

## Iowa State University

### A University-Based System for Economic Development

#### *Converting Knowledge to Jobs*

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Vice Provost for Research

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#### It Starts with an Attitude!

- Presidential priority in entrepreneurship.
- Policies that facilitate the involvement of faculty.
  - Broad promotion and tenure policy.
  - Policies permitting ownership and royalty sharing.
  - Business assistance for new entrepreneurs – Pappajohn Center and the Research Park.
- Critical component of our educational mission – student involvement and participation.
- Positive interactions with other Regent's universities and with State agencies.
- Positive relationships with industry partners.

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#### The System for Innovation

- Accessibility: Single point of contact.
- Funding of IP Development: Excellence in grant acquisition – all time research funding records three years in a row.
- Processing IP – patents, licenses, and options: Currently ranked first in the country in the number of licenses and options executed per year.
- Excellence and Tradition in Applied Research: 27 R&D 100 Awards; second only to MIT.
- An Outstanding Research Park: Employs 800 people. Outstanding environment for new businesses.
- Outreach Centers: Highly effective interactions with Iowa businesses.
- Tech Transfer – Moving Technology to the Marketplace: 62 businesses have been initiated based on ISU technology, many of them in the ISU Research Park.

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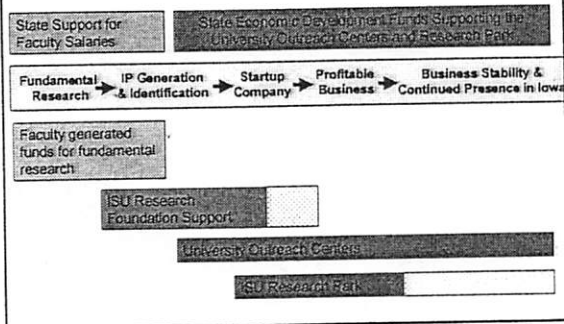
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## Required Financial Support for Effective Technology Transfer



## ISU Research Park

- 5 new companies in FY04 - totaling 139 companies and research centers since 1987.
- 50 companies employing 800 people are resident in the Park.
- Physical expansion - now approaching 325,000 sq. ft.
- Approximately 67% of the companies in the research park were grown through incubation.
- Of the 65 companies that have made it through the incubation process, only three have failed.

## The Pappajohn Center: Support in Business Development

- Educate 300 students annually in a formal entrepreneurship program. 2198 students overall participate in the center's programs.
- Established one of the first minors in entrepreneurship in the US.
- This fall will launch a entrepreneurship residential learning community (35 students representing 11 different majors).
- Since its inception, it has assisted in establishing 92 technology companies and 153 non-technology companies. These companies now employ 818 people.
- With the SBDC, it provided assistance to over 500 small existing businesses.
- Specializes in technology-related companies.

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### Research Park Economic Impact

- Wages paid annually = \$36.7M
- Another \$16.9M in wages for companies providing goods and services to the Park
- Employs 900 people
- Average wage at the Park = \$40,000
- \$3.7M in state income taxes
- This is an amazing return on the State's annual investment of \$153,202!

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### Economic Impact of Externally Supported Research Programs

- \$163M in annual external funding results in the creation of over 5500 jobs.
- Jobs within the university for the conduct of the research and research service.
- Jobs outside the university for necessary support services required to sustain the research environment.

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### Success Stories

- Mini-mill in SE Iowa: A plant-wide assessment by CIRAS and IMEP resulted in 13 projects with potential annual savings of \$2.6M. Funded by a competitive subcontract awarded by the DOE with matching from the company, IEC, IMEP, and Mid-American Energy.
- Manufacturer in NW Iowa: Referred to IPRT by IMEP for analysis of a product. The new installation method from IPRT resulted in an increase in annual sales of \$50K, retained sales of \$50-75K, and two new jobs.

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### ***Success Stories (continued)***

- Manufacturer in Cresco, NE Iowa: Service from IPRT Company Assistance helped determine a problem in the floor of the company's race car transporter trailer. Result: avoidance of \$5K in rework and warranty costs per trailer.
- Manufacturer in Nevada, central Iowa: Nondestructive evaluation of steel on short notice enabled the company to proceed quickly and efficiently with their manufacturing process.
- New biobased products company in Brooklyn, east central Iowa: IPRT worked with IDED through the TCAP program and collaborations with ISU scientists to accelerate the development of their biobased products.

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### **ISU's Involvement in Other Economic Development Initiatives**

- Bringing the Biopharming industry to Iowa – the Biologics Facility for protein extraction.
  - A coordinated effort involving the community, IDED, and the BOR to obtain support from the Iowa Values Fund and develop a business plan based on available funding.
- The Korean Initiative: a partnership involving the Research Park, IDED, Greater Des Moines Partnership, and Ames EDC. Signed MOU with the largest biotech company in South Korea. First company has factory in Grinnell!
- The New Zealand Initiative: new undertaking with a great future.
- Sponsored Biotech Mixers – establish productive interactions among the state's biotech companies.
- Sponsored workshops – an annual statewide Economic Development Workshop to acquaint Iowa businesses with the opportunities for partnership at ISU.
- Involvement with IDED and interactions with hot teams.

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### **Key Questions**

- How do we grow from here?
- How can we convert these great starts of new businesses to sustained entrepreneurial successes in Iowa?

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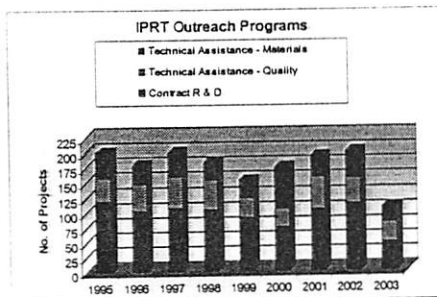
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### Impact of Budget Cuts – One Example



### An Important Challenge: Competition from other States

- As many as 41 states report technology initiatives that support the development of bioscience research and/or companies.
- California: Investing \$100M in a bioengineering and biotechnology institute and \$500 M in pension funds toward the California Biotechnology Program.
- Pennsylvania: Investing \$2B over 20 years in the biosciences.
- Michigan: Plans to invest \$1B in the biosciences over 20 years (may be scaled back due to budget).
- Georgia: Investing \$300M over 10 years to build research facilities and to attract scholars in the biosciences and committed \$1B in a Cancer Coalition designed to make Georgia a leader in this area.
- Texas: \$800M for 7 health science research centers.

### Summary

- Iowa's economy and ISU are on a bubble!
- We all want positive results.
- Without any changes in funding or initiatives, it is difficult to anticipate what the future holds, particularly given the competition in both the educational and economic development arenas.
- Key: We must work together to drive the changes required to stimulate continued growth and to generate the financial support required to achieve this objective.