

**Contact: Andy Baumert**

**2007 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 Director of the Iowa Department of Economic Development pursuant to Iowa Code Chapters 262B.3, HF 809 (2005 Session) and HF 2459 (2006 Session).

**Executive Summary:**

The Regents universities promote the economy of Iowa primarily by providing higher education to the people of the state. They also strengthen the Iowa economy by conducting academic research-most notably when it results in intellectual property and applications in the marketplace-and by providing expertise and assistance directly to Iowa's people, industry and communities. The Regent universities 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 \$683 million in funding sponsored by federal and corporate sources in FY 2007. 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:

- 227 new intellectual property disclosures
- 175 patent applications
- 152 new patents
- 149 new license and option agreements on intellectual property
- 430 total license and option agreements yielding income
- \$25.56 million in royalty and fee income
- \$89.06 million in revenue generated by Iowa companies as a direct result of university technologies
- 2,455 Iowans employed at 126 companies at the SUI, ISU and UNI research parks and incubators
- 9,584 businesses and individuals located in all 99 Iowa counties received technical services and training through the economic development and technology transfer programs at the three universities

**Engagement**

Many organizational units at the Regents 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 and state agencies including the Iowa Department of Economic Development.

The full annual reports from the universities are included in the Regents Exhibit Book and will be provided to the General Assembly, the Governor's Office, the Legislative Services Agency and the Iowa Department of Economic Development.

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

State funding in FY2007 was provided in three primary economic development program areas:

**1. Ongoing Economic Development and Technology Transfer Programs: \$3.108 million**

In FY 2007, the state provided \$3.108 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. Since FY 2001, state appropriations for these programs have declined from \$7.63 million to \$3.108 million. These programs were responsible for providing technical services and training to more than 9,500 individual businesses and communities in every county in Iowa in 2007.

**2. Grow Iowa Values Fund (GIVF): \$5,000,000**

In FY 2005, the General Assembly authorized an annual appropriation of \$5 million under the GIVF to the Regents universities for purposes of supporting the human and physical infrastructure needed to effectively develop and transfer technology discoveries. In August 2007, the Board of Regents approved the FY 2008 proposals by the universities to use the GIVF appropriation to strengthen the technology transfer capabilities at each campus and to fund development projects involving several existing companies and start ups. The universities and companies involved in the projects provided more than \$5 million in matching funds for the projects. Examples of projects included:

- A project partnering three ISU researchers and the BioProtection System Corporation to develop novel vaccines against pneumonic plague. Using recombinant proteins and nanotechnology, the group proposes to develop vaccines that can be used at lower doses and perhaps protect military forces and citizens from airborne pathogens with only a single dose.
- As many as eight new regions will be rolled out for participation in UNI's successful MyEntrenet program which already has more than 1,400 registered entrepreneurs across Iowa.
- New entrepreneurial faculty will be recruited by the University of Iowa who will be relocating or creating new companies in Iowa in the key biosciences area.
- New incubator space and upgrades of facilities will be developed at the SUI College of Pharmacy Center for Advanced Drug Development.
- UNI will open its new incubator for technology transfer and a new incubator for student businesses.
- A project partnering five ISU researchers and the POET Corporation to optimize the technique of converting corn to ethanol without gelatinizing the starch. The process is expected to dramatically improve the yield of ethanol from corn and produce a high value co-product protein suitable for making biodegradable plastics.

**Private College Grant Program**

Of the \$5 million in GIVF funding, \$200,000 was awarded by the Board of Regents to three independent universities and colleges for economic development and technology transfer projects.

Des Moines University received \$78,000 to conduct research designed to provide new methods for identifying mutations in the genetic material of pregnant women that increase their risk of delivering infants prematurely and to seek a commercial opportunity to disseminating the work.

Drake University received \$67,000 to enhance technology and product commercialization through DU's College of Pharmacy and Health Science's DELTA Rx Institute and the Drake Undergraduate Collaboration Institute.

Luther College received \$55,000 for a project to develop novel polymerization catalysts that will strengthen the viability of biodegradable polymers from Iowa crops.

3. Battelle Economic Development Appropriations: \$20,000,000

The Iowa General Assembly authorized \$20 million in FY 2007 funding to the Regents universities for economic development activities in three key platform areas of biosciences, advanced manufacturing and information technology. Of the total, \$5 million was designated to be used for endowed chairs and faculty salaries, \$6.8 million for related physical infrastructure and \$8.2 million for general support of projects in the key platform areas. The Board of Regents approved the universities' proposals in September of 2007. The universities provide regular progress reports on the Battelle-funded projects at Regents board meetings. No new Battelle funding has been provided by the Iowa legislature.

Nearly all of the projects include matching funding, either from businesses, the universities or federal agencies, even though matching funding for platform projects is not required by the legislation. The platform funding provided funding for 23 projects with research participation or investment by more than 40 companies and entrepreneurs to create new products and technology services. The aggregate amount of industry/university/federal matching funding for all three universities was \$49.5 million, resulting in a better than 5 to 1 matching ratio with the \$8.2 million in Battelle platform funding provided. The \$6.8 million of infrastructure proposals are highly integrated to supply key infrastructure support for the research and commercialization efforts proposed in the platform projects. The \$5 million in endowment and faculty salary funding will attract or retain several top quality faculty members whose research in the targeted platform areas has the highest potential for commercialization.

**Table 1: Intellectual Property, Technology Transfer, and External Support FY2005-2007**

Indicators	FY 2005				FY 2006				FY 2007			
	ISU	SUI	UNI	Regents Totals	ISU	SUI	UNI	Regents Totals	ISU	SUI	UNI	Regents Totals
1. Number of disclosures of intellectual property	142	83	4	229	120	89	11	220	114	87	26	227
2. Number of patent applications filed	54	115	3	172	52	178	5	235	41	130	4	175
3. Number of patents awarded	15	34	2	51	19	56	5	80	26	119	7	152
4. Number of license and option agreements executed on institutional intellectual property in total	218	35	1	254	14	43	2	59	113	34	2	149
5. Number of license and option agreements executed on institutional intellectual property in Iowa									62	3	2	67
6. Number of license and option agreements yielding income	317	176	9	502	299	92	11	402	268	151	11	430
7. Revenue to Iowa companies as a result of licensed technology <sup>1</sup>	22.00	1.08	4.16	27.24	38	0.89	5.9	44.79	\$83 M	\$1.5 M	\$4.56 M	\$89.06 M
8. Number of startup companies formed, in total (through licensing activities)									2	1		3
9. Number of startup companies formed, in Iowa (through licensing activities)									2	1		3
10. Number of start up companies formed through UNI MyEntrene/Icubator											51	51
11. Number of companies in research parks and incubators									61	50	15	126

Indicators	FY 2005				FY 2006				FY 2007			
	ISU	SUI	UNI	Regents Totals	ISU	SUI	UNI	Regents Totals	ISU	SUI	UNI	Regents Totals
12. Number of new companies in research parks and incubators									16	3	10	29
13. Number of employees in companies in research parks and incubators									636	1,780	39	2455
14. Royalties and license fee income	4.90	18.05	0.06	23.01	8	16.3	0.32	24.33	\$8.1 M	\$17.4 M	\$62,937	\$25.56 M
15. Total sponsored funding (\$ million)	286.90	359.60	33.07	679.57	279.7	366.4	19.96	666.06	\$272 M	\$382.2 M	\$29.2	\$683.4
16. Corporate-sponsored funding for research and economic development <sup>2</sup> in total (\$ million)	28.50	31.23	1.92	61.65	28.6	31.9	1.76	62.26	\$14.2 M	\$41.8 M	\$1.7 M	\$56.7 M
17. Corporate-sponsored funding for research and economic development <sup>2</sup> in Iowa (\$ million)									\$8.1 M	\$1.6 M	\$1.7 M	\$11.4 M

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

<sup>2</sup>Excludes corporate philanthropy

<b>FY 2007 Economic Development Appropriations</b>			
	<b>Ongoing Programs</b>	<b>Grow Iowa Values Fund</b>	<b>GIVF Matching</b>
<b>SUI:</b> -Oakdale Research Park -Center for Advanced Drug Development	\$247,005	\$1.925 M	\$1.925 M
<b>ISU:</b> -Institute for Physical Research and Technology -Small Business Development Centers -Research Park	\$2.5 M	\$1.925 M	\$1.925 M
<b>UNI:</b> -Metal Casting Center -Institute for Decision Making	\$361,291	\$950,000	\$950,000
<b>Totals</b>	\$3.108 M	\$4.800 M	\$4.800 M