)
- Expanded the market for economic development training to include a 6-state region through the IDM-led Heartland Economic Development Course and achieved enrollment of 85 entry-level economic developers
- Created an average of approximately 1,500 jobs through local economic development technical assistance from IDM, as reported by community clients

Waste Reduction, Environmental Assistance, and the Bioeconomy

- Provided 566,000 hours of energy efficiency assistance across Iowa by 500 members resulting in \$13.9 million of leveraged support through the Green Iowa AmeriCorps program
- Weatherized 650 homes and conducted 500 educational programs with 9,000 people in attendance
- Reduced urban pesticides in 188 Iowa parks in collaboration with public spaces to enhance water quality and child health through the Good Neighbor Iowa program
- Distributed 1,300 acres of native seed for 39 county roadsides as part of the Tallgrass Prairie Center's (TPC) roadside vegetation project and published an interactive map to showcase Iowa's native roadsides
- Delivered painter training to 275 painters within all military branches at the Iowa Waste Reduction Center's (IWRC's) painting facility and at 4 satellite facilities, and 62 painters at industrial facilities
- Provided environmental technical assistance and on-site reviews through IWRC to 109 Iowa small businesses, conducted 12 food waste projects, and conducted 16 Green Brewery visits
- Expanded CEEE's Local Foods Program impact to \$25 million worth of locally grown food products purchased by institutional buyers from hundreds of Iowa farmers
- Updated 15 Iowa watersheds' National Hydrography Dataset in collaboration with the Iowa Department of Natural Resources (DNR) and GeoTREE
- Developed a cartographic map series for the Iowa Governor's STEM Council through GeoTREE
- Provided recycling and reuse project funding and outreach services to 18 companies and organizations through the Recycling Reuse Technology Transfer Center (RRTTC)

Advanced Manufacturing and Market Research

- Served 42 Iowa foundries and supply chain companies with custom 3D sand-cast core and mold printing services through the Additive Manufacturing Center
- Assisted all branches of the military with applied research for the manufacturing of cast parts
- Hosted 850 visitors to demonstrate additive manufacturing at MCC's Additive Manufacturing Center
- Presented at a dozen national conferences on metal casting or additive manufacturing during the last year. Topics ranged from additive manufacturing to advanced metal casting processes and materials.



UNI Economic Development and Technology Transfer Annual Report – 2019

- Expanded into the 3D printing of investment castings and secured additional funding through the Iowa Economic Development Authority’s Strategic Investment Program.
- Launched a new 3D printing technology for investment casting in partnership with 3 original equipment manufacturers in Iowa
- Provided market research and competitive intelligence to 17 Iowa companies by Strategic Marketing Services (SMS)
- Conducted an industry sector partnership inventory and an analysis of Iowa’s existing industry through a partnership between SMS and IDM
- Provided painting and coating research, development, and training to each branch of the military and 5 Iowa companies by IWRC

Section 2. Technology Transfer and Intellectual Property

FY2019

	UNI
Number of disclosures of intellectual property	11
Number of patent applications filed	2
Number of patents awarded	2
Number of license and option agreements executed on institutional intellectual property	2
Number of license and option agreements yielding income	10
Revenue to Iowa companies as a result of licensed technologies	\$3,450,000
Number of start-up companies formed with UNI assistance	94
Number of companies in research parks and incubators	21
Number of <u>new</u> companies in research parks and incubators	16
Number of employees in companies in research parks and incubators	54
Royalties/license fee income	\$29,050
Total sponsored funding	\$40,865,000
Corporate-sponsored funding for research and economic development and revenue generation (excludes corporate philanthropy - all in Iowa)	\$731,200
i. Annual appropriations for economic development	\$1,466,419
ii. Regents Innovation Fund	\$900,000

Section 3. Overview of UNI’s Economic Development Programs

UNI outreach services for community and economic development activities are outlined in a table format on the following seven pages. The format provides a brief overview of each program, its purpose, those served, outcomes for the past year, and some aggregate outcomes as well. Together, the programs served nearly 3,362 unique businesses and organizations in the past year and another 63,400 individuals through the IASourceLink.com entrepreneurial development system and the Business Concierge.



Section 3. Overview of UNI’s Economic Development Programs

Programs	Services	Those Typically Served	FY 2019 Results (listed)	Cumulative Results
Advance Iowa (AI)	Rural/Urban Consulting program focused on small and medium sized existing businesses providing succession planning, strategic planning, business consulting, training, peer round tables	Small, medium enterprises	<ul style="list-style-type: none"> ✓ 153 companies assisted ✓ 5 seminars on Succession Planning & Value Building ✓ 4 seminars on Family Business ✓ 3 podcasts on Family Business ✓ 5 Webinars on Succession Planning topics ✓ Service to clients in 72 counties 	<ul style="list-style-type: none"> ✓ Project work with 734 mid-sized companies across the state in all quadrants of the state
Center for Business Growth & Innovation/ Small Business Development Center	Rural/Urban entrepreneurship development, online entrepreneurship resources, business consulting, business training, business incubation	Small and medium sized businesses, entrepreneurs, entrepreneurial service providers, community leaders	<ul style="list-style-type: none"> ✓ Launched the Succession Iowa program – completing 8 client projects during pilot phase ✓ 7 Webinars – 2,457 attendees ✓ Business Concierge served 1,060 small businesses ✓ Panther Biz HQ served 22 businesses with marketing and public relations support ✓ IASourcelink was accessed by 63,412 unique visitors 	<ul style="list-style-type: none"> ✓ IASourcelink has reached 200,000 unique users since its launch in 2012 ✓ Engaged more than 525 entrepreneurs in the Dream Big Grow Here grant contest and Iowa’s Great Idea Challenge since 2010 ✓ Over 6,000 business intelligence requests have been completed since 2010 ✓ 81 companies have graduated from the CBGI and Innovation Incubators ✓ More than 35,000 live and archived webinar views have occurred since 2003



Section 3. Overview of UNI’s Economic Development Programs

Programs	Services	Those Typically Served	FY 2019 Results (listed)	Cumulative Results
Small Business Development Center (SBDC)	Rural/Urban entrepreneurship development, online entrepreneurship resources, business consulting, business training	Small and medium sized businesses, entrepreneurs, entrepreneurial service providers, community leaders	<ul style="list-style-type: none"> ✓ SBDC served 286 clients across Iowa with 686 counseling hours. ✓ SBDC partnered with a number of local entities to provide content for small business events. Partnerships included: Main Street Waterloo, Grundy Center Chamber & Main Street, Parkersburg Chamber, Grundy Butler Development Alliance and others. 	<ul style="list-style-type: none"> ✓ In the past 5 years the UNI SBDC assisted 1,400 clients start more than 100 businesses and 430 jobs with an infusion of \$9.8 million in capital
Center for Energy and Environmental Education (CEEE)	Technical assistance, educational programs and leadership in energy conservation and renewable energy, environmental conservation and community-based agriculture	Iowa cities, counties, Iowa schools, teachers, farmers, businesses, elected officials, state agencies, community leaders, citizen organizations	<ul style="list-style-type: none"> ✓ CEEE’s Good Neighbor Iowa prevented exposure of 20,000 children to lawn weed killers, helped 188 Iowa parks to commit to change their lawn care to approach to not include pesticides, 62 institutions pledged to be pesticide-free, resulting in 62,000 pound of weed killers not used 	<ul style="list-style-type: none"> ✓ Since 1998, UNI’s Local Food Program has facilitated the purchase of \$25 million worth of locally grown food products by institutional buyers from hundreds of Iowa farmers ✓ Provided energy efficiency services to 5,000 homes and educated 50,000 people over the past 10 years



Section 3. Overview of UNI’s Economic Development Programs

Programs	Services	Those Typically Served	FY 2019 Results (listed)	Cumulative Results
<p>Geoinformatics Training, Research, Education and Extension Center (GeoTREE)</p>	<p>Geospatial technologies, education, research, and outreach activities for federal, state, local and tribal agencies</p>	<p>Federal, state, local, and tribal (FSLT) governmental agencies</p>	<ul style="list-style-type: none"> ✓ Updated 15/55 Iowa watersheds National Hydrography Dataset water body area data ✓ Developed processes and began conflation of National Hydrography Dataset in collaboration with Iowa DNR ✓ Developed cartographic map series for Iowa Governor’s STEM Advisory Council ✓ Captured and published 1500 360 photos to Google Street View and built a custom virtual tour for Cedar Trails Partnership 	<ul style="list-style-type: none"> ✓ Project work with hundreds of public agencies, academic groups/departments, and private companies. Development and delivery of many geospatial custom data applications
<p>Institute for Decision Making (IDM)</p>	<p>Hands-on community and economic development guidance and research</p>	<p>Economic development organizations, chambers, city councils, communities and others</p>	<ul style="list-style-type: none"> ✓ Assistance and research provided to 42 community partners and 5 regional development groups ✓ Partnered with Iowa Economic Development Authority and Iowa utilities for an analysis of statewide existing industry survey data ✓ Assisted 6 regions with implementing regional entrepreneurship plans, and begun the development of a Business Retention and Expansion through Innovation (BREI) strategy for Intrapreneurship 	<ul style="list-style-type: none"> ✓ Served 880 communities, counties and groups in nearly all of Iowa’s counties to date ✓ Community clients report 1,500 – 2,000 new jobs annually as a result of IDM assistance ✓ Trained over 1,000 economic development professionals



Section 3. Overview of UNI’s Economic Development Programs

Programs	Services	Those Typically Served	FY 2019 Results (listed)	Cumulative Results
Iowa Waste Reduction Center (IWRC)	Free, confidential, non-regulatory environmental assistance for Iowa small businesses, as well as industry training and education	Small businesses throughout Iowa; food waste generators; military and industrial painters	<ul style="list-style-type: none"> ✓ Detailed one-on-one environmental assistance was provided to 109 Iowa small businesses, including 12 food waste reduction visits and 16 green brewery project visits. ✓ Industrial painter training was provided to 5 businesses training 62 workers. ✓ Military painter training was conducted by IWRC staff and at 4 satellite sites training a total of 275 painters. 	<ul style="list-style-type: none"> ✓ Provided 6,154 on-site reviews to Iowa small businesses. ✓ Certified 25 Iowa craft breweries. ✓ Provided 4,019 certifications to military painters and DoD contractors.
John Pappajohn Entrepreneurial Center (JPEC)	Research, entrepreneurship education, technology transfer, and capital investment programs	Students interested in entrepreneurship, UNI faculty and staff entrepreneurs, new ventures and rapidly growing small companies	<ul style="list-style-type: none"> ✓ 2,782 businesses and individuals were assisted through all JPEC programs ✓ 20 student business owners running 20 businesses with 40 employees were provided space and services in the student business incubator ✓ 21 student business owners running 23 businesses were provided assistant services as part of the affiliate incubator program ✓ The JPEC staff played a vital role in bringing “The Power of the Purse” Conference back to UNI which hosted 136 attendees the fall of 2018 	<ul style="list-style-type: none"> ✓ The JPEC Student Business Incubator has provided space to more than 131 business owners since FY05 ✓ The JPEC has consulted with 683 faculty and staff from around the U.S. and the world regarding student business incubation ✓ Since FY13, 2,380 College of Business Administration students have learned about and crafted an elevator pitch through presentations by JPEC instructors ✓ Since FY11, 46 businesses and non-profits have had their projects completed by Entrepreneurial Strategy (MKTG 3586) students



Section 3. Overview of UNI’s Economic Development Programs

Programs	Services	Those Typically Served	FY 2019 Results (listed)	Cumulative Results
Metal Castings Center (MCC) and Center for Additive Manufacturing	Metal casting technologies, applied research, testing and training	Iowa casting users, foundries and foundry suppliers	<ul style="list-style-type: none"> ✓ Iowa active contracts with 42 companies, provided outreach projects to 4 Iowa foundries and technical assistance to 50 additional foundries ✓ Conducted DoD-sponsored research into front line manufacturing of cast parts ✓ Sponsored commercialization of Zircon Sand Additive, 2 patents submitted 	<ul style="list-style-type: none"> ✓ Over 2,000 industry-funded projects have been completed to date and more than 100 clients assisted with additive manufacturing
Materials Innovation Service (MIS)	Mechanical, physical and chemical tests of metals, polymers and cementitious materials	Serving Iowa manufacturers and suppliers	<ul style="list-style-type: none"> ✓ Technical assistance and testing was provided to 24 companies across Iowa 	<ul style="list-style-type: none"> ✓ Technical assistance or testing provided to approximately 160 companies. More than 2,100 hours of testing provided since the beginning of the program
Panther Initiative for Environmental Equity and Resilience (PIEER)	Environmental social justice awareness, education, outreach and research	Serving Iowans, especially those affected by environmental equity issues	<ul style="list-style-type: none"> ✓ Outreach awareness and education related to environmental social justice to 10 organizations 	<ul style="list-style-type: none"> ✓ Outreach and educational awareness provided to 10 organizations and more than 2,000 individuals this year, including community, UNI and governmental organizations
Recycling and Reuse Technology Transfer Center (RRTTC)	Recycling and by-products research, education and outreach	Serving Iowa businesses, the recycling industry and Iowa citizens.	<ul style="list-style-type: none"> ✓ Research project funding and outreach services related to recycling and reuse was provided to 18 companies and organizations 	<ul style="list-style-type: none"> ✓ Funded 42 RRTTC research projects ✓ Over 170 recycling and reuse reports and publications have been produced ✓ Outreach and services provided to more than 6,000 individuals, including business/industry, K-12 students, teachers, and Iowa citizens



Section 3. Overview of UNI’s Economic Development Programs

Programs	Services	Those Typically Served	FY 2019 Results (listed)	Cumulative Results
Strategic Marketing Services (SMS)	Market research and analysis	Businesses, entrepreneurs and non-profit organizations	<ul style="list-style-type: none"> ✓ Market research and analysis services were provided to 17 Iowa companies. ✓ Assisted ICE Technologies in Pella, IA with evaluating potential new target markets and identifying the most attractive segments to pursue. ✓ Assisted the Iowa DNR in assessing statewide residential attitudes, perceptions and knowledge about household hazardous materials including batteries. 	<ul style="list-style-type: none"> ✓ Since 1990, market research and analysis services have been provided to 313 Iowa companies
Tallgrass Prairie Center (TPC)	Research, education and technology transfer supporting restoration of tall grass prairie; coordination and assistance for county roadside managers, farmers and agricultural conversation professionals; stewardship of source-identified	Iowa county governments, state DOT, USDA-NRCS technicians and ag technical service providers, commercial native seed producers, county conservation boards, K-12 science educators, restoration ecology private businesses	<ul style="list-style-type: none"> ✓ Distributed 1,300 acres-worth of native seed for 39 county roadsides ✓ Published an interactive map, “Showcase of Native Roadsides” ✓ Released ten lesson plans for science educators on prairie root systems ✓ Began the TPC internship program sponsored by Friends of the TPC ✓ Began planting 77-acre prairie in Benton County for benefit of students and the surrounding community 	<ul style="list-style-type: none"> ✓ More than 50,000 acres of Iowa counties rights-of-way have been restored to native vegetation ✓ Forty-five Iowa counties use ecologically integrated management on ~315,000 acres of public roadsides ✓ Public and private land managers have access to eight-five species of genetically diverse, source-identified seed including grasses, sedges, and many species of wild flowers ✓ Over 90 UNI students have gained hands-on practical experiences and/or scientific training on prairie restoration since 2002



Section 4: Regents Innovation Funding Report

UNI's FY2019 Regents Innovation Funding (RIF) Annual Report (also known as Skilled Worker and Job Creation Fund) is on file at the University of Northern Iowa and was submitted separately. Projects and outcomes partially supported by the RIF are included in this annual report.

Section 5: Collaborative Projects

Each year, UNI works closely with the other Regent institutions and state and federal agencies on collaborative projects. The following projects represent a sampling of these collaborative projects.

Center for Business Growth and Innovation (CBGI) Partners with State and Regional organizations to expand small business assistance

- The IASourceLink program continues as a strong partnership between UNI and the Iowa Economic Development Authority. This program serves to provide assistance to business-related issues and link Iowa's businesses with support resources from around the state. In FY2019, 46,941 Iowa's sought information, and business assistance through the IASourceLink portal and 1,060 direct interactions with Iowa business owners was provided via Iowa Business Concierge services. In addition to the partnership with IEDA, the program collaborated with: Iowa Department of Revenue, Iowa Commission on the Status of Women, Iowa Innovation Corporation, New Bohemian Innovation Collaborative, Technology Association of Iowa, Pappajohn Entrepreneurial Centers, Iowa Waste Reduction Center, SourceLink, Small Business Development Centers, Iowa Farm Bureau/Renew Rural Iowa, Iowa Area Development Group, Iowa Association of Business and Industry, BizStarts, Entrepreneurial Development Center (EDC), Main Street Iowa, and regional development groups.
- The Center for Business Growth and Innovation worked collaboratively with local partners to plan and deliver entrepreneur events. These include monthly 1 Million Cups, TechBrew, and the Founder Talks. Partners for the events included Grow Cedar Valley, Mill Race Co-working, Red Cedar, Cedar Falls Utilities, Far Reach, the UNI Pappajohn Entrepreneurial Center, and numerous local entrepreneurs.

Advance Iowa

- UNI's Advance Iowa program established a partnership with Vermeer Corporation and the Vermeer family in Pella, IA to showcase the importance of Iowa's family-owned companies. The conference sold out, with over 100 attendees from family-owned firms across the state. Time was spent on issues including succession planning, next generation development, and other topics key to Iowa business families.
- UNI's Advance Iowa collaborated with the Iowa Wine Growers Association to offer succession planning and value building services to their members through the state.



Center for Energy and Environmental Education (CEEE) Collaborated on projects with ISU and UI.

- CEEE collaborates with Iowa Commission on Volunteer Service to host a significant AmeriCorps Program with 35 service members serving many Iowa communities by offering comprehensive energy services to people in need.
- CEEE and ISU Extension are working closely together on local food initiatives in Region 9 Extension, which includes Black Hawk and surrounding counties. UNI and ISU Extension have jointly funded a local food coordinator to expand local markets for local agricultural products among institutional buyers, and make locally grown foods visible to the residents of the region.

GeoTREE Center worked with Iowa Department of Natural Resources and the Iowa Department of Agriculture and Land Stewardship

- In collaboration with the Iowa Department of Natural Resources, the GeoTREE Center is updating the Iowa contribution for the National Hydrography Dataset. Multiple UNI Geography students edited and updated 14 out of 55 watersheds in Iowa in the past year as began the next step in conflating streams, water body, and reservoirs into the official NHD for upload to the USGS.
- GeoTREE partnered with Hawkeye Community College to develop environmental education lessons for the Envirofest event held at Hawkeye. Those lessons were delivered to approximately 150 fifth graders at 6 elementary schools in Waterloo.

Institute for Decision Making (IDM) Collaborates with Iowa Workforce Development, Hawkeye Community College, Iowa Economic Development Authority, Iowa utilities, local economic development organizations, local governments, area school districts and other workforce development service providers

Future Ready Cedar Valley and One Cedar Valley

- IDM worked with a variety of state and regional partners to plan, organize and hold the Future Ready Cedar Valley Summit in November 2018 that focused on addressing workforce. IDM's lead partners were UNI's Office of the Provost, Iowa Workforce Development, Hawkeye Community College, Waterloo Community Schools, Cedar Falls Community Schools, Central Rivers Area Education Agency, City of Waterloo, City of Cedar Falls and Grow Cedar Valley. The Summit was attended by over 300 individuals from the Cedar Valley Region representing employers, education, workforce and training providers, economic development organizations and other nonprofits. The Summit focused on six workforce challenge areas that the Cedar Valley Region is facing, such as retaining and attracting talent, barriers that individuals face that prevent them for securing employment and how to upskill the region's current workforce.

Analysis of Statewide Existing Industry Survey Data

- IDM, in partnership with Strategic Marketing Services (SMS), assisted the BEST of Iowa Management Team (Iowa Economic Development Authority, MidAmerican Energy, Black Hills Energy, Alliant Energy and the Iowa Area Development Group) analyze data from interviews completed with Iowa companies which are in one of the 12 distinct industry clusters driving Iowa's economy or were identified as major employers by the BEST of Iowa Management Team. The interview data was



UNI Economic Development and Technology Transfer Annual Report – 2019

collected by economic development organizations across Iowa. The findings were used in evaluating and revising the economic development assistance provided to Iowa companies by the State of Iowa, the utilities and economic development organizations around Iowa.

Iowa Waste Reduction Center (IWRC) Collaborates with State and National Partners

- The IWRC partnered with the Iowa Department of Natural Resources and the United States Environmental Protection Agency to host the 2018 Midwest Food Recovery Summit in September. This 2.5 day event featured keynotes, panel discussions, and interactive workshops that allowed the 140+ attendees to discuss ways to tackle food waste and showcase their own efforts to reduce food waste.
- The IWRC has partnered with economists from UNI and Arizona State University, and the Iowa Brewer's Guild to begin a multi-year research project focusing on sustainability in craft brewing as a part of the Green Brewery project.
- The IWRC has partnered with four DoD facilities to operate as satellite locations for the STAR4D painter certification course. Instructors from US Marine Corps sites in Albany, GA and Barstow, CA, as well as instructors from US Army sites in Fort Rucker, AL and Tobyhanna, PA certified 88 painters on locations in FY 19.
- The IWRC collaborated with the Iowa Department of Natural Resources and the United States Environmental Protection Agency through the Strategic Goals Program. This project involved all three organizations working together to plan and implement two workshops per year that provide pollution prevention and environmental assistance to Iowa businesses.

John Pappajohn Entrepreneurial Center (JPEC) Collaborates with Regional Organizations

Cedar Falls CAPS Program

- UNI's John Pappajohn Entrepreneurial Center and Center for Business Growth and Innovation partnered with the Cedar Falls CAPS program to create a two-day team building workshop to kick-off the four strands of the CAPS program for the fall and spring semester with 80 students participating. The JPEC staff were part of the judging panel for the spring cohort design challenge; provided a social media workshop for the Business strand; provided pitch feedback for final presentations and was actively engaged in mentoring the students on a regular basis.

Power of the Purse

- UNI's John Pappajohn Entrepreneurial Center staff played key roles in the community-wide planning committee to bring Power of the Purse, a one-day conference focused on financial literacy back to the UNI Campus. After one year of intensive planning, attendance for the day was 136. As a result of feedback from the attendees, the planning committee made the decision to make this an annual event.

University of Iowa – Venture School

- UNI's John Pappajohn Entrepreneurial Center and Center for Business Growth and Innovation partnered with the University of Iowa to coordinate logistics and instruct a seven-week fall cohort of Venture School in the Cedar Valley.



Metal Casting Center (MCC) Collaborates with UI, ISU, Iowa Community Colleges and other educational institutions.

- The MCC is collaborating with the University of Iowa Mechanical Engineering and Art departments on several projects, the largest of which involves the Rock Island and Watervliet Arsenals to integrate additive manufacturing with their operators and supply chain.
- The MCC is collaborating with Youngstown State and Penn State universities on two federally funded research projects to expand use of bio-based aggregates in 3D printing.
- The MCC is collaborating with Northeast Iowa Community College on a federally funded project to develop training materials for additive manufacturing.
- The MCC has collaborated on several student projects in additive manufacturing with Youngstown State, Iowa State Cyclone Power Pullers, Pittsburg State (KS) and University of Wisconsin Platteville.

RRTTC/Panther Initiative for Environmental Equity and Resilience (PIEER) Collaborates with many Cedar Valley organizations

- RRTTC started a new collaboration with UNI Study Abroad and with the Universidad Latina de Costa Rica. Latina students will travel to Iowa to participate in a Sustainability Immersion Program while integrating existing courses from their home institution, Universidad Latina de Costa Rica. While on campus, the CIEP will be working collaboratively and resourcefully to develop the program with the UNI Recycling & Reuse Technology Transfer Center.
- RRTTC/PIEER collaborated with Tri-County Head Start, Operation Threshold, Birthright, and Young Parents Together to deliver lead education and awareness to their staff, volunteers, clients and parents of unborn and young children. Oral presentations as well as written materials were given.
- RRTTC/PIEER partnered with Blue Zones, Healthy Cedar Valley Coalition and North Iowa Farm Partnership to organize the Cedar Valley Food and Film Festival. Local food producers and supporters were available to showcase their products and services to kick off the farmer's market season. Four films were also shown followed by a discussion that included upcoming technology, healthy food choices, water quality and food waste.

Strategic Marketing Services (SMS) Partners with Iowa Organizations

Cedar Valley Regional Food & Farm Awareness Membership Building

- SMS assisted the Cedar Valley Regional Food & Farm Network (CVRFFN) Awareness Committee in identifying entities in a six-county region (Butler, Buchanan, Bremer, Black Hawk, Grundy, and Tama) that are either producers, providers, or promoters of locally grown food and contacting them to briefly introduce the CVRFFN, obtain and/or verify entity contact information and gauge interest in being included in the new Buy Fresh Buy Local directory and online geospatial map.



Iowa Department of Natural Resources Hazardous Household Materials & Battery Recycling Program

- SMS partnered with the Iowa Department of Natural Resources (Iowa DNR) to assess statewide residential attitudes, perceptions and knowledge about household hazardous materials including batteries, with a goal of working towards breaking down barriers to proper material management. Respondent profiles were created to identify key demographic and behavioral characteristics for respondents that currently recycle batteries and other hazardous household materials and those that do not.

UNI's Additive Manufacturing Center: Additive Manufacturing Adoption & Utilization in Foundries

- SMS worked in collaboration with the UNI Additive Manufacturing Center to assess metal foundry organizations' readiness for adoption/utilization of additive manufacturing (AM) technology. This included foundries' current knowledge and understanding of additive manufacturing technology, interest in and forecast adoption of additive manufacturing technology, interest in and utilization of specific additive manufacturing applications, quality, engineering, and design considerations.

Tallgrass Prairie (TPC) Partners with the Iowa Department of Transportation, Department of Ag and Land Stewardship, DNR, Iowa Corn Growers, USDA, Iowa Soybean Association, ISU, UI, and the Iowa Economic Development Authority

- The Integrated Roadside Vegetation Management Program coordinated with the Iowa Department of Agriculture and Land Stewardship, Iowa Department of Transportation, Iowa Department of Natural Resources, USDA Natural Resources Conservation Service, Iowa Soybean Association, Iowa Corn Growers Association, Iowa State University and two county roadside managers to propose changes to Iowa's noxious weed law. The IRVM program also coordinated with members of the Iowa Monarch Conservation Consortium, a partnership of over 40 farmer and conservation organizations, state agencies, companies and Iowa State University, to develop a draft statewide monarch conservation plan. The IRVM program coordinated with the Iowa DOT in the administration of a grant from the Federal Highway Administration that provided enough seed to plant 1,300 acres of county Iowa roadsides with native plants.
- The Natural Selections Program partners with the Iowa DNR Prairie Resource Center to clean seed for native plantings on state lands, and the Iowa Department of Transportation and USDA NRCS on issues of native seed quality assurance for roadside and CRP plantings. The USDA-Farm Services Agency is funding a study of the native seed supply chain in Eastern Iowa.
- The Prairie on Farms Program partnered with the Black Hawk Soil and Water Conservation District, the Dry Run Creek Watershed Improvement Project, Hertz Farm Management and ISU SRIPS, to provide field days for landowners and conservation planners in the Middle Cedar Watershed. Additionally, an Agricultural Conservation Working Group meeting was held allowing local conservation professionals an opportunity to network and identify opportunities for collaboration.
- The Prairie on Farms Program partnered with the Iowa Economic Development Authority (IEDA) on a community development block grant to provide tailored technical guidance on prairie restoration. Additional partners with this grant include University of Iowa, Iowa State University Outreach and Extension, Iowa Department of Natural Resources and the Iowa Flood Center. As a partner, the TPC works to assist Watershed Coordinators in eight designated priority watersheds across the state of Iowa to reduce flood risk and improve water quality.

University of Northern Iowa

Regents Innovation Fund Annual Report – FY19

For the past eight years, the University of Northern Iowa has received Regents Innovation Funds (now termed the Skilled Worker and Job Creation Fund) from the Iowa Legislature through the Joint Economic Development Appropriations Subcommittee. This funding is allocated to each of the three Regent institutions for projects to support business development, entrepreneurship, and innovation activities outlined in Iowa Code section 262B. UNI's projects focus on four primary areas: 1) Technology Transfer, Business Incubation, and Additive Manufacturing, 2) Entrepreneurship Outreach and Economic Gardening, 3) Regional Development, and 4) Competitive and Market Intelligence. This report outlines the programming and highlights results and projects in each of the four areas.

1) Technology Transfer, Business Incubation, and Additive Manufacturing

Description of the project

UNI has two successful business incubation programs to support community entrepreneurs, faculty spinoffs, and student entrepreneurs. The incubators and support facilities offer a physical link between the Iowa business community, campus innovators, and faculty researchers to support business growth. The 8120 Spark Zone is a hub facility, coalescing the existing strength of Intellectual Property disclosures and University research with quality business services to support business incubation and growth. The R.J. McElroy Student Business Incubator provides a physical location for student entrepreneurs to launch and grow their own ventures. Strategies for intellectual property commercialization include licensing, strategic partnerships, joint development agreements, and new business development. Additive manufacturing has become a strength of UNI thanks to substantial public and private investments in 3D industrial printing equipment and design technologies. The UNI Metal Casting Center has become an industrial leader in supporting the castings supply chain with 3D printing and design technologies.

What results have been achieved in the past year?

UNI's incubators housed 21 businesses in the past year and 16 of these companies were new startups. In total, these companies have grown to 54 employees. One of the startups was a spinoff licensing UNI technology related to painting and coating. Student businesses have also realized substantial long-term success. Of the students graduating with a business, 71 percent remain in business or have become involved in a subsequent venture. An additional 73 companies were launched with UNI assistance. The economic modeling company, Emsi, estimates the impact of these startups to the State of Iowa exceeding \$67.2 million. UNI's incubation efforts also collaborated with Red Cedar to assist 32 additional companies in the

Millrace Coworking space in Cedar Falls. In the past decade, 85 community-based entrepreneurs have graduated from UNI incubators and into the regional economy.

Technology Transfer efforts were expanded in the past fiscal year in collaboration with the Iowa State University Research Foundation (ISURF). ISURF provided due diligence and technical assistance on eight UNI faculty-derived technologies and our first joint patent that was filed and has been received. An additional 11 disclosures were received and three demonstrate commercial potential and are moving forward. Approximately \$3.5 million is generated annually by small businesses and entrepreneurs using UNI technologies. Three late stage faculty research projects will also be assisted with research grants for projects that demonstrate commercial potential, and three joint development agreements were initiated.

Additive manufacturing continued to be a priority during the past year, which included installation of additional 3D printers and expanding design capabilities to deliver additive manufacturing services. Most of Iowa's foundries and many supply chain companies were assisted with technology assessment and adoption. More than 80 companies and all branches of the military were assisted. Automation in the foundry industry will be the focus area of new applied research. An additive manufacturing workgroup was formed as part of the Iowa Innovation Council and collaborative projects have expanded.

Examples of projects

One of the most exciting and impactful programs over the past few past years was launching the Early Founders student entrepreneurship program in the John Pappajohn Entrepreneurial Center. Five student businesses spent the summer working exclusively on their business ventures following the Fluent model of business growth. Each team made progress with their new venture and four of the ventures are now housed in the R.J. McElroy Student Business Incubator. The Early Founders program is receiving expanded private donor support and will be expanded.

UNI's Additive Manufacturing Center expanded support for the defense industry, working on multiple projects for each branch of the military. Projects ranged from creating designs and molds for replacement parts to new innovations for the F-35 Joint Strike Fighter. Another project helped the military use indigenous materials for printing in the Middle East so that replacement parts can be produced on site. Additional projects have been implemented to assist the foundry supply chain adopt new technologies.

Plans for next year

UNI will continue to build its capacity in additive manufacturing by expanding 3D printer capabilities for sand-mold printing, but will also expand into investment casting. Automation of the foundry industry and 3D printing for investment casting will be the focus of new initiatives for FY20. Business incubation will continue with a focus on the community entrepreneur ecosystem. Technology transfer will be supported through research grants which have the

greatest commercial potential through further collaboration with ISURF. Pursuing at least two Small Business Innovation Research (SBIR) grants will be a stretch goal for the next year. Business incubation will be expanded to include an acceleration option and a closer link to the Red Cedar community entrepreneur ecosystem.

2) Entrepreneurship Outreach and Economic Gardening (Center for Business Growth and Innovation)

Description of the Project:

UNI Entrepreneurship Outreach focuses on serving small to medium enterprises through the Advance Iowa program. This is a statewide program in the Center for Business Growth and Innovation (CBGI) which is committed to creating new programs and services to fill gaps in the small and medium business ecosystem. The CBGI is the producer and manager of resources found at IASourcelink.com. In addition, the CBGI improves small business access to the information and resources through the Business Concierge and delivers Dream Big Grow Here on a regional basis across Iowa.

What Results have been achieved in the past year?

During FY19, 153 Advance Iowa clients were served in 72 Iowa counties. Since the program's creation, Advance Iowa has served 734 businesses in Iowa. In FY19, Advance Iowa launched the first UNI Family Business Forum, hosting three breakfast series events in the fall of 2018. This breakfast series was attended by 272 people and 41 family businesses. The series concluded with a sold out Family Business event attended by 114 people at the Vermeer Corporation.

CBGI hosted a regional Dream Big Grow Here contest in partnership with Iowa's West Coast Initiative in Northwest Iowa. The contest provided \$7,000 in grants to small businesses. CBGI partnered with the Iowa Department of Revenue to host seven webinars with over 2,000 attendees. On [IASourcelink](http://IASourcelink.com), over 60,000 people accessed the site to find Iowa business resources. The Iowa Business Concierge directly served 1,060 Iowa small businesses and service providers. The Panther Biz HQ program was launched in the fall of 2018 and CBGI students worked closely with 22 Iowa companies to improve their online marketing and brand presence.

Examples of projects

Family businesses are widely recognized as a powerful driver of economic growth – generating more than 60% of US GDP and 75% of private sector jobs. These businesses are often the economic engine for rural communities across Iowa, providing employment, identity, and philanthropic resources to many places that Iowans call home. The UNI Family Business Forum launched in September 2018 as a way to provide specialized services to family businesses. Only 4 in 10 family owned firms successfully transition to Generation II and only 13% survive to

Generation III of a family. The focus is on bringing family business owners together to allow them to learn from each other and provide a vehicle for them to find out more about issues specific to family-owned businesses. The UNI Family Business Forum was hosted in Ankeny, IA and attracted over 250 participants. Through the UNI Family Business Forum, Advance Iowa has started 14 succession planning engagements.

Dream Big Grow Here is an online business contest platform that is designed to incent new/growing businesses to participate and connect with resources, market their products, and learn more about different approaches to growing their business. CBGI collaborated with Iowa's West Coast Initiative to host a regional contest. They raised and offered \$7,000 in prizes along with business pitch coaching and connections with business resources such as the small business development centers. Ten new and expanding small businesses were identified in northwest Iowa and each gained exposure to the region. Breann White with Small Batch Bakery in Lester, IA finished in first and received a \$4,000 prize. Leann Kruger, of Creative Edge in Rock Rapids won \$2,000 in second place. Nicole Rozeboom from B Fierce Boutique in Hull, IA finished in third place and won \$1,000. Dream Big Grow Here has been a valuable tool for regions across the state to engage their rural entrepreneurs.

Plans for next year

The Center for Business Growth and Innovation (CBGI) continues to play a prominent role in building and supporting the entrepreneurial ecosystem throughout Iowa. CBGI programs and services target an array of entrepreneurs who are in the earliest stages of idea development through their exit. Existing services such as Iowa Sourcelink will continue to be enhanced to provide access to training and development resources. The Business Concierge program will be expanded to provide greater access to business intelligence and deepen student involvement in the research for Iowa companies. Dream Big Grow Here has had a storied and successful history for the past ten years in Iowa. CBGI plans to sunset the Dream Big Grow Here platform in FY20 and move many of the consulting and business coaching services into IASourcelink.

The Family Business Forum will expand and continue to support families and their business interests. Due to the interest from the family business programming, CBGI is planning to create an Iowa Family Business Center. The new center will generate family business specific content, consulting services, and programming. The programming will include next generation leadership development, a family business boot camp, and annual celebration of Iowa family businesses. Succession Iowa is a new program launch that aims to thwart the trend of business closures (especially in rural communities) by ascertaining the value of smaller businesses and connecting sellers to prospective buyers. Finally, Authorized to Innovate is a program that will introduce innovation as a key differentiator for small businesses.

3) Regional Development - Institute for Decision Making

Description of the project

IDM will continue to participate in the Business Expansion and Strategic Trends (BEST) of Iowa program. IDM will assist the BEST of Iowa Management Team to develop a statewide report documenting the Synchronist existing industry survey results for Iowa companies within the Battelle-recommended clusters. IDM will assist the BEST of Iowa Management Team in developing a statewide survey results template tool for local economic developers and regions to utilize in comparing their existing industry data with statewide data. IDM will also continue to assist BEST of Iowa with enhancing the data collection and analysis process. IDM will support regional targeting, marketing, organizational management, and planning efforts as requested. The regional entrepreneurial community projects were completed in the six regions in Iowa through the U.S. Economic Development Administration (EDA) University Center project and IDM will continue to assist the six regional efforts where feasible. IDM recently received a new five-year EDA University Center grant application and launched a regional business retention and expansion effort focusing on helping businesses enhance their innovation and helping economic development organizations enhance their BRE programming for those businesses. IDM will continue to assist the Iowa Department of Education, Iowa Workforce Development, and the Sector Partnership Leadership Council to support the regional sector partnerships around the state.

What results have been achieved in the past year?

IDM assisted the BEST of Iowa management team with the in-depth analysis of the Synchronist existing industry survey data and developed an annual report and executive summary document based on the analysis results. The analysis was of 726 company interviews completed across Iowa. IDM also developed for BEST of Iowa a Local Reporting Template tool enabling economic developers to benchmark their community's and region's Synchronist data with statewide data.

During the past fiscal year IDM wrapped up its work on its first EDA University Center grant, which focused on supporting collaborative regional entrepreneurial development projects in six regions in Iowa. Over the life of the six regional projects, local economic developers estimated 100 businesses were created or expanded creating 200 additional jobs. IDM was able to assist in building stronger connections and collaborations between the local and regional economic development organizations and the entrepreneurial development service providers in their region and those serving the entire state. IDM then launched its second EDA University Center project for the development of regional Business Retention and Expansion through Innovation (BREI) strategy designed to foster innovation and technology utilization, innovative practices, and research and development within targeted businesses within the region and to begin the establishment of an Intrapreneurship Resource Network (IRN) of university and community

college service providers contributing research and development, prototyping, and technical services within the industry clusters.

Examples of projects

IDM worked with a variety of state and regional partners to plan, organize and hold the Future Ready Cedar Valley Summit in November, 2018 that focused on addressing workforce. IDM's lead partners were UNI's Office of the Provost, Iowa Workforce Development, Hawkeye Community College, Waterloo Community Schools, Cedar Falls Community Schools, Central Rivers Area Education Agency, City of Waterloo, City of Cedar Falls and Grow Cedar Valley. The Summit was attended by over 300 individuals from the Cedar Valley Region representing employers, education, workforce and training providers, economic development organizations, and other nonprofits. The Summit focused on six workforce challenge areas that the Cedar Valley Region is facing, such as retaining and attracting talent, barriers that individuals face that prevent them from securing employment and how to upskill the region's current workforce.

IDM, in partnership with Strategic Marketing Services (SMS), assisted the BEST of Iowa Management Team (Iowa Economic Development Authority, MidAmerican Energy, Black Hills Energy, Alliant Energy, and the Iowa Area Development Group) analyze data from interviews completed with Iowa companies which are in one of the 12 distinct industry clusters driving Iowa's economy or were identified as major employers by the BEST of Iowa Management Team. The interview data was collected by economic development organizations across Iowa. The findings were used in evaluating and revising the economic development assistance provided to Iowa companies by the State of Iowa, the utilities, and economic development organizations around Iowa.

Plans for next year

IDM will continue to participate in the Business Expansion and Strategic Trends (BEST) of Iowa program. IDM will assist the BEST of Iowa Management Team in developing a statewide report documenting the Synchronist existing industry survey results for Iowa companies within the Battelle clusters. IDM will update the Local Reporting Template tool for local economic developers and regions to utilize in comparing their existing industry data with statewide data. IDM will also be developing training for local economic developers designed to increase their capacity to utilize Synchronist and to use the results from their local and regional company interviews in their business retention and expansion efforts. IDM will also continue to assist BEST of Iowa with enhancing the data collection and analysis process.

IDM will continue its efforts under the EDA University Center project through its ongoing development and testing of the Business Retention and Expansion through Innovation (BREI) strategy with the Cedar Valley region. IDM will also be working with the Intrapreneurship Resource Network (IRN) of university and community college service providers contributing research and development, prototyping and technical services within the industry clusters.

IDM will support the economic development regions as requested with regional targeting, marketing, organizational management, and planning efforts. IDM will continue to assist with the statewide efforts of the Iowa Department of Education, Iowa Workforce Development, and the Sector Partnership Leadership Council to support the regional sector partnerships around the state.

4) Competitive and Market Intelligence

Description of the project

Strategic Marketing Services (SMS) develops and manages a competitive and market intelligence program for small- to mid-sized Iowa companies and organizations. The purpose of devoting investments to competitive and market intelligence projects is to foster economic growth across Iowa by stimulating business expansion opportunities. Accurate information is needed to make sound market entry or expansion decisions. Gathering and analyzing information to make sound business decisions is what SMS provides. Established businesses are required to pay at least one-half of their project cost with a match from RIF funds. SMS assists a minimum of 12 Iowa companies per year with either advanced market research projects or tailored consulting services. Priority is given to businesses in the state's target industry clusters.

What results have been achieved in the past year?

A total of six projects were completed during FY19 for four companies. Strategic Marketing Services (SMS) assisted the Cedar Valley Regional Food & Farm Network (CVRFFN) Awareness Committee in identifying entities in a six-county region around the Cedar Valley that are producers, providers, or promoters of locally grown food through a combination of secondary market research and brief telephone interviews. A two-phased project for ICE Technologies involved identifying potential attractive target markets through secondary market research and analyzing the most attractive target markets through primary market research efforts. In addition, SMS assisted United Equipment Accessories with a similar two-phased project focused on conducting a comprehensive new market assessment using secondary research to collect broad market information and primary research to survey potential end-users and distributors. Finally, SMS assisted Waverly Utilities with developing and administering the third consecutive voice of the customer study designed to monitor customer feedback.

Additionally, SMS provided nine consultations to Iowa-based businesses. They included GNC Bank, Metal Craft, Cedar Falls Utilities, City of Cedar Falls Channel 15, Dalton Plumbing and Heating, Action Plus, Waterloo Industrial Development Association, Mortensen Construction and LED Save.

Examples of projects

ICE Technologies, based in Pella, sought out assistance from SMS in analyzing potential target markets. Phase 1 of the project utilized secondary market research to characterize 10 potential new target markets with an eye toward identifying market penetration and development opportunities among attractive segments. Phase 2 involved selecting the top four attractive industries and conducting a total of 36 in-depth interviews (8-10 among each of the identified industries) to understand current frustrations/challenges with IT, budgets, business issues, effective messaging approaches, and key buying levers. The final deliverable included a written report characterizing all secondary research, interviews, and comparing and contrasting the industry, size, and geographic data. ICE Technologies used the research findings to provide strategic insights into growing relationships with customers and prospects and to aid in establishing messaging that will resonate with prospective clients in selected new target markets.

SMS assisted United Equipment Accessories (UEA), based in Waverly, with a comprehensive assessment of a new market, utilizing both secondary and primary research methods. Secondary research efforts focused on collecting broad-reaching industry trends and compiling competitor profiles covering annual sales, number of employees, specific applications or products manufactured, warranty specifications, etc. During phase 2, SMS conducted telephone interviews with potential end-users and distributors to understand the market for the new product within the United States and Canada. At the completion of the research, SMS delivered a written report characterizing the aggregate data, comparing and contrasting the segment data, and presenting key findings and recommendations. Based on the research findings, UEA will use the information to determine if market entry is a viable business decision.

Plans for next year

SMS will continue to consult with and provide market research services for Iowa businesses, public/private partnerships, utilities, economic development organizations, non-profit organizations, statewide associations, and government entities as SMS leverages RIF dollars to strengthen Iowa's economy. SMS plans to assist a minimum of 12 Iowa companies with advanced market research project studies or tailored consulting services. Iowa businesses will be eligible to receive a discount of up to 50 percent of the project, but not to exceed \$10,000.