

2/18/85

Approved

Jayne Aylward
Date

MINUTES OF THE HOUSE COMMITTEE ON COMMUNICATION, COMPUTERS AND TECHNOLOGY.

The meeting was called to order by Representative Jayne Aylward at
Chairperson

3:30 ~~am~~ p.m. on February 12, 1985 in room 522-S of the Capitol.

All members were present except:

Representative Erne (excused)

Committee staff present:

Scott Rothe, Research Department
Jean Mellinger, Secretary to the Committee

Conferees appearing before the committee:

Dean Robert F. Kruh, Graduate School, Kansas State University
Dean Donald E. Rathbone, College of Engineering, Kansas State University

Chairman Jayne Aylward opened the meeting.

Dean Robert Kruh commented on two programs supported by the legislature, first, one through the Advanced Technology Commission administered through KDED and, second, the Center of Excellence program. He gave a compilation of the projects that have been funded to date through the legislation initiated by the CCT Committee (Attachment 1). They lie in two sectors at KSU; namely, the College of Engineering and the Department of Grain Science and Industry. They believe these will be directly contributing to industrial and economic development in the state, and hope to have additional proposals very shortly. He stated that the projects identified with engineering tie in closely with the work undertaken by the Center of Excellence on Automated Control and Robotics. They have an aggregation of faculty and facilities that combine the programs. He asked for advice from the Committee as to the intent of the legislators to continue funding on the Centers now in existence or whether there would be any opportunity to look at other possibilities also.

Dean Donald Rathbone gave an overall prospective of what they are doing in this general area. He said they had funding through the Center of Excellence and also funding through KDED. They plan to merge the two phases because the projects for the most part tie in directly to the goal and objectives of their Center of Excellence in Computer Controlled Automation which included robotics, pattern recognition, artificial intelligence, and vision systems. In the Center of Excellence, they are basically trying to develop a rather significant and powerful computing center. In robotics research, the principal thing is computing power. KDED money is on special projects that relate to this computing center. He distributed a picture of an industrial robot (Attachment 2). They are trying to develop the computer expertise, software packages etc., to make a robot effective in automated factories; and some of their major projects are in vision and adaptive control. They are trying to tie a variable transmission into a large diesel engine. Another project is looking at a picture and converting that into memory in the computer to be used in different functions. They are also working on gasifiers which provide an energy source for a small location.

Representative Roper asked about the Buck Rogers Co. Dean Rathbone said it was a company KSU is working with in Olathe that has developed gasifiers and wants to market in Kansas and do some development type things.

Representative Friedeman inquired concerning the computer control of tractor engines with three corporate plants supplying research money and what sort of arrangement is made about sharing if there is a new finding. Dean Rathbone said the patent rights would go to KSU but they would have free access, no royalties. He said there is a contract they sign with the companies.

Representative Sallee asked if they did develop something that is a big breakthrough, whether they will draw any royalties at all. Dean Rathbone said they can, depending on how they market it, that there is potential there.

CONTINUATION SHEET

MINUTES OF THE HOUSE COMMITTEE ON COMMUNICATION, COMPUTERS AND TECHNOLOGY

room 522-S Statehouse, at 3:30 ~~xxx~~ p.m. on February 12, 1985

Chairman Aylward asked if they were satisfied with the funding that the legislature has provided the Centers of Excellence. He said it has been a help to them but it has been difficult obtaining the matching money sometimes. Some states give much more. She inquired if he felt Kansas started on a time schedule much later than some of the others working on robotics. He replied that some are really moving out in this area.

Representative Dean asked about the management and funding of the Center. Dean Rathbone said they asked Art Thompson, Professor of Mechanical Engineering, to be director of the Center on a part-time basis. They are using some of the money for personnel, some for equipment, and some for operating expenses; and they hope to eventually put more into personnel and to develop courses in robotics. Representative Dean asked if they had only applied research or if they also had pure research. He replied that they had pure research as well as applied research, that the pure research was a fallout of the applied research.

Representative Dean asked Dr. Kruh where we ranked agriculturally as far as income among other states is concerned. Dr. Kruh did not know, but said we were second to Texas in cattle production. Representative Dean asked how we ranked on research of agricultural products and said he heard we ranked about 30th. Dr. Phillip Bradford, Director of Advanced Technology, KDED, said we were about sixth or seventh in income and about 30th in research funds. Kansas is about forty-something in ratio of research to income. Dr. Kruh said that research in small grain crops has caused enormous gains through the years and figures are somewhat misleading.

Representative Sallee mentioned how little money is put into development of a hybrid white corn that is being tested on his place and there is a good market for white corn. Dr. Kruh said that rather than more money, perhaps more attention should be directed to this.

The chairman asked Dr. Kruh about the recommendation he mentioned about expanding the Center of Excellence. Dr. Kruh asked about the Committee's feelings as to whether a second proposal might be viewed favorably. Chairman Aylward asked if they made a second proposal if it would be in agriculture. He replied that was likely, probably related to wheat production. He said the engineers would continue to move their Center forward whether or not a second round would be available to another Center.

The chairman asked Dr. Bradford if there is any information available on what states similar to Kansas are putting into the types of centers we have set up at the universities. He quoted figures for states from nothing to \$400 million and mentioned that Michigan was using some of their pension fund and New Jersey floated a bond issue. He compared Virginia with Kansas and said they gave the universities \$30 million. Missouri is the expert for high tech in rural communities. The amount that Kansas is spending on a per capita basis is two or three times lower than surrounding states. Dr. Bradford mentioned that he thought the matching concept was really good and created a better atmosphere, but there was need for more flexibility, particularly when considering agriculture.

Representative Dean asked if it was wrong or was the long-term intent for a company to offer some money for a Center to work on a specific project and get matching funds that way. Dr. Rathbone said that assumed you had something in place, but first you needed to establish it.

Chairman Aylward said the committee would be taking up the Centers of Excellence bill next week and there was a proposal from Pittsburg State University (Attachment 3).

Representative Friedeman moved that the minutes of the February 6, 1985, meeting of the committee be approved. Representative Shore seconded the motion. The motion carried.

The meeting adjourned at 4:40 p.m.

The next meeting of the committee will be held at 3:30 p.m. on Wednesday, February 13, 1985.

KANSAS STATE UNIVERSITY
 ADVANCED TECHNOLOGY PROJECTS
 February 12, 1985

F I S C A L Y E A R 8 4

Quality Parameter Monitoring System for Control
 of Grain Handling and Processing
 Prof David Wetzel
 Department of Grain Science and Industry

Technicon Industries
 Corporate: \$111,407
 State: 73,000

Robotics Research
 Prof J Garth Thompson
 Department of Mechanical Engineering

International Robomation et al.
 Corporate: \$ 70,938
 State: 47,292

Computer Control of Tractor Engines and Contin-
 uously Variable Transmissions
 Profs J Garth Thompson and Mark Schrock
 Departments of Mechanical and Agricultural
 Engineering

Hesston, Funk, and Caterpillar
 Corporate: \$ 73,000
 State: 42,708

Computer-Controlled Microwave Food Processor
 for the Baking Industry
 Prof Cho C Tsen
 Department of Grain Science and Industry

Bettendorf Stanford Corp
 Corporate: \$ 18,000
 State: 12,000

F I S C A L Y E A R 8 5

Commercial Wood Chip Gasifier
 Prof Walter Walawender
 Department of Chemical Engineering

Buck Rogers Co, Inc
 Corporate: \$ 28,684
 State: 19,123

Spline Function Representation of Objects
 Prof J Garth Thompson
 Department of Mechanical Engineering

Boeing Military Aircraft Company
 Corporate: \$118,967
 State: 79,310

Signal Strength Mapping Instrumentation
 for Cellular Radio Telephone Systems
 Prof Michael S P Lucas
 Department of Electrical Engineering

Lunayach Communications
 Corporate: \$ 6,000
 State: 4,000

Microwave Technology for Processing Bakery
 Products
 Prof Cho C Tsen
 Department of Grain Science and Industry

Bettendorf Stanford
 Corporate: \$ 15,000
 State: 10,000

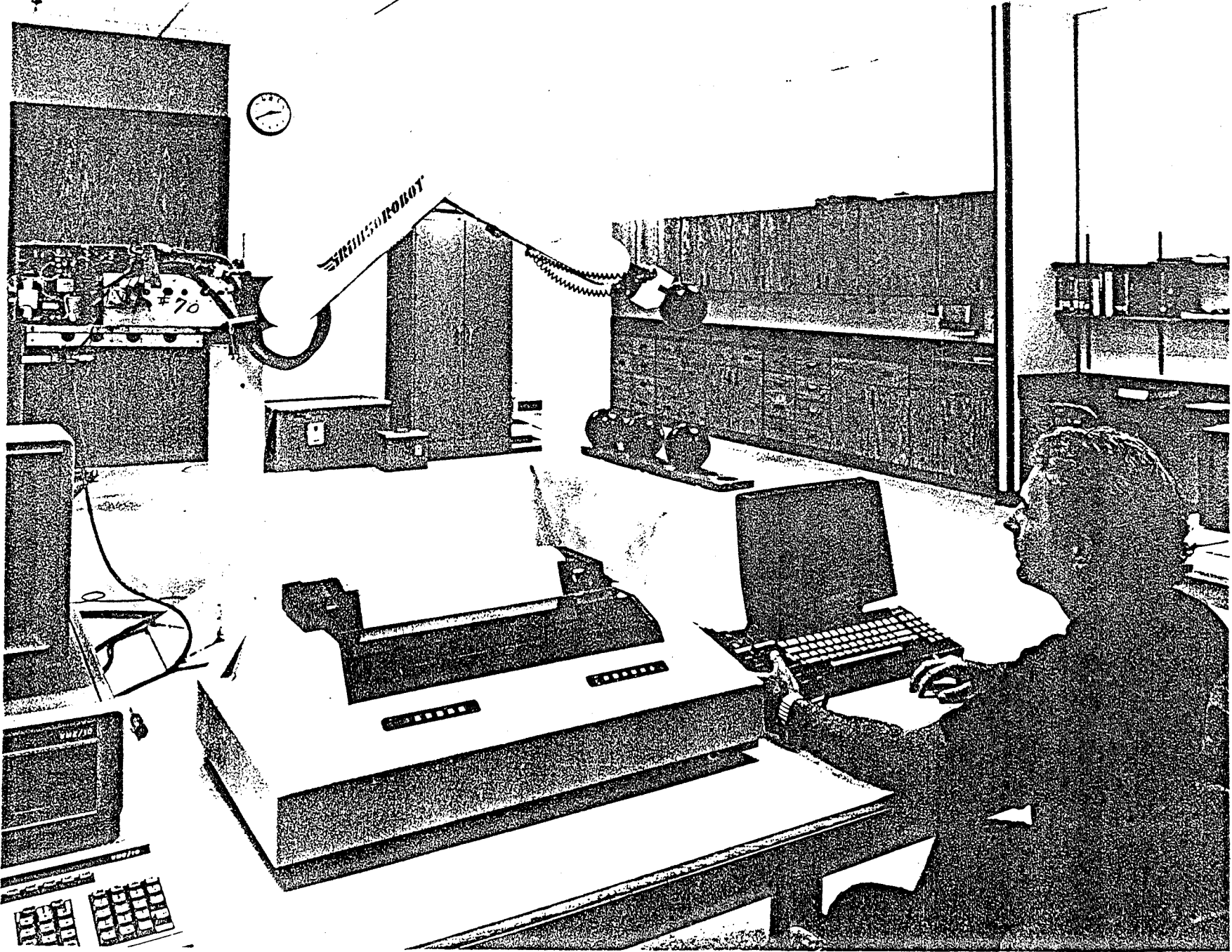
S U M M A R Y

	Allocation	State Funds Committed	Corporate Funds	Total
FY84	\$175,000	\$175,000	\$273,345	\$448,345
FY85	175,000	112,433	168,651	281,084

2/12/85

(Attachment 1)

2/12/85 (attachment 2)



PITTSBURG STATE UNIVERSITY

Center of Excellence for Applied Research Technology

Consideration should be given for naming Pittsburg State University as a Center of Excellence for Applied Research Technology that would encompass all Technology programs at Pittsburg State University. It is highly probable that future industrial funding support will be generated in our Plastics, Electronics and Printing Technology programs. These Technology programs have the same capability to capture the national interest, and in the case of Plastics and Printing, the national leadership and influence is a fact. Under the umbrella of an overall Center of Excellence for Applied Research Technology, each technology center could be presented to the Regents, Legislature and the Advanced Technology Commission.

The attached proposal outlines the initial aspects of a Center of Excellence in Applied Research Technology for Wood Technology. The location of the Architectural Woodworking Institute's National Training Center at Pittsburg State University has focused industrial interest in providing funds for a center of excellence. The prospects for raising the prescribed industrial funds are quite good.

(Attachment 3)
2/12/85

PITTSBURG STATE UNIVERSITY

CENTER FOR EXCELLENCE IN THE APPLICATION OF
APPLIED RESEARCH TECHNOLOGY TO THE WOODS INDUSTRY

To provide the woods industry with a center to study applications to producing and marketing machinery and products. The major areas are the following:

- I. Machinery and Processes
 1. Evaluation and testing
 2. Application
 - a. material
 - b. product type
 - c. length of run
 - d. sequence of machine operation in production applications

- II. Tooling
 1. Application and evaluation
 - a. material
 - b. product type
 - c. length of run

- III. Computer Application to Wood Industry
 1. Finishing operations
 - a. Facility design
 - b. Product and production flow and schedule
 - c. CNC/Robotics
 2. Production management
 3. Inventory control
 4. Machine operation
 - a. CAD
 - b. NC - CNC (Robotics)
 5. Cost analysis

- IV. Finishing
 1. Materials
 2. Application processes
 3. Equipment
 4. Evaluation and quality assurance
 5. Process to product cost analysis

- V. Marketing
 1. Wood machinery
 2. Wood products

- VI. Human Resources Development
 1. Architectural Woodworking Institute (AWI) Technical Education Center
 2. Development of Woods centered training materials
 - a. slide tape
 - b. video
 - c. computer-aided instruction and training

The Center for Excellence would allow us to hire a permanent director, office staff, technicians and additional staff to serve in developmental activity as well as teach part-time in the AWI Technical Education Center and our regular University Wood Technology and Woodworking Technology teacher education program.

Budget Required
As Set Forth in HB 3081

Year 1 - FY 86

Outside agency	\$195,000
State of Kansas	130,000

Year 2 - FY 87

Outside agency	\$170,000
State of Kansas	170,000

Year 3 - FY 88

Outside agency	\$105,000
State of Kansas	210,000

Year 4 - FY 89

Outside agency	\$ 62,800
State of Kansas	250,000

Year 5 (FY 90) and beyond, \$300,000 provided by the State of Kansas.