

Economic Development Committee Memorandum
Board of Regents, State of Iowa

Subject: Regent Universities Economic Development Activities

Prepared by: Anthony Girardi *ASN*

Date Submitted: July 21, 2004

Recommended Action:

Receive the reports from each of the Regent universities.

Executive Summary:

Representatives of the Regent universities will provide updates of the universities' economic development activities. Outlines of presentations from each of the universities are attached as follows:

- Attachment A: ISU
 - Attachment B: SUI
 - Attachment C: UNI
-

ISU's Program in Innovation: A Roadmap for University Involvement in Economic Development

Jim Bloedel
Iowa State University

Initiation of the Technology Transfer Process: Development of Intellectual Property

- Sponsored Programs: New record in sponsored funding - \$274,000,000.
- One of top ten programs in the country related to the number of licenses and options executed per year.
- Special awards for entrepreneurial faculty.
- Internally funded research program focused on intellectual property (IP) development.
- Second only to MIT in the number of R&D 100 Awards received by faculty.

A System for Innovation

- The Research Park: Continued success in the development of new companies.
- Company assistance programs – Institute for Physical Research and Technology (IPRT), Pappajohn Centers, Center for Industrial Research and Service (CIRAS).
- ISU incubators – Research Park, Carver Co-Lab, Center for Crop Utilization Research.
- Facilities for scale-up research.
- Industry Relations Office: Several initiatives, including the organization of Biotech Mixers throughout the State.
- Economic development programs: 2nd Annual Workshop on Economic Development. Held at ISU. Over 100 registered participants this year, including at least one individual from Sioux City.

Economic Development Events – Focus on the Siouxland

- Biotech Mixer III, March 27, 2003 (ISU Office of Industrial Relations): 40 participants representing 21 companies and 3 organizations (hosted by TransOva).
- Economic Development Educational Workshop, May 14, 2003 (ISU Office of Industrial Relations together with IDED): 25 participants (Sioux City).
- Four meetings regarding the utilization of co-products of ethanol production (ISU Extension): over 350 participants.
- Annual Midstates Community Economic Development Conference, each March in Sioux. City Area (initiated by ISU Extension, collaboration with 14 other organizations): Over 200 local elected officials, key leaders, economic developers each year.

Assistance to Local Government and Community Organizations – Siouxland Focus

- Northwest Iowa Beef Heifer Value Added Program (Extension): Developed 1,221 head of heifers during the last five years, resulting in three private beef heifer development programs.
- Head Start Programs (Extension): worked with 22 Head Start programs in Northwest Iowa, delivering preschool experience to 326 children

- Wind and odor study to plan for Wells Blue Bunny Corporate Headquarters location (Extension)
- Sioux City Community School District – After School Initiative, institutional analysis, workshop support (Extension, College of Education)
- Participate in programs at three Research/Demonstration Farms (Newell, Sutherland and Doon, Castana)
- Sioux City Traffic System Evaluation (Center for Transportation Research and Education (CTRE))
- Sioux City Waste Water Investigations (Civil, Construction & Environmental Engineering)
- Sioux City Golf Course – turf research (Horticulture)
- Sioux City Main Street program (College of Design)

Assistance to Companies – Siouxland focus

- ISU worked with 51 companies in 14 (of the 15) counties in Northwest Iowa during the last five years (IPRT, Iowa Manufacturing Extension Partnership (IMEP), CIRAS, Extension).
- During the past six years the Small Business Development Center (ISU via Western Iowa Tech Community College in Sioux City) served an average of over 200 clients with about 1,000 hours of assistance p/a. An average of 18 workshops attracted about 150 attendees p/a. The annual budget for this assistance was approximately \$78,000.
- IPRT assisted 28 companies in the six counties surrounding Sioux City during the past five years.
- IMEP clients in Woodbury County reported, on the average, a \$77,000 in sales increase, \$92,000 in cost reduction/savings, \$103,000 in bottom line impact, and \$69,000 in new investments as consequence of ISU assistance.

Efforts to Improve the Innovation System:

- Increased efforts to increase disclosures.
- Efforts to facilitate the handling of complex IP issues for new companies.
- Increased efforts to publicize ISU technologies to Iowa companies.
- Working to acquire external funding to enhance the university's role in rural economic development.
- Exploring models for commercializing university IP.

Some Success Stories

Selected IPRT Interactions—Sioux City Area

Kind & Knox Gelatine, Inc. (Now Gelita USA, Inc)— Sioux City

With the assistance of a no-cost technical assistance project from IPRT, Kind and Knox Gelatine, Inc. found the solution to a problem that has given them the inside track on winning a contract with a new customer. “This proactive approach has improved the image of our

company in the eyes of the customer and given us an increase in sales potential of at least \$1.3 million per year,” said Tom Keenan, director of the Photographic Division at Kind and Knox.

Keenan requested help when they found that the gelatin they process for use in photographic films contained minute quantities of microscopic contaminants. “Gelatin is an indispensable component in photographic products and, for this particular customer’s use, even microscopic particles in the gelatin can cause film defects,” said Keenan. He contacted IPRT and was matched with ISU’s Materials Analysis Research Lab, which has the capability to determine chemical composition of particles as small as a micron. With this analysis, the source of the particles was determined, enabling Kind and Knox to take action to eliminate the problem.

Soil Solutions — Holstein

Many soils in the Missouri River bottom of eastern Nebraska and western Iowa contain high amounts of magnesium. cursory and detailed observations indicate these soils have poor internal drainage and slow infiltration rates that impede timely farming operations. Applications of gypsum have improved these soils by making them more friable and increasing the infiltration rates. Precise gypsum application rates to improve these soils may vary among soil types and magnesium contents. This IPRT/ICAP project evaluated the Gypsum Requirement Test as a means of measuring the amount of gypsum required for the purpose of soil improvement. Soil Solutions, LLC of Holstein, IA markets processed gypsum for an international processor and marketer of agricultural commodities. Since this project has just concluded, a project evaluation will not be undertaken until Fall 2004.

Hugg Transport—Westside (A joint effort of the Iowa Company Assistance Program (ICAP) and CIRAS)

About two years ago the owner-operator of an independent trucking firm (Hugg Transport) had an idea for a portable winch. Through his local Extension Director, he was directed to ISU’s CIRAS and ICAP programs where he found the technical assistance he needed to build his Porta Winch.

The company approached CIRAS to research and test their product idea. CIRAS contacted IPRT’s Iowa Companies Assistance Program for materials assistance, who added a faculty member in Aerospace Engineering and Engineering Mechanics to the team. Load testing, materials selection, weld concerns, and design issues were part of the iterative process that ended in the successful manufacturing of the Porta Winch.

The new company, Hugg Manufacturing, now produces a “go anywhere” tie-down winch that can be installed in any stake pocket of a trailer’s flatbed or step deck, and the company’s \$55,000 investment is expected to yield annual sales of \$200,000. Most recently, the company has come back to CIRAS to assess how the winch can be adapted for use on aluminum trailers.

Selected IMEP / CIRAS Interactions – Siouxland Area

Names Limited Equipment Engineering

When Names Limited, a Sioux City based company, needed help in expanding their business and redesigning custom built stenciling equipment, they contacted Iowa State University’s CIRAS and IMEP programs. As a result of the engineering and technical work provided, Names Limited added an additional stenciling machine that provided an opportunity to

increase sales by approximately 35%, moving the company from a regional market to a national market.

Nutra-Flo Company

Nutra-Flo, a Sioux City based company that produces Crop Nutrients, was disposing a high volume of waste materials on a regular basis. In an effort to reduce costs, they contacted IMEP requesting an assessment of their situation and possible solutions. As a result of a walk-through, analysis and recommendations, Nutra Flow was able to immediately put into place procedures and processes to save \$40,000 annually that will be an ongoing saving into the future.

Bil Mar Foods

Bil Mar Foods, a division of Sara Lee Corporation proposed a Turkey Finishing Program for local farmers in a 25-mile radius of Storm Lake, Iowa. Each finishing site requires an investment of \$800,000 to \$1,500,000 by the local producer. Sample contracts and projected cash flows were prepared by the company. ISU Extension was called upon to provide financial analysis, with interactive spreadsheets considering individualized details not projected by Bil Mar, for the 10 to 20 year life of the contract. These details include post-tax projected rates of return, effects of financing terms and inflation, and evaluation of waste streams. Now in this economic project's final phase, these spreadsheets are being used by several prospective producers.

University of Iowa
Economic Development and Technology Transfer (ED&TT)
Activities

Sioux City Board of Regents Meeting
August 3, 2004

William F. Decker
Interim Vice President for Research

I. A Comprehensive Approach to ED&TT

In this portion of the presentation, we will very briefly describe a comprehensive approach to providing effective ED&TT services. The rest of the presentation will then consider this approach in two regards:

- A. *As a context for considering results*
- B. *As a context for change and process improvement*

II. ED&TT Results

For each of the activities making up the comprehensive approach to ED&TT described above, we will present measures of recent results.

A. *Research*

We will report our grant and contract productivity for FY2004 and will describe some of the potential represented by that productivity.

- 1. \$334M in grants and contracts in FY04, including \$268.5 specifically for research activity
- 2. Continuing strength in support from DHHS and in faculty leadership in important bioscience areas

B. *Intellectual property*

We will present the most recent data available on invention disclosures, patent applications, and patents.

- 1. FY2002 disclosures – 88
- 2. FY2002 patent applications – 77
- 3. FY2002 patents issued – 30

C. *Licensing and commercialization*

Our most recent patent licensing and option results will be presented.

- 1. FY2002 licenses and options – 37
- 2. Total UIRF staff – 5.8 FTE
- 3. FY2004 licensing revenue exceeded \$10M, a new record

D. *New business incubation and support*

Activity within our Technology Innovation Center and Oakdale Research Park will be reported.

- 1. As FY 2003 ended, 35 companies were affiliates of the Oakdale Research Park or Technology Innovation Center business incubator. Those companies, along with the four Oakdale-sited anchor laboratories, reported 1,439 total employees including 113 UI students (post-graduate fellows, graduate students,

undergraduates). The 1,439 employees live in 60 cities and towns in 20 counties in the State of Iowa.

2. UI biotech spin-off company Integrated DNA Technologies retained its standing as the largest graduate of the TIC business incubator and the largest biotech company in Iowa. Founded by former UI biochemistry professor Joseph A. Walder, Integrated DNA is expanding its research and production facility in Coralville. Currently employing nearly 380, Integrated DNA is one of the world's leading suppliers of custom oligonucleotides and a developer of innovative new biological products. Integrated DNA has now located its Information Systems Division on the Oakdale Research Park.
3. Honors – In FY 2003 ORP company Pearson Government Solutions earned an economic development award from the Iowa City Area Chamber of Commerce, becoming the seventh TIC or ORP affiliate firm to be so honored.

E. Workforce development and education

In addition to data regarding our successful entrepreneurial training programs, we will present information about certain workforce development and retention efforts in which we are engaged.

1. During the 2003-2004 academic year, JPEC and the UI SBDC:
 - a) Saw 400 clients, 68% of which were startups
 - b) Dedicated over 4,000 hours to those clients
 - c) Offered 16 workshops for 450 attendees
 - d) Receives 10 inquiries per day (including current clients) from entrepreneurs and startups
 - e) Provided services to 50 early-state technology startups, about 25 of which are active at any given time
2. Consider Iowa Forums & Iowa Road Trips
 - a) Fall 2003 – Consider Iowa Forum (focused on biotechnology) – 29 students. Panel of local industry representatives from both the private and public sector.
 - b) Spring 2004 –Toured Kemin Foods, L.C. and Science Center of Iowa – 30 students.
 - c) Spring 2005 – Industry Forum will be held at Indian Hills Community College. Focus will be on biotechnology. Anticipate 30 to 35 students. Tours of Indian Hills Bioprocess Training Center and the Iowa Bioprocessing Center in Eddyville, Iowa (Cargill, Wacker Biochem Corp., Ajinomoto and others). Students will then go on to Des Moines and tour Kemin Industries and the Iowa Science Center.
 - d) Summer 2005 – 30-35 Students will participate in a presentation and tour of Fort Dodge Animal Health followed the next day by an industry panel at the Northwest Iowa Community College in Sheldon, Iowa. Panel representatives will be from Northwest companies. Students will then travel to Sioux Center and tour Trans Ova.
3. Kirkwood Workforce Learning Connections
 - a) April 2004 – Emerging Career Day at The University of Iowa – One day program encouraging high school students to visit emerging Iowa companies, such as UI spin-offs IDT and Breakthrough to Literacy, as well as NADS and the Hygienic Lab. Approximately 30 juniors and seniors participated in the program.
 - b) April 2005 – Entrepreneurial Day – Students will hear from local entrepreneurs. We anticipated 30 students will participate.

F. *Community support*

Here we will highlight work we are doing in terms of outreach to various parts of Iowa, our participation with various boards and development groups, and work related to business relocations and recruitments.

1. Statewide corporate outreach – 145 site visits since FY01, 239 individuals.
2. 42 corporate campus visits since FY01, involving 553 individuals. Many of these visits were initiated by the Iowa Department of Economic Development or were the result of interactions with various Iowa communities and regional economic development groups. Several visits have led or are leading to new business opportunities or to business revitalizations. In other cases, UI services or students are connected to the businesses.
3. Office of Corporate Partnerships also serves on the advisory board of IDED's Human Resource Recruitment Consortium. HRRC's is a private and public consortium to help recruit Iowa Alumni back to the state and increase the number of skilled workers in Iowa. Over the past four years, OCP staff have participated in a number of the Governor's Alumni Receptions.
4. UI staff members serve on the IDED Board of Directors and the Boards of Directors of the Iowa City Area Development Group and Priority One in Cedar Rapids.
5. Quality of life issues:
 - a) Year of the Arts and Humanities, Arts Share
 - b) Dental education, care, and services
 - c) Medical education, care, and services
 - d) Nursing satellite programs

III. Improving University of Iowa ED&TT Support

A. *Analysis of our capabilities*

A significant part of early 2004 has been spent analyzing and studying our approaches to ED&TT. We will share some of our findings and observations.

B. *Strategic planning*

Drawing on our analysis and study, we are developing a strategic plan for ED&TT. We will highlight some of the elements of the plan and describe the formation of an Economic Development Coordination Group.

C. *Formation of a Biomedical Ventures Consulting Group*

We intend to take a more proactive approach with regard to technology transfer and commercialization and will describe the model we intend to use and an early implementation of the model.

D. *Integration of Battelle report outcomes*

We can comment briefly on relationships between the Battelle report and our strategic plans.

E. *Facilities*

The relationship of the UI Values Fund projects to our plans can be described.

F. *Collaboration*

Examples of a few UI/ISU/UNI collaborations will be described.

Business and Community Services

"An Integrated Approach"

Sioux City Board of Regents Meeting
August 3, 2004

Randy Pilkington, Director
Business and Community Services
Institute for Decision Making
John Pappajohn Entrepreneurial Center

Highlights of UNI Outreach Programs

Economic Development Contributions

- **4,000 Business Clients – Solving Business Problems**
 - **800 New Clients in FY 2004**
- **50 New Community Partners Assisted in Local Development Efforts**
- **225 Environmental On-site Reviews in FY 2004**
- **250 Training Workshops in FY 2004**
- **90 Faculty and 900 Students Participated in Outreach Activities**
- **Active Projects in All 99 Counties**

BCS Clients by County – Map (Shaded Counties in Northwest Iowa)

UNI Strengths and Contributions

- **Equity Funds**
 - **RAIN Support - CVVF**
 - **Inventory of Funds – Working Group**
 - **Assistance to Other Potential Angel Groups**
- **Market Research and Analysis**
 - **SMS – Market Research Projects**
 - **Increased Sales and Jobs**
 - **Student Experiential Learning**
- **Incubation**
 - **RBC in Downtown Waterloo**
 - **Rural Program – MyEntreNet**
 - **20 Starts**
 - **18 Expansions**
 - **120 FTEs**

- **Environmental Assistance**
 - **Iowa Waste Reduction Center**
 - 2200 On-site Reviews
 - All 99 Counties Served
 - Technical Assistance – Waste Reduction
 - New Environmental Technologies for Small Business
 - Strong Presence in Northwest Iowa – 277 Clients
- **Local Economic Development**
 - Innovative Services
 - Laborsheds
 - Cluster Analysis
 - Economic Impact
 - Partner with Area Communities – Counties
 - Long-term Relationship with Siouxland Area
- **New Iowans - Immigrants and Refugees**
 - Local Employer Training
 - Immigrant Training
 - Health Providers Training
 - Numerous Workshops in Northwest Iowa
- **Ag Based Industrial Lubricants**
 - National Leader in Crop-based Lubricant Development
 - Commercialization – ELM (spin-off business)
 - Transition to “National” Center

UNI Strengths - Our Approach

- **Active Partnerships**
 - Community Leaders
 - Local Development Groups
 - Businesses
- **Faculty and Student Involvement**
- **Collaboration**
 - State Agencies, Regents, Community Colleges

Areas for Improvement

- **Commercialization**
 - **Technical Assistance for Faculty Entrepreneurs**
 - **Changing University Culture Toward Tech Transfer**
 - **Increase Faculty Engagement**
 - **UNI Research Foundation – Seed Investments**
 - **Intellectual Properties Staffing**
- **Defining a Clear Role in Biosciences**
 - **Support of Battelle Process**
 - **National ABIL Testing Center**
- **Support for Faculty Research**
 - **Competitive Grant Funding**
 - **Incentives/Rewards**

Summary

- **Projects/Programs in all 99 Counties**
- **All Programs are Focused on Needs of Client**
- **Active Collaboration with Regents, Community Colleges and State Agencies.**