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Development



Research and
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Economic Development Seminar January 20, 2005

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© Rhodes' speech at Corson symposium

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President Emeritus Rhodes: 'Thoughts on the university at the millennium'

The following is excerpted from a speech by President Emeritus Frank H.T. Rhodes delivered Dec. 7 at the symposium honoring Dale Corson.

America's universities are the dynamo that drives the knowledge explosion. But there are changes to which universities must respond. The first involves knowledge itself, the commodity around which every university exists. Knowledge is the new economic currency, and that is why colleges and universities are crucial in the new economically competitive world.

Four trends impinge upon that, and the first is information technology. It is a major new opportunity for our institutions because it provides a new way to end. We are not just providing a job, on the whole. But we also are self-credentiating in terms of those we graduate. This is about to change.

Third, new "for-profit universities" are increasing their market share. The group of for-profit universities is dwarfed by distance education. From 1993 to 1997, the number of cyber schools grew from 93 to 762. The relative number of students involved as full-time, residential, traditional-aged students will probably decline as off-campus learning and part-time enrollment become more

“Knowledge is the New Economic Currency.”

Knowledge-based Industries- Examples

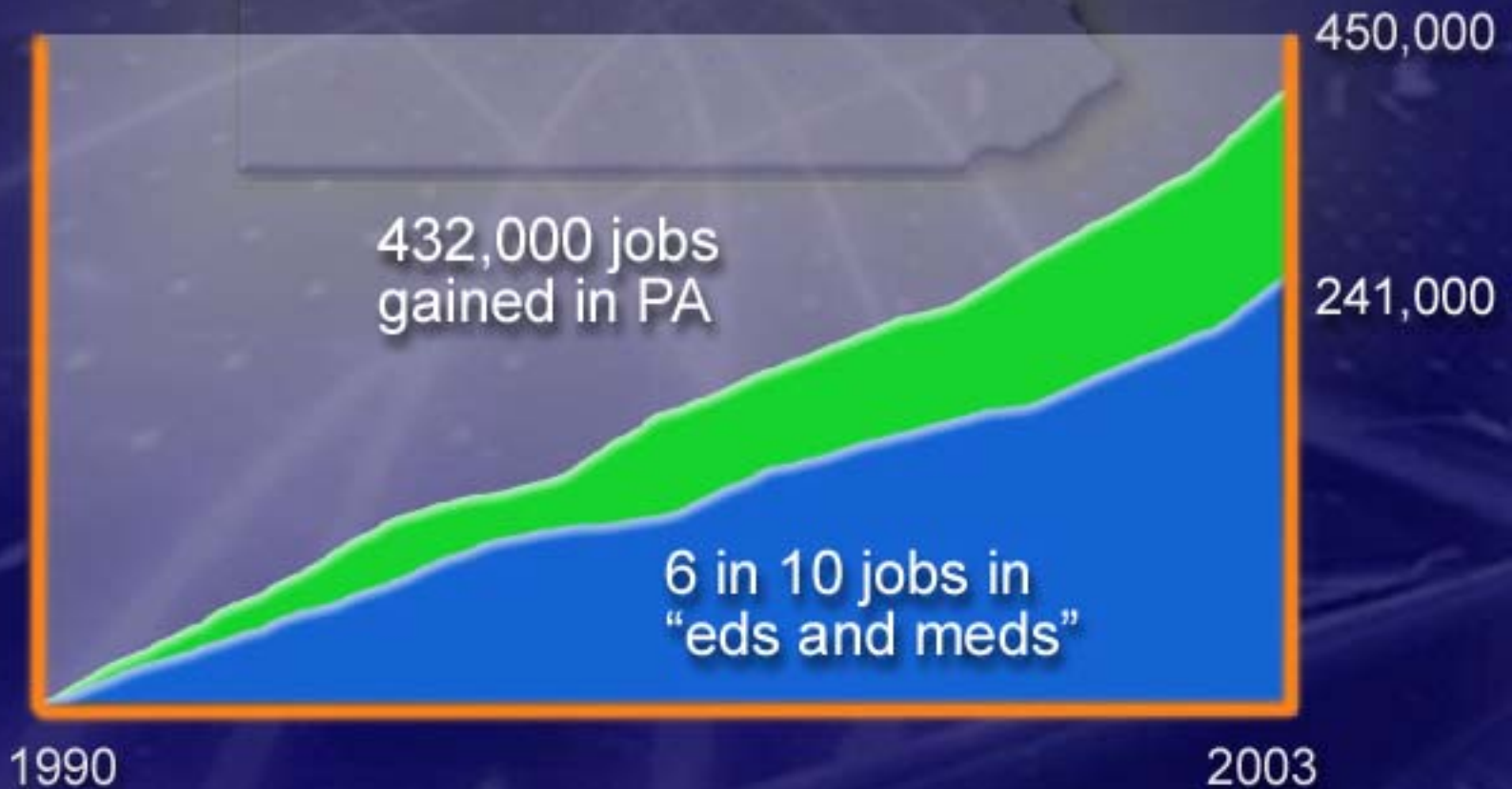
- ◆ Education
- ◆ Financial Activities
- ◆ Government
- ◆ Health Care and Social Assistance
- ◆ Information Technology and Services
- ◆ Management
- ◆ Professional and Technical Services

Source: Glazer, L. and Grimes, D. *A New Path to Prosperity?*
Manufacturing and Knowledge-based Industries As Drivers of Economic Growth, July 2004.

Pennsylvania's Challenges

- ◆ Slow Population Growth
 - ◆ 3rd Slowest Growing State
- ◆ Brain Drain
 - ◆ 1st in Loss of Young Workers
- ◆ Aging Population
 - ◆ Fastest Growing Age Cohort in Pennsylvania:
80 and Over
- ◆ Struggling Economy
 - ◆ 47th in Employment Growth

Knowledge Industries Grow in Pennsylvania



Pennsylvania's Targeted Industry Clusters

- ◆ Advanced Materials and Diversified Manufacturing
- ◆ Agriculture and Food Products
- ◆ Building and Construction
- ◆ Business and Financial Services
- ◆ Education
- ◆ Information and Communication Services
- ◆ Life Sciences
- ◆ Logistics and Transportation
- ◆ Lumber, Wood and Paper

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Higher Education Raises Profile of Economic Development Efforts



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Higher Education's Role in Economic Development



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Coops and Internships

5,000 with Pennsylvania companies,
2000-2004



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The Learning Factory

Back 7:00 AM

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PENNSYLVANIA STATE UNIVERSITY

January 17, 2005

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Penn State Graduates Employed in PA 2002-2003

50% of Penn State
Bachelor Degree Graduates
were Employed in PA



84% of Penn State
Associate Degree Graduates
were Employed in PA



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Penn State Dubois Workforce Development and Technology Center

Opened in 2004



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Nanofabrication Manufacturing Technology Partnership



Human Capital Development - Pennsylvania Public Sector

\$28 million in training contracts with PA agencies
since 2000



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Penn State Academic Centers



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Cooperative Extension and Economic Development

The screenshot displays the website for the Keystone Agricultural Innovation Center (KAIC) at Penn State. The browser window title is "Keystone Agricultural Innovation Center Home ...". The address bar shows "http://kaic.psu.edu/". The website header includes the Penn State logo and the text "KAIC The Keystone Agricultural Innovation Center" and "College of Agricultural Sciences Cooperative Extension PENNTAP".

Navigation and utility icons include Back, Forward, Stop, Refresh, Home, AutoFill, Print, and Mail. A search bar is located in the top right corner.

Content sections visible include:

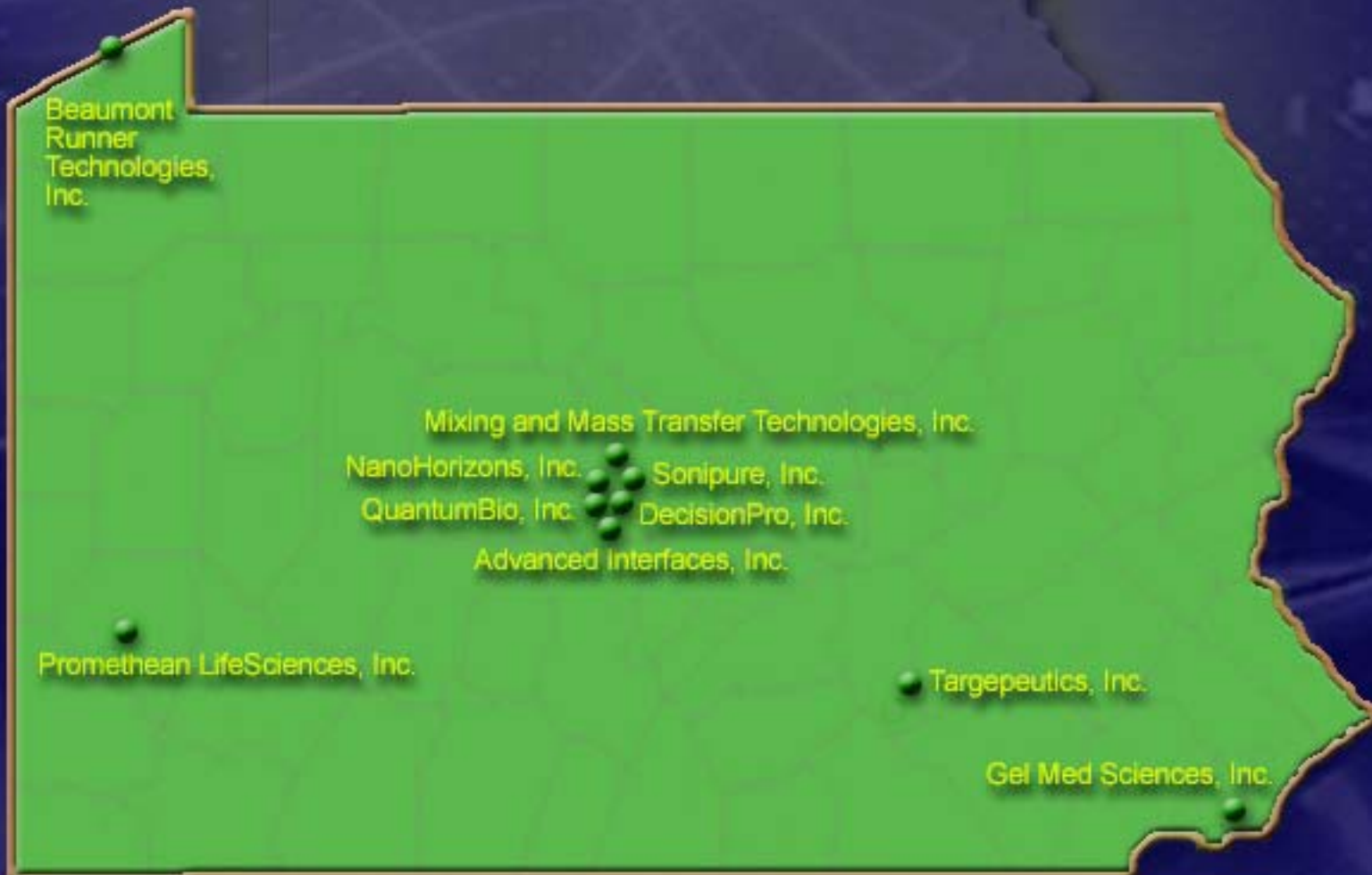
- The Key...**: A section with an image of a farmers market stall. Text includes "assistanc" and "regional".
- Why Value Added Agriculture...**: A section with an image of hands holding produce. Text includes "There's only so much income an agr" and "agricultural commodities. Value add".
- How do I learn more about ...?**: A section with an image of a group of people. Text includes "See more KAIC success stories,".

Other visible text includes "and assistance statewide." and "derive from selling raw".

Innovation and New Knowledge Through Research

- ◆ 2000 Invention Disclosures Submitted by Faculty
- ◆ 400 U.S. Patents Issued
- ◆ 200 License Agreements Executed
- ◆ \$54M of Licensed Product Sales

Pennsylvania Start-Up Companies Based on PSU Licensed Technology



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Thermoacoustic Cooling an “Amazing Invention”



PA Company-Sponsored Research, 2002-2004

- ◆ 1,410 Projects
- ◆ \$63 Million in Research
- ◆ 200+ Companies Annually

Keystone Innovation Zones



Research Parks

- ◆ 60 Tenants
- ◆ 500 Full-Time Employees
- ◆ 120 Student Interns

University Technology Park,
Fayette



Innovation Park, State College



Knowledge Park, Erie



Penn State Small Business Development Center 2001-2004



- ◆ Clients: 780
- ◆ Jobs Created: 300+
- ◆ New Business Start-Ups: 56
- ◆ Increased Sales: \$6.9 Million



PENNTAP 2002-2004



- ◆ Technical Assistance Cases: 2,400
- ◆ Jobs Created or Retained: 2,150
- ◆ Economic Benefits*: \$80 Million

* cost savings, sales expansion, investments

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Cope's Food Products



“By improving the quality of our production, we have increased our value to our customers and reduced our risk of competition.”

CEO Larry Jones on PENNTAP's work



Penn State

- ◆ Top Ten School in Entrepreneurship
- ◆ Hottest School for Entrepreneurs



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Student Entrepreneurs



Lockheed Martin: A Partnership That Works



- ◆ \$5.5 Million in Contract Research
- ◆ 1,300 Penn State Alumni Employed
- ◆ \$1 Million for Scholarships, Camps, etc.
- ◆ 186 Recruiting Interviews, 2003-2004

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Penn State's Role in Economic Development



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