

Contact: Ann McCarthy

**ANNUAL ECONOMIC DEVELOPMENT AND TECHNOLOGY TRANSFER REPORT**

**Actions Requested:** Consider recommending the following to the Board:

- 1) Receive the report.
- 2) Direct that this report and copies of complete institutional reports be forwarded to the Secretary of Senate, the Chief Clerk of the House of Representatives, the Legislative Services Agency, and the Office of the Governor and the current Iowa Economic Development Authority pursuant to Iowa Code Chapters 262B.3, 2013 Acts Chapter 141.53 (HF 604), 2012 Acts Chapter 1136.17 (HF 2337), HF 809 (2005 Session) and HF 2459 (2006 Session).

**Executive Summary:**

The Regent universities promote the economy of Iowa most notably by providing higher education to the people of the state. The universities make a significant contribution to the Iowa economy by conducting academic research that results in intellectual property and applications available to the marketplace and by providing expertise and assistance directly to Iowa's people, industry and communities. The University of Iowa (SUI), Iowa State University (ISU) and the University of Northern Iowa (UNI) thus support the economy of Iowa primarily through their core missions, and their economic contributions to the state are fundamentally linked to their overall academic excellence.

This core mission was supported by \$791.7 million in funding sponsored by federal and corporate sources in FY 2013. This funding provided the basis on which the Regent universities conducted a wide variety of economic development programs that produced the following results in the past year:

- 206 new intellectual property disclosures
- 185 patent applications
- 100 new patents awarded
- 110 new license and option agreements on intellectual property
- 274 total license and option agreements yielding income
- \$49.58 million in revenue generated by Iowa companies as a direct result of university technologies
- 2,846 Iowans employed at 134 companies at the SUI, ISU and UNI research parks and incubators

State funding for ongoing economic development programs at the universities has increased by 5.3% since FY 2013. Regent Innovation Fund appropriations to the universities in FY 2013 were funded at \$3.0 million.

**Selected FY 2013 Economic Development and Technology Transfer Highlights**

**University of Iowa:**

- The University of Iowa Research Foundation (UIRF) executed three option and license agreements to startups based on UI intellectual property in FY 2013. In the past six years, UIRF has executed a total of 31 licenses and options with 21 startups based on UI technologies. Of those 21 companies, 19 are still in operation. Over the last two years, the UIRF has improved efforts to increase the rate of technology disclosures; over this two year period, the UIRF received 200 disclosures compared to the prior three year total of 208.
- Forty-eight student businesses were under development through the John Pappajohn Entrepreneurial Center's (JPEC) student incubator program housed at the Bedell Entrepreneurship

Learning Laboratory.

- Tutor Universe is a social networking-based market for online tutoring services. It was formed out of the Bedell Entrepreneurship Learning Laboratory in 2011 by UI graduate students in Computer Science, Thomas Hornbeck and Hung Tran. The company has raised in excess of \$500,000 in investment and was named the UI Student Startup of the Year at the inaugural Hawkeye Innovation Summit in FY 2013.
- TranslaCare is a UI student startup that has recently been awarded \$100,000 from the Iowa Economic Development Authority. Ryan Ries, a UI Neurobiology and Linguistics major, started the company in 2011 from the Bedell Entrepreneurship Learning Laboratory. TranslaCare is developing a software application for individuals with speech disabilities; the company plans to begin beta testing during the fall of 2013 with a product release scheduled for 2014.
- The John Pappajohn Entrepreneurial Center (JPEC) delivers campus-wide and online undergraduate entrepreneurial education and technology innovation coursework in the MBA program. In FY 2013, there were 3,738 total student enrollments in 145 sections of courses and 323 students graduated from one of the Certificate or BBA programs offered by JPEC. In addition, the Jacobson Institute for Youth Entrepreneurship offered comprehensive program that enriches K-12 students' lives through classroom and practical educational experiences. During FY 2013, the Jacobson Institute impacted 3,252 youth and worked with 387 high school teachers in Iowa who are using the Institute's YouthBiz Central online curriculum. In addition, 145 youth participated in summer camps held across Iowa.
- The 47 UI Research Park (UIRP) companies and affiliated labs report 1,707 employees. Two new companies located at the University of Iowa Research Park added over 160 jobs to the region:
  - MediRevv, a revenue cycle management company, opened their new facility on the research park in August 2012. MediRevv currently employees approximately 130 people. Plans are underway to expand their presence at the park by building an addition to their current facility in FY 2014.
  - Leepfrog Technologies, a custom computer software development company for higher learning, located at the park in FY 2013. The company currently employs 32 people.
- The University of Iowa and Kirkwood Community College announced a joint partnership to build a regional STEM education center on the UI Research Park. The center will focus on enhancing technical education and examining new models to stimulate additional student interest in STEM careers and four-year degrees. The location will provide students unique learning opportunities to interact with the State Hygienic Laboratory and other technology companies and UI research facilities located there. It is scheduled to open in fall 2015.

**Iowa State University:**

- The ISU Research Park continues to be successful in initiating as well as nurturing numerous new businesses. Three new companies and affiliates joined the park in FY13, bringing the historical total to 221 companies, research centers, and affiliates. Currently, there are 53 companies and research centers and 14 affiliates located in the park, employing 1,240 and 139 people, respectively.
- During the period FY 2006-2013, IPRT had more than 700 interactions with Iowa companies covering 71 of Iowa's 99 counties. IPRT Company Assistance had a positive cumulative impact exceeding \$100 million over the five years between FY 2008-2012.

- In FY 2013, 1,613, businesses from 97 counties in the state received assistance on projects or attended educational workshops from ISU Extension and Outreach's Center for Industrial Research and Service staff or partners. Companies responding to surveys reported \$35 million in new investments, \$21 million in costs saved or avoided, and \$389 million in sales gained or retained. Company executives stated that 5,638 jobs were added or retained as a result of the assistance they received from CIRAS and partners.
- In FY 2013, more than 6,000 middle and high school students attended ISU Extension and Outreach's Project Lead the Way courses at 200 sites across the state. The College of Engineering also supported more than 4,000 youth participants as part of FIRST LEGO League, and hosted nearly 800 youth in engineering summer kids' camps.
- Statewide Small Business Development Centers (SBDCs) provided business assistance to individuals and companies totaling 2,646 clients and 11,018 counseling hours. The SBDC also conducted 221 training workshops in which 3,483 individuals participated.

The ISU SBDC, along with the ISU Pappajohn Center for Entrepreneurship, provided 546 hours of counseling assistance to startup and existing companies; served 117 clients with one-on-one counseling; educated 433 attendees through workshops; provided advice to several hundred clients via telephone and e-mail; and advised 32 technology companies in the areas of licensing, equity-based financing, market entry, and numerous operational areas.

#### **University of Northern Iowa:**

- UNI provided service in all 99 counties to nearly 1,273 unique business, community and local government clients; another 12,800 individuals were engaged in the MyEntre.Net/IASourceLink entrepreneurial support system. The delivery of these services involved 212 faculty members and nearly 2,000 students.
- Twenty student businesses were tenants in the John Pappajohn Entrepreneurial Center's (JPEC) R.J. McElroy Student Business Incubator and 50 additional student entrepreneurs were assisted by the affiliate program. One of the UNI John Pappajohn Center's student incubator tenants was selected as National Student Entrepreneur of the Year by the Collegiate Entrepreneurs Organization. In addition, 171 K-12 students and 23 teachers were served in FY 2013 with JPEC outreach presentations, workshops and camps.
- UNI leveraged each \$1 invested by the state with \$5 in private grants, fees or federal funding.
- UNI's two incubator/accelerators programs and MyEntre.Net helped start or expand 221 business ventures creating 430 FTE jobs. MyEntre.Net provided on-demand business and market information to 302 businesses through its new Business Concierge service; another 183 clients were served by the UNI SBDC.
- UNI completed the pilot year of Advance Iowa, the state's certified economic gardening center, by providing job growth assistance to 12 second-stage Iowa companies.

### **Engagement**

Many organizational units at the Regent universities are engaged with Iowa's people, industry and communities for the promotion of the state's economic development. Key economic development efforts include: research, intellectual property development and technology transfer, business incubation and acceleration, direct technical assistance to local and regional economic development groups, technical assistance and counseling to businesses, market research for Iowa companies and attracting and retaining businesses in the state. These activities are also highly coordinated with the economic development efforts of the Governor, the Iowa General Assembly, the Iowa Innovation Corporation and state agencies including the Iowa Economic Development Authority.

### **State Funding for Economic Development and Technology Transfer**

State funding in FY2013 was provided in two primary economic development program areas:

#### **1. Ongoing Economic Development and Technology Transfer Programs: FY 2013 \$3.21 million**

In FY 2013, the state provided \$3.21 million for several ongoing programs which include the research parks at SUI and ISU, the Institute for Physical Research and Technology, the Small Business Development Centers, the Institute for Decision Making, the Metal Casting Center and the Center for Advanced Drug Development. For FY 2013, state support for these programs remained level funded at \$3.21 million. This is an increase of 5.3% compared to the FY 2003 appropriation.

#### **2. Regents Innovation Fund (RIF – previously the Grow Iowa Values Fund): FY 2013 \$3.0 million**

In FY 2005, the General Assembly authorized a ten-year annual appropriation under the Grow Iowa Values Fund to the Regents universities for purposes of supporting the human and physical infrastructure needed to effectively develop and transfer technology discoveries and to fund development projects involving existing companies and start ups. In FY 2013, the General Assembly renamed the funding stream the Regents Innovation Fund (RIF).

Many of the RIF-funded projects involve multi-year research and development efforts with private companies. A number of projects funded in earlier years are now being completed and are demonstrating a significant impact on job and wealth creation.

For FY 2013, the General Assembly approved \$3.0 million in RIF funding. The universities and companies involved in RIF projects have identified matching funds for the projects.

Examples of projects included:

- Higher Learning Technologies (HLT) received RIF/GIVF funding from the University of Iowa. HLT specializes in customized test preparation and educational software. This year HLT was a winner in the Business Model Competition and received three awards in the Silicon Prairie Awards, the most out of any company. They received the "New Startup of the Year", "Mobile App of the Year", and "Innovation of the Year" awards. HLT has raised \$235,000 so far and the company is talking with several investors to raise \$565,000 and hopes to close the investment round by the end of October, at which time the company will have raised just over \$600,000 to date. They were also awarded \$100,000 from the State of Iowa's Demonstration Fund in July. Since the launch of two apps in May, they have generated \$112,000 in sales in just over three months. A nursing app has ranked in the top 10 grossing educational apps in Apple's iStore and the #2 grossing education app in the

Google Play store. Both Apple and Google have over 100,000 educational apps available. By the end of the year, Higher Learning Technologies plans to launch 10 additional apps.

- Iowa State professor Eliot Winer has received funding to research and commercialize volume rendering of medical data on a mobile device. A prototype iOS application has been developed during the time of the project. This allows a user to load in a computed tomography (CT) or Magnetic Resonance Imaging (MRI) dataset and view it in interactive 3D. A user can fully manipulate the representation through rotation, translation, scaling, coloring, and displaying of different tissue densities (e.g., bone, fat-bone range, etc.). This was accomplished by making novel advancements in techniques for orthogonal texture slicing and memory bandwidth optimization. In addition, work was done on the user interface so that loading and accessing data would be as simple and intuitive as possible. The labeling of different modes (i.e., tissue types, coloring, etc.) and artwork were created by the company partner on the project. Bug testing by users revealed some inherent preferences for the user interface, some of which are currently being implemented. The company partner has begun working with the research code to “harden” it up for release which is planned, at this point, for late 2013 or early 2014.
- UNI Entrepreneurship Outreach is launching a statewide Economic Gardening (EG) program in Iowa to address a compelling need among smaller, locally-owned employer firms for actionable business intelligence and support. In FY 2013, a pilot program for Economic Gardening was launched as an advance effort for the statewide program. A Strategic Resource Team was certified and twelve economic development organizations from throughout Iowa were trained in EG and began referring Stage II business clients for services. Twelve companies were served with EG services and networked services formalized through the pilot. Ten Dream Big Grow Here contests were hosted in the fall of 2013. An additional four regional hosts were placed on a waiting list. The ten contests served entrepreneurs in 66 counties, attracted 225 contestants and generated 100,000 online votes and comments over a four week period. Regional winners will compete in a Pitch-Off event during EntreFest in 2013 in Cedar Rapids, Iowa. Work continues on scaling three MyEntre.Net resources. The Dream Big Grow Here technologies are fully scaled and two others are underway.

For FY 2014, the General Assembly approved an appropriation of \$3.0 million from a new fund created under Iowa Code 8.75. Each of the universities has developed a proposal for how it will direct a share of these appropriations in FY 2014. The \$3.0 million in funding will be matched on a one-to-one basis from a variety of sources including: private companies participating in projects, university matching funds, client and testing fees, and non-state research grants.

### **Full Reports Available**

The full annual reports from the universities are available at the Board of Regents website and will be provided to the General Assembly, the Governor’s Office, the Legislative Services Agency and the Iowa Economic Development Authority.

Indicators	FY 2011				FY 2012				FY 2013			
	ISU	SUI	UNI	Regents Totals	ISU	SUI	UNI	Regents Total	ISU	SUI	UNI	Regents Total
1. Number of disclosures of intellectual property	106	68	8	182	102	102	9	213	98	98	10	206
2. Number of patent applications filed	47	90	5	169	56	116	7	179	39	142	4	185
3. Number of patents awarded	25	43	3	75	16	59	2	77	24	74	2	100
4. Number of license and option agreements executed on institutional intellectual property in total	49	24	2	75	50	21	3	74	79	29	2	110
5. Number of license and option agreements executed on institutional intellectual property in Iowa	19	5	1	25	19	7	3	29	39	8	2	49
6. Number of license and option agreements yielding income	217	94	11	322	188	94	10	292	173	92	9	274
7. Revenue to Iowa companies as a result of licensed technology <sup>1</sup>	\$86 million	\$1.99 million	\$2.4 million	\$90.4 million	\$101 million	\$2.2 million	\$2.6 million	\$105.8 million	\$45 million	\$2.38 million	\$2.2 million	\$49.58 million
8. Number of startup companies formed, in total (through licensing activities)	2	3		5		2		2	2	8		10
9. Number of startup companies formed, in Iowa (through licensing activities)	2	3		5		2		2	1	8		9
10. Number of start up companies formed through UNI MyEntrenet/Incubator			61	61			73	73			78	78
11. Number of companies in research park/ incubators	57	41	23	121	59	41	24	124	53	47	28	128

\*corrected

numbers

Indicators	FY 2011				FY 2012				FY 2013			
	ISU	SUI	UNI	Regents Totals	ISU	SUI	UNI	Regents Total	ISU	SUI	UNI	Regents Total
12. Number of new companies in research parks and incubators	10	2	15	27	8	2	16	26	3	4	18	25
13. Number of employees in companies in research parks and incubators	846	1618	45	2509	838	1812	49	2699	1240	1707	64	3011
14. Royalties and license fee income	\$11.3 million	\$6.28 million	\$99,074	\$18.57 million	\$9.9 million	\$7.05 million	\$209,823	\$17.16 million	\$9.1 million	\$1.4 million	\$75,839	\$10.57 million
15. Total sponsored funding (\$ million)	\$342.3 million	\$456.5 million	\$43 million	\$841.8 million	\$360.2 million	\$438.1 million	\$43 million	\$841.3 million	\$326.4 million	\$424.1 million	\$41.2 million	\$791.7 million
16. Corporate-sponsored funding for research and economic development <sup>2</sup> in total (\$ million)	\$24.9 million	\$44.7 million	\$2.07 million	\$71.7 million	\$23.4 million	\$52.9 million	\$1.27 million	\$77.57 million	\$28.1 million	\$62 million	\$1.15 million	\$91.25 million
17. Corporate-sponsored funding for research and economic development <sup>2</sup> in Iowa (\$ million)	\$12 million	\$1.5 million	\$2.07 million	\$15.6 million	\$11 million	\$1.1 million	\$1.27 million	\$13.27 million	\$13 million	\$1.5 million	\$1.15 million	\$15.65 million

<sup>1</sup>Aggregate sales reported by Iowa companies of products and services based on licensed inventions.

<sup>2</sup>Excludes corporate philanthropy