

A G E N D A

First Meeting
Board of Directors

The Midwest Regional Center for
Microelectronics and Information Sciences

20 March 1980
3:00 - 6:00
110 Lind Hall
University of Minnesota
Institute of Technology

1. Introductions
 - a. Members
 - b. Background
2. For action; Procedures
3. For action: Appoint Committee to establish Bylaws
4. For action: Elect Board Vice Chairperson
5. For action: Business Plan
6. For information: Status report on implementation of tasks
7. For information: Status report on industry contacts
8. For action: Appoint committee for industry contacts
9. For action: Appoint Director Search Committee
10. For action: Center name
11. For action: Motion establishing Technical Advisory Committee, its mandate, and its schedule
12. For action: Budgets for first year of Center operation
13. Question for discussion: Contract work with organizations not affiliated with the Center
14. Question for discussion: Procedures and timing for:
 - a. Government approaches for additional funds
 - b. Contacts with Mondale
15. For action: Motion concerning formation of Center
16. For action: Appoint committee for relations with other Universities
17. For information: Status report on Charles Babbage Institute
18. Date of the next meeting

CENTER FOR MICROELECTRONIC & INFORMATION SCIENCES
241 Shepherd Research Laboratories
(612) 376-9122

Board Membership

Dr. Walter Bruning Vice President Consulting & Educational Services	Control Data Corporation
Mr. William W. George Vice President Corporate Development	Honeywell, Incorporated
Mr. George Heenan Senior Vice President	Medtronic, Incorporated
Mr. William Malloy Director Plans and Communications	Sperry Univac
Dean Warren E. Ibele Graduate School	University of Minnesota
Dean Roger W. Staehle Institute of Technology	University of Minnesota
Professor Robert M. Hexter Department of Chemistry	University of Minnesota
Professor Richard E. Kain Department of Electrical Engineering	University of Minnesota
Professor E. Bruce Lee Department of Electrical Engineering	University of Minnesota
Professor Ben J. Rosen Head - Computer Science Department	University of Minnesota
Associate Professor William R. Franta Department of Computer Science	University of Minnesota

Agenda Item Number 2

Proposed Motion:

Pending the approval of Center Bylaws, the Board of Directors will operate under the following rules:

1. The Chairman calls meetings of the Board of Directors, announced at least 30 days in advance.
2. The Chairman will collect agenda items, form the agenda and distribute it to members at least 30 days in advance of the meeting date.
3. The Board will not take action at a meeting on any item not listed as an action item on the agenda distributed before the meeting.
4. The Director will be an ex-officio member of the Board.
5. The Board officials shall include:
 - a) Chairman - Dean of the Institute of Technology
 - b) Vice Chairman - an industry representative
6. Each Board member shall have one vote.
7. Board members may be represented by proxies.
8. Center staff will take meeting minutes which will be approved at subsequent Board meetings.
9. All situations not covered by the above shall be governed by Roberts Rules of Order.

Agenda Item Number 3

Proposed Motion:

The committee to draft Bylaws for the Center be formed, with membership

R. Kain, Chairman

W. George

R. Hexter

The committee shall propose a draft set of Bylaws for Board consideration at its next meeting.

Agenda Item Number 3

For information:

The issues to be addressed by the Bylaws Committee include:

- The terms of office for Board members and TAC members.
- Procedures for selection of Board members.
- Should the Board Vice-Chairman always represent an industrial organization?
- Are Board meetings open and public ?
- How are contractual arrangements made with affiliated Universities?
- Should an attorney be among the Board members?
- Rights of contributors. E.g., should voting rights be dependent upon the magnitude of financial support?
- How many years in advance should be considered in fiscal planning?
- Director's authority and responsibility

Agenda Item Number 7

Name of Firm

Contact Status

1. Cardiac Pacemakers Franta and Kain met once with Dr. Mostafa Mosharraffa, Vice President Research and Development
2. Control Data Grant received
3. Exxon Bruning, Franta, Kain and Staehle will meet with Senior Vice President George T. Piercy in New York on April 25
4. Honeywell Official request for support sent to Mr. E.C. Lund, Vice President, Administration by Staehle on 11 March
5. IBM Franta, Kain met with Dr. John Porter, Manager of Special University Programs on 12 March to convey status
6. Medtronic Heenan and Staehle have had preliminary discussions
7. 3M Franta, Kain, Lee met with Mr. Don Benassi, Information Engineer on 19 February. Business Plan sent him upon request
8. Motorola Contact made by Dr. W. Bruning
No firm meeting date set
9. Univac Franta, Kain, Staehle met with:
R. Curler - Director, Semi Conductor Division
R. Erickson - Vice President, Semi Conductor Div.
H. Smuda - Vice President, Major Systems Division
Product Development
on 13 March. Franta, Kain and Staehle will meet with President, R. McDonald on 18 April in New York

Agenda Item Number 8

Proposed Motion:

The committee for pursuing additional industrial and government funding be formed. The committee members are:

R. Staehle
W. Bruning
W.R. Franta
W. George
R.Y. Kain

Agenda Item Number 9

Proposed Motion:

The search committee for a director be formed. The committee members are:

W.R. Franta, Committee Chairman
W. Bruning
A. Erdman
R. Hobbie
W. Ibele
E.B. Lee
W. Malloy
H. Weinberger

The committee shall:

- Establish criteria for the position includes that director:
 - must be academically acceptable
 - have management experience
 - have a good working relationship with industry
- Establish a time table for:
 - advertising the position
 - securing a director

Agenda Item Number 9

For information:

The following names are listed as indicative of persons who might serve as the Center's Director.

Computer Systems

1. Professor Harold Stone, Computer Science Dept., University of Mass.
PhD. _____ ()
Computer Organization, Parallel Computing
2. Dr. Raymond Miller, IBM Research Center
Adjunct Professor, Dept. of Electrical Engineering and Computer Science, NYU
3. Professor Michael Flynn, Electrical Engineering, Stanford
PhD. , 1961; Purdue (EE)
4. Professor Philip Enslow, Jr., Information and Computer Science Dept.,
Georgia Institute of Technology
PhD., 1965; Stanford (EE)
Computer Networks, Distributed Processing

Microelectronics

1. Dr. Juri Matisoo, IBM Research Center
PhD. _____
Ultra-high Performance Computing
2. Professor Lester Eastman, Cornell University
PhD. _____
Microelectronics

Applications

Dr. George Dodd, Computer Science Department, GM Research Labs
PhD., 1964; University of Illinois (EE)
Robotics, Image Processing

Agenda Item Number 9

For information:

The responsibilities of the Director, to be included in the job description generated by the Search Committee, shall include:

- responsible for implementation and enforcement of board policy and program quality control
- Serve to integrate inputs from TAC (representing organizational needs) into unified technical programs which serve as umbrellas for center-sponsored projects
- present plans for major expenditures and program thrusts to BOD for approval
- manage daily operation of the center
- actively pursue additional funding sources (industrial and government)
- publicly represent the center
- convene TAC meetings for project reviews and formulation of technical programs
- hiring personnel; (where appropriate) does so in collaboration with University departments and affiliated organizations
- design and construction of physical plant

Agenda Item Number 10

Proposed Motion:

The center be called the

MIDWEST COMPUTER SCIENCE TECHNOLOGY AND APPLICATIONS CENTER

(COSTAC)

Agenda Item Number 11

Proposed Motion Concerning the TAC's Mandate and Schedule

Mandate: The COSTAC TAC shall initially concentrate on clarification of the technical focus of the technical program within the areas of microelectronic design, distributed and parallel processing, and automation and applications. After this first phase is completed, the TAC shall perform two major functions:

- 1) Review of project proposals with support recommendations to the COSTAC Director.
- 2) Regular review and update of the technical focus. Such updates will be reviewed by the Director and then forwarded to all interested parties.

Schedule:

- 1) The TAC shall complete the initial identification of theme areas and submit recommendations for review by the Director before June 1, 1980. The Director will consult with TAC, as appropriate, to formulate a revised description of the theme areas to be circulated to interested parties before July 1, 1980.
- 2) Project proposals will be reviewed and recommendations for COSTAC support forwarded to the Director within 90 days of their receipt.
- 3) TAC will send a report to the Director every December 31 including an updated statement of the theme areas.

Agenda Item Number 11

For information:

Dean Staehle intends to name the following faculty to the Technical Advisory Committee:

- G. Davis - Business School
- A. Erdman - Mechanical Engineering
- W. Franta - Computer Science
- A. Goldman - Physics
- R. Kain - Electrical Engineering
- L. Kinney - Electrical Engineering
- L. Markus - Mathematics
- S. Sahni - Computer Science
- L. Schmidt - Surface Science (Center)
- S. Stephanopoulos - Chemical Engineering
- W. Thompson - Computer Science
- R. Warner - Electrical Engineering

Agenda Item Number 12

Proposed Motion: The Center budget for the period 1 January 1980 -
30 June 1980 be as follows:

Human Resources	\$27,200
Equipment	7,300
Distribution	1,000
Computer Time	15,000
Miscellaneous	<u>3,000</u>
	\$53,500

Proposed Motion: The Center budget for the period 1 July 1980 - 30 June 1981
be as follows:

Human Resources	\$ 760,500
Equipment	1,267,000
Distribution	34,000
Physical Plant	300,000
Computer Time	30,000
Miscellaneous	<u>20,000</u>
	\$2,411,500

The capital equipment portion of this budget shall support acquisition of a computer system, a chip design system, and equipment to augment the MBE system in the Surface Science Center.

Agenda Item Number 15

Proposed Motion:

The Center shall be considered to be formed following approval by the Board of Directors of the Center's Business and Task Plans. Since those approvals were given at the Board of Directors meeting on March 20, 1980, the Center is hereby declared to have been formed.

Agenda Item Number 16

Proposed Motion:

The committee to investigate formal relationships between the Center and other Universities be formed. The initial committee members are:

R.Y. Kain	Committee Co-Chairmen
W.R. Franta	
J.B. Rosen	
E.B. Lee	
R. Krutz	
L. Thorndyke	

The committee shall:

- Identify candidate Universities and their strengths.
- Formulate the mechanisms for their relationships to the center using page 15 of the business plan as guidelines.
- The committee will advise the Director on these issues.

ATTENDEES

Board Members

Dr. Walter H. Bruning	Control Data Corporation
Mr. William W. George	Honeywell, Incorporated
Mr. George M. Hennan	Medtronic, Incorporated
Mr. William Malloy	Sperry Univac
Dean Warren E. Ibele	Graduate School, Univ. of Minn.
Dean Roger W. Staehle	Institute of Technology, Univ. of Minn.
Professor Robert M. Hexter	Department of Chemistry, Univ. of Minn.
Professor Richard Y. Kain	Dept. of Electrical Engineering, U of Minn.
Professor E. Bruce Lee, Head	Dept. of Electrical Engineering, U of Minn.
Assoc. Professor William R. Franta	Dept. of Computer Science, Univ. of Minn.

Guests

Margaret Lulic, Director Public Affairs	Institute of Technology University of Minnesota
Clarence Berg, Assoc. to Dean	Institute of Technology University of Minnesota
Joel R. Tierney, Attorney	University of Minnesota
Dr. Don Boyd, Manager Computer Systems Department Corporate Technology Center	Honeywell, Incorporated
William Krutz, Director Corporate Technology Center Computer Science Center	Honeywell, Incorporated
Dr. Lloyd Thorndyke, Sr. Vice Pres. Research	Control Data Corporation

3M representative, whose identity was unknown at the time of the assembly of this agenda.

Plan For The Establishment
And Operation Of The Midwest
Regional Center For Microelectronics
And Information Sciences

February, 1980

Acting Co-Directors

W.R. Franta, Computer Science

R.Y. Kain, Electrical Engineering

Introduction

This plan describes the initial organization and continued operation and funding of a new major center for computer related research and education. The center, organized by the University of Minnesota's Institute of Technology, is initially being funded by a group of high technology computer-related industries. We refer to each of these organizations and the University as affiliated organizations.

1.0 Objectives

Overall Objective: Insure that the United States maintains its world leadership in the computer industry.

Immediate Objective:

- o Develop within the University an internationally recognized center for computer research and education by:
 1. Promoting interdisciplinary research on cutting edge problems utilizing a combination of University, industrial, and government resources.
 2. Creating an environment which brings together the "intellectual critical mass" necessary for continued progress on solving cutting edge research questions.
- o Strengthen educational offerings of the University of Minnesota. Apply to both the standard academic program and to the professional community.

2.0 Policy

Principal elements of policy are the following:

o The center will not diffuse its resources by attempting to be "all things to all people." Thus, while the center will consider supporting and engaging in projects included within a broad scope, it will concentrate on programs relevant to theory and applications in the areas of:

1. Microelectronic design: including research into materials, surfaces, device modeling, and layout algorithms, with applications including chip functionality, layout, simulation, and testing.
2. Distributed and parallel processing: including research into system architecture, programming and description languages, communication technologies and numerical methods for parallel algorithms, with applications including application and system control algorithms.
3. Automation and applications: including research in control theory, signal processing, imaging, and the design of CAD/CAM systems, and including applications in process control, automation and robotics.

o The diverse and often uncorrelated activities associated with the above areas will be brought together and the artificial division between the hardware and software design processes will be dissolved.

o Among the affiliated organizations interdisciplinary interactions will be promoted by including such areas as technology, mathematical theory, management information systems, and mass communication.

- o The center will strengthen and support ongoing University and industry programs which have established missions and reputations.
- o The center will transfer technology to the students of the University and the affiliated industries, as well as the citizens of the state and nation.
- o The center will maximize its resources by collaboration with other University centers, including:
 1. The University Computer Center and University Computer Services
 2. The Surface Analysis Center
 3. The Corrosion Centerand by judicious selection of affiliated universities.
- o Member organizations will share proportionally any income generated by the center. Further, they will organize the activities to provide means of generating income.

3.0 Assumptions and Responsibilities

- o To meet the needs of affiliated organizations the technical program will be determined by the technical advisory committee, whose membership will include representatives from all affiliated organizations.
- o The University of Minnesota will assume responsibility for the direction and operation of the Center. Specifically:
 1. The chairman of the board of directors will be the dean of the Institute of Technology.
 2. The center director will be a University employee with an academic appointment.
- o The University is responsible for ensuring that all University and industrial needs are voiced, integrated, and met by center-sponsored programs.

By assuming this leadership role, the University is in the best position to meet the needs of the affiliated corporations while insuring the objective independence associated with academic institutions.
- o In securing center personnel, the center will act in accordance with affirmative action and equal opportunity guidelines and regulations.
- o The center will abide by the University policies on openness of information while attempting, when necessary, to accommodate industrial proprietary needs and requirements.

4.0 Center Management

The center management structure includes a board of directors (BOD), a director, and a technical advisory committee (TAC).

o Board of Directors (BOD)

Composed of:

- one member from each affiliated industrial organization
- the dean of IT, who serves as its chairperson
- the director of the Surface Analysis Center (University of Minnesota)
- the dean of the Graduate School (University of Minnesota)
- the chairperson of the Computer Science department
(University of Minnesota)
- the chairperson of the Electrical Engineering department
(University of Minnesota)

Responsibilities:

- ensure that center objectives are met
- provide an organizational link between the center and affiliated organizations
- establish policy; responsible for center integrity, including vitality and quality of its technical programs
- guide the emphasis of the technical program
- approve major expenditures

o Director

- responsible for implementation and enforcement of board policy and program quality control
- serve to integrate inputs from TAC (representing organizational needs) into unified technical programs which serve as umbrellas for center-sponsored projects
- present plans for major expenditures and program thrusts to BOD for approval
- manage daily operation of the center
- actively pursue additional funding sources (industrial and government)
- publicly represent the center
- convene TAC meetings for project reviews and formulation of technical programs
- appointment permanent; removal requires agreement of at least three-fourths of BOD
- responsible for hiring of personnel and where appropriate does so in collaboration with University departments and affiliated organizations
- design and construction of physical plant

o Technical Advisory Committee (TAC)

Composed of:

- approximately three members from each affiliated corporation
- three members each from the Electrical Engineering and the Computer Science departments of the University of Minnesota
- one member each from other affiliated U of M departments
- one member from each affiliated university (appointment mechanism to be determined)
- membership for two year terms; each board member makes appointments for his organization

Responsibilities:

- committee members provide technical links between the center and their respective organizations; therefore, each member should have a broad view of his organization's needs
- serve as a source for program ideas and as a peer review group for project proposals; make recommendations to director concerning center support for proposed projects

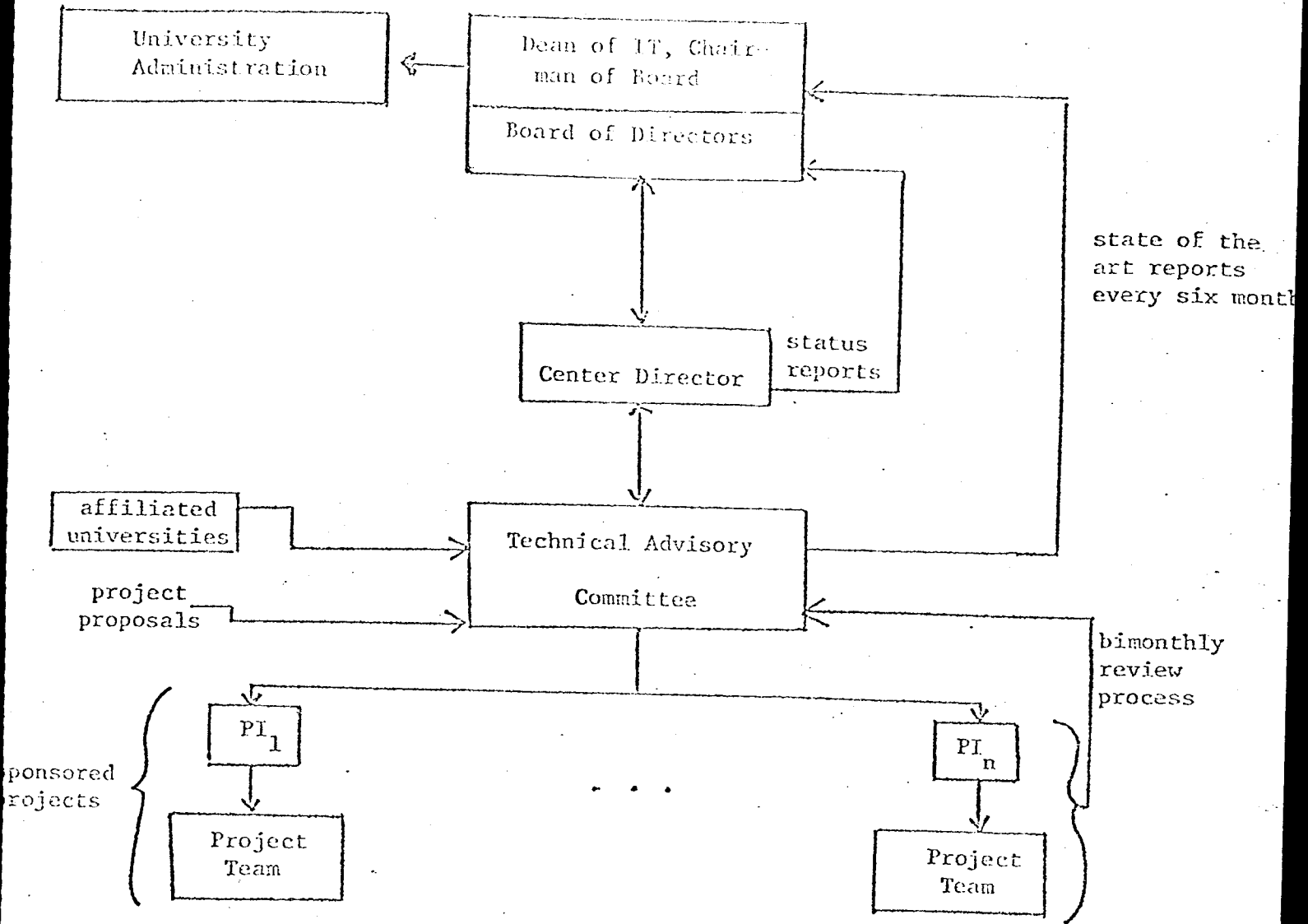


FIGURE 1. Center Organization and Management Structure

5.0 Technical Program

- o The technical program will be maintained at a high quality, will concentrate on cutting edge problems, and will be responsive to the needs of the affiliated organizations.
- o The technical activity will be guided by and contain elements from each of the areas described in Section 2.0. Within each area emphasis will be placed on the "program." Programs will be developed by the TAC and director. Each year these will be, together with associated program funding requests, presented to the BOD for review and approval.
- o Program areas will be advertised throughout the affiliates as guidelines for submitted proposals (explained below). Interdisciplinary proposals will be encouraged.

Programs are intended to:

- focus center technical activity
 - provide a mechanism whereby the technical focus can evolve
 - contain both theoretical and applied elements.
- o Specific technical undertakings will be associated with center "sponsored" projects. Project proposals can be submitted by an individual or group of individuals from one or more affiliated organizations.
 - o Each project proposal must identify a principal investigator (PI), the project team, resources required, and expected duration.
 - o The PI and/or project team may include members of the BOD, the TAC, or maybe the director.
 - o All submitted proposals will be reviewed by the TAC with recommendations regarding sponsorship given to the director. Final sponsorship

decisions will be made by the director.

- o Sponsoring decisions will be made on the basis of:
 - proposal's technical merit as determined by the TAC
 - the degree to which the proposed work is in accordance with the policies, objectives, and programs of the Center as judged by the TAC and director
 - the level of sponsorship requested
- o Sponsorship will generally be made on a matching funds basis; some project funding must be derived from sources outside the center. Occasionally the center sponsorship may be total.
- o Sponsorship may be in the form of
 - direct funding
 - access to center available* facilities
 - combination of direct funding and facility access
- o PI's will be required to give quarterly oral progress reports to the TAC.
- o Quarterly or bianual oral and written reports will be given the BOD by the director.

*NOTE: We define center available facilities to be those either operated by the center or those operated by the University or an affiliated organization which can be used for center projects.

6.0 Human Resources Required

- o Clerical support capable of employing word processing systems, retrieval systems, etc.
- o Librarian to request and collect technical reports, magazines, and to disseminate reports produced at the center.
- o Technicians to assist with hardware development and project experimentation.
- o Programmers to develop systems and application code.
- o Permanent research staff to serve as PI's and project team members (see Figure 1).
- o Visiting researchers and engineers from
 - affiliated corporations
 - University of Minnesota
 - affiliated universities
- o People are hired or invited by the director--visiting researchers and engineers are invited, others are hired.

7.0 Distribution

o Teaching

- expanded regular University course offerings
- special University course offerings
- establish new computer engineering program
- seminars for government agencies
- seminars/short courses for technical personnel
- public education, beginning with elementary school
- special teaching devices such as PLATO, TV, tapes, monographs, handbooks

o Research

- technical report publication/distribution
- articles in journals
- colloquia---offered on UNITE
- presentations at seminars, conferences, symposia
- personal visits
- electronic mail
- audio-visual presentations
- computer-based presentations

o Service

- consulting
- seminars
- brochures
- training

8.0 Physical Plant

- o A physical plant is necessary to house center offices, library, and equipment.
- o The physical plant also serves as a recognizable focal point for center activity.
- o Requirements:
 - office space occupied by the director and clerical support staff
 - space for a center library
 - meeting room(s)
 - laboratory space housing, for example,
 - the center's computer system
 - network links to UCC equipment and to other universities
 - chip design equipment
 - chip production, analysis equipment
 - chip integration facilities
 - the laboratory must have good air handling and power availability
- o Director's responsibility
- o housing for visitors

9.0 Affiliated Universities

o While questions regarding the nature of affiliating other universities with the center remain to be resolved, the following guidelines are proposed:

- regionally adjacent universities should be primary candidates
- the total number should be small---three or four
- affiliations should be on a contract basis, with a contract duration of 2-5 years
- each affiliated university should be represented on the TAC
- selection should be based on each university's potential to contribute to the center's objectives by supplementing or complementing strengths within the center
- each affiliated university should engage in center sponsored projects initiated via the same proposal mechanism used for on-campus projects
- the full complement of center available equipment and support facilities available to other affiliated organizations should be at the disposal (through computer networking links where possible) of affiliated universities
- personnel from affiliated universities may visit the Minnesota campus for extended periods to work on center projects; they shall remain on the payrolls of their home universities, if possible

10.0 Financial Plan

Expenditures:

o The attached chart describes objectives and expenditures, by category, for

- planning period
- initial operation
- first continued year of operation

Projected Income:

o Initial income is from grants supplied by private (affiliated) industries; as appropriate, income will be augmented and eventually doubled by:

- government grants
 - state legislature
 - federal agencies
 - + NSF (National Science Foundation)
 - + DOD (Department of Defense)
 - + AFOSR (Air Force Office of Scientific Research)
 - + ONR (Office of Naval Research)
 - + ARO (Army Research Office)
 - + RADC (Rome Air Development Center)
 - + DOE (Department of Energy)
- sale of services
 - contracts with private corporations/agencies/non-affiliated universities for equipment use
 - software sales
 - patents
 - RFPs bid on by the center

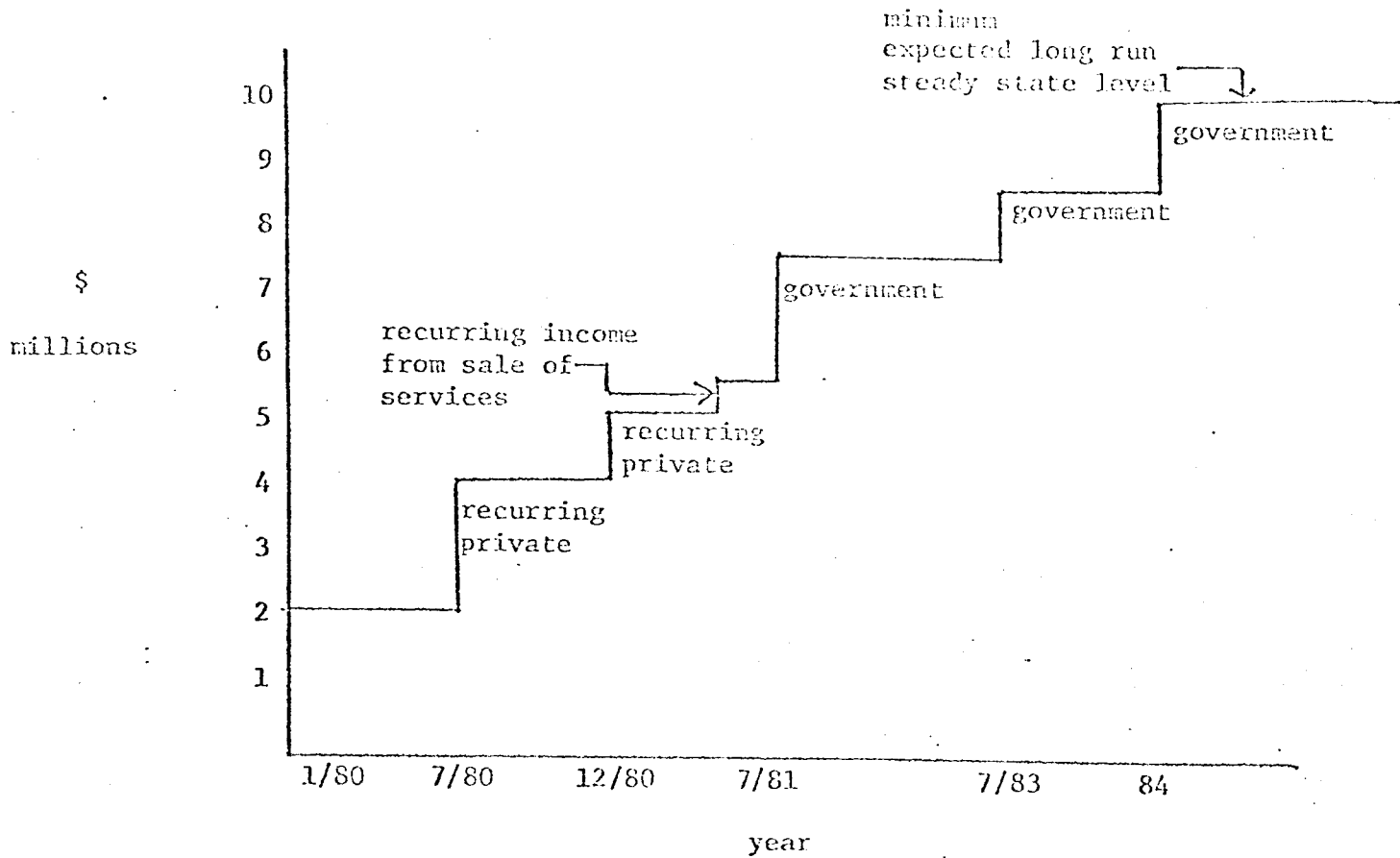
o The attached graph depicts our minimal expectations.

DRKPA
RFP6

Expenditure Categories	Calendar Period	Planning		Initial Operation		Continual Operation (initial year)	
		1 Jan 80	30 June 80	1 July 80	30 June 81	1 July 81	30 June 82
Objectives for calendar period		<ul style="list-style-type: none"> o establish center/center office o seek additional funding o advertise/promote/recruit faculty, staff, students o form EOD, TAC, formulate programs o solicit proposals o secure initial laboratory space/begin renovation cycle o determine number/nature of relationship for affiliated universities o settle legal contractual issues o plan equipment acquisitions/order 		<ul style="list-style-type: none"> o seek additional funding o complete renovations o install equipment o hire staff o sponsor projects 		<ul style="list-style-type: none"> o seek additional funding o review and evaluate operation/modify as necessary o expand staff/facilities/sponsorships 	
<u>Human Resources</u>							
<ul style="list-style-type: none"> o salaries:⁺ <ul style="list-style-type: none"> -director -clerical support -librarian -technicians -programmers -scientist/engineer -permanent staff (inc. Grad. RAs) -visitors o direct project support (salaries) 		acting co-directors: 22 1 secretary/4 months: 5.2 --- --- --- --- --- --- ---		1 full-time: 54.5 sr. sec./student p.t.: 25 1: 24 1: 25 1: 32 fac. salary adjustment: 50 visiting scientists: 50 :500		1 full-time: 60 2 secretaries: 32 1: 25 2: 55 2: 64 fac. sal. adj.: 50 sci./eng.: Grad. RAs (4): 40 visiting scientists: 75 :1000	
			27.2		760.5		
<u>Equipment</u>							
<ul style="list-style-type: none"> o computer systems o support equipment o networking gear o purchased software o furniture o office equipment o phones (voice/data) o direct project support (equipment) o maintenance 		--- --- miscellaneous: 1 clerical/word processing/terminal: 6 office only: .3 --- ---		VAX: 300 surface science center MSE equipment augment: 200 chip design system: 300 PDP 11/34: 25 misc.: 5 --- miscellaneous: 1 expansion: 1 :5 :400 VAX/PDP 11/34/design system: 30		Expansion: 75 network expansion: 50 miscellaneous: 50 miscellaneous: 1 expansion: 5 :25 :1000 :75	
			7.3		1267		
<u>Distribution</u>							
<ul style="list-style-type: none"> o brochures, publicity o reports, printing o sponsored conferences/symposia o film/vidiotape production 		student recruiting/general structure: 1 --- --- ---		:2 :30 --- :2		:2 :40 :50 :10	
			2		34		
<u>Physical Plant</u>							
<ul style="list-style-type: none"> o office/library o laboratory 		renovation (office): ---		--- renovation (moving): 300		--- building drawings: 400 renovation: 100	
					300		
<u>Miscellaneous</u>							
<ul style="list-style-type: none"> o office, computer supplies/travel o available resource costs 		travel/interviews: 3 CYBER 203E/CYBER, etc.: 15		:20 :15		:25 :40	
			15		50		
\$ TOTAL			53.5		2411.5		

⁺ Including fringe overhead not included

entry format = item: \$ cost in thousands



Possible Income Schedule

TO: Board Members
FROM: WRF, RYK
SUB: Action Item List
DATE: April 12, 1980

This list of action items is created primarily from the discussion at the March 20 Board Meeting.

- W. Bruning: Member, Search Committee
Meet with Piercy April 25
Follow-up on Motorola contacts
Follow-up on 3M contacts.
Comments on Business Plan sent to Center Office by April 21
Send first draft of a list of equipment at CDC available to Center researchers to Center Office by April 21.
- W.R. Franta: Meet with McDonald April 18
Meet with Piercy April 25
Co-chairman, TAC
Prepare next draft of Business Plan
Prepare composite equipment list.
Member, Director Search Committee
- W. George: Member, Bylaws Committee
Comments on Business Plan sent to Center Office by April 21
Send first draft of a list of equipment at Honeywell available to Center researchers to Center Office by April 21
Member, Director Search Committee
- G. Heenan: Comments on Business Plan sent to Center Office by April 21
Send first draft of a list of equipment at Medtronic available to Center researchers to Center Office by April 21
- B. Hexter: Member, Bylaws Committee
Comments on Business Plan sent to Center Office by April 21
Member, Director Search Committee
- Dean Ibele: Comments on Business Plan sent to Center Office by April 21
- R.Y.Kain: Meet with McDonald April 18
Meet with Piercy April 25
Co-chair, TAC
Chairman, Bylaws Committee
Prepare next draft of Business Plan
Prepare revised Task Status document
Prepare composite equipment list

E.B. Lee: Comments on Business Plan sent to Center Office by April 21.

W. Malloy: Comments on Business Plan sent to Center Office by April 21
Send first draft of a list of equipment at Univac available
to Center researchers to Center Office by April 21

Dean Staehle: Meet with McDonald April 18
Meet with Piercy April 25
Comments on Business Plan sent to Center Office by April 21
Coordinate fund raising.

Center for Microelectronic & Information Sciences
Board Meeting Minutes
March 20, 1980

Persons Present:

Board Members: Bruning, Franta, George, Heenan, Hexter, Ibele,
Kain, Lee, Malloy, Staehle

Guests: C. Berg, B.Flessner, M. Lulic, L. Thorndyke

Staff: C. Galt

1. The meeting was convened by Chairman Staehle at approximately 3:10 p.m.
2. The Chairman introduced board members and guests.
3. W. Bruning made an introductory statement. A copy of his remarks are attached.
4. To provide structure to govern the Center's operation until a permanent set of bylaws can be instituted, the following set of interim bylaws was proposed.
 - a. The Chairman calls meetings of the Board of Directors, announced at least 30 days in advance.
 - b. The Chairman will collect agenda items, form the agenda and distribute it to members at least 30 days in advance of the meeting date.
 - c. The Board will not take action at a meeting on any item not listed as an action item on the agenda distributed before the meeting.
 - d. The Director will be an ex-officio member of the Board.
 - e. The Board officials shall include:
 - 1) Chairman - Dean of the Institute of Technology
 - 2) Vice Chairman - an industry representative
 - f. Each Board Member shall have one vote.
 - g. Board Members may be represented by proxies.
 - h. Center staff will take meeting minutes which will be approved at subsequent Board Meetings.
 - i. All situations not covered by the above shall be governed by Roberts Rules of Order.

During discussion of this motion, several points were raised and referred to the Bylaws Committee (see no.6) The proposed interim bylaws were adopted.

5. The agenda called for selection of a Board Vice-Chairman. In the discussion on this issue, members suggested that the Board might not need a Vice-Chairman. Several expressed concern that any Vice-Chairman not be from industry, lest the Center be viewed as a one company operation. The Board, therefore, agreed to not have a Vice-Chairman.
6. The Center needs a set of Bylaws to govern its operation. Accordingly, it was moved that a Committee to draft Bylaws be formed with members:

R. Kain, Chairman
W. George
R. Hexter
J. Tierney

This Committee shall be formed with a charge to draft a set of Bylaws for presentation to the Board at its next meeting.

The motion was seconded and passed.

At several points in later discussions, particular issues were referred to the Bylaws Committee.

7. Franta summarized the Business Plan that had been circulated with the meeting agenda. It was agreed that this presentation would be considered for information and discussion only, and that no action would be taken at this meeting. Diverse points were raised during the discussion, including:
 - a. How open should the Center be to foreign nationals? The concerns centered on visitors to the Center and to laboratories at affiliated organizations.
 - b. How should rights to Center patents be handled? It was suggested that the Agricultural Experiment Station may provide a model for the answer.
 - c. How large should the Technical Advisory Committee be? There was concern about the ratio of University to industry members. The University membership will be approximately 10, while each company will have two members. Names of the company representatives were collected.
 - d. Where will the Center be located? The present temporary office in the Space Science Center is not adequate.

Board members are asked to forward detailed comments on the Business Plan to the Center office by April 20th. The Acting Directors will then write a new draft for the next meeting.

8. During the Business Plan discussion the question of the Center's name arose. Members were concerned about whether "Computer Science" should be part of the name and whether the name should reflect any geographic considerations. It was moved that the Center be named the Center for Microelectronic and Information Sciences. This motion was seconded and approved.
9. In conjunction with the name discussion, the Board covered the question of defining the Center's technical scope. Though no formal motion was made, the Board agreed that the Center's scope suggested in the draft Business Plan was appropriate. This scope is defined to encompass research and applications in the three areas:

Microelctronic Design
Distributed and Parallel Processing, and
Automation and Applications.
10. Kain briefly presented the status of tasks for Center implementation and operation. He will prepare a revision of the task status and update it as appropriate to keep Board Members apprised of the Center's status. No action was required or requested.
11. The Board discussed the status of efforts to obtain support from companies. The following table summaries the current status of ongoing efforts.

<u>Firm</u>	<u>Contact Status</u>
a. Cardiac Pacemakers	Franta and Kain met once with Dr. Mostafa Mosharraffa, Vice President Research and Development
b. Control Data	Grant received
c. Exxon	Bruning, Franta, Kain and Staehle will meet with Senior Vice President George T. Piercy in New York on April 25.
d. Honeywell	Official request for support sent to Mr. T.C. Lund, Vice President, Administration by Staehle on 11 March.
e. IBM	Franta, Kain met with Dr. John Porter, Manager of Special University Programs on 12 March to convey status
f. Medtronic	Heenan and Staehle have had preliminary discussions.
g. 3M	Franta, Kain, Lee met with Mr. Don Benassi, Information Engineer on 19 February. Business Plan sent him upon request.

h. Motorola

Contact made by Dr. W. Bruning
No firm meeting date set.

i. Univac

Franta, Kain Staehle met with:
R. Kerler - Director, Semi Conductor Division
R. Erickson - Vice President, Semi Conductor Div
H. Smuda - Vice President, Major Systems Div. -
Product Development
W. Malloy - Director, Plans & Communications
on 13 March. Franta, Kain and Staehle will
meet with President, R. McDonald on 18 April
in New York.

Other likely participants identified by Board Members during the ensuing discussion are AT & T, Conten, CPT, Hewlett-Packard, Northern Telecom, and Xerox.

12. The selection of a permanent Director for the Center was discussed. There was general agreement that this selection of a director is a high priority activity. The composition of a Search Committee was discussed. The ultimate responsibility for appointing the Committee lies with the Dean, so no explicit action was taken. (Subsequent to the meeting, the Dean appointed the following Search Committee:

Dr. W. H. Bruning, Vice President, Consulting & Education Services, CDC
Dr. W. R. Franta, Department of Computer Science
Dr. A. M. Goldman, School of Physics and Astronomy
Dr. R. J. Goldstein, Head, Department of Mechanical Engineering
Dr. R. M. Humphreys, School of Physics and Astronomy
Dr. R. M. Hexter, Department of Chemistry
Dean W. E. Ibele, Graduate School
Dr. E. B. Lee, Head, Department of Electrical Engineering
Mr. W. Malloy, Director, Plans and Communication, Sperry Univac
Mr. R. J. Tierney, University of Minnesota Attorney
Dr. H. F. Weinberger, School of Mathematics, Chairman, Search Committee)

13. The Board returned to the subject of the makeup of the Technical Advisory Committee. How large should the Technical Advisory Committee be? There was concern about the ratio of University to industry members. The University membership will be approximately 10, while each company will have two members. Names of the company representatives were collected. There was concern about the size of the group, but, after discussion of each nominee's interest area and its relationship to Center objectives, the size was not cut. The Chairman will make the final appointments after further discussion with faculty. Kain and Franta were asked to be co-Chairmen of the Technical Advisory Committee. The Board asked the TAC to report on its efforts to define theme areas for the Center at the next Board meeting.

14. The budgets for Center operation were discussed. Members readily agreed that budgets beyond June 30, 1980 should be tabled until a later time. It was moved that the budget for the period January 1, 1980 - June 30, 1980 be:

Human Resources	\$27,200
Equipment	7,300
Distribution	1,000
Computer Time	15,000
Miscellaneous	<u>3,000</u>
TOTAL	\$53,500

This motion was seconded and approved. Members expressed a desire to see budget projections for several years in advance when discussing future budgets.

15. The issue of Board involvement in capital expenditures was raised. Members would like to avoid duplicating equipment already accessible to Center researchers, when use of available equipment is an appropriate substitute. Members would therefore like to be involved in capital acquisitions. Perhaps a threshold should be imposed. There was no action on this item.

Members from industry will submit to the Center office, by April 20, a first draft of a list of available equipment that can be used for Center projects.

16. For legal reasons the Board convened as the Center's ad hoc steering committee and adjourned as the Board of Directors.
17. The meeting adjourned shortly after 6 p.m.

Microelectronic and Information Sciences

TECHNICAL ADVISORY COMMITTEE

Control Data

G.M. Schumacher
General Manager - Arden Hills Programming Division

W. W. Lindemann
Vice President - Microcircuits/Printed Circuits Division

Medtronic

Dr. Dave Mueller
Director of Cardiovascular Instrumentation

Paul Citron
Director of Applied Concepts Research

Sperry Univac

Ralph Kerler
Director - Semiconductor Division

Richard J. Petschauer
Director - Storage & Technology Development

Dr. Patrick L. Corbin
Manager - Operational Systems Analysis

Honeywell

Dr. William T. Sackett,
Vice President - Corporate Technology Center

Dr. K.C. (Carl) Nomura
Vice President and General Manager - Solid State Electronic Center

Dr. Ernest J. Dieterich
Vice President - Architecture and Technology

Line Hudson
Director - Engineering and Systems Development

University of Minnesota

G. Davis - Management Information Systems
A. Erdmann - Mechanical Engineering
W. Franta - Computer Sciences, Co-Chairman
A. Goldman - Physics
R. Kain - Electrical Engin., Co-Chairman
S. Stephanopoulos - Chemical Engineering

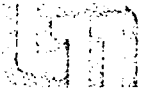
L. Miller - Chemistry
S. Sahni - Computer Science
R. Warner - Electrical Engin.
L. Schmidt - Surface Science
I. Markus - Mathematics
G. Robinson - Electrical Engin.

<u>Name of Firm</u>	<u>Contact Status</u>
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8. Motorola	Contact made by Dr. W. Bruning No firm meeting date set
9. Univac	Franta, Kain, Staehle met with: R. Kerler - Director, Semiconductor Div. R. Erickson - V. Pres. Semiconductor Div. H. Smuda - V. Pres., Major Systems Div. Products Development on 13 March. Franta, Kain and Staehle will meet with President, R. McDonald on 18 April in New York.

Microelectronic and Information Sciences

SEARCH COMMITTEE

Dr. H. F. Weinberger , Chairman, Search Committee, School of Mathematics
Dr. W. H. Bruning, Vice President, Consulting & Education Services, CDC
Dr. W. R. Franta, Department of Computer Science
Dr. A. M. Goldman, School of Physics and Astronomy
Dr. R. J. Goldstein, Head, Department of Mechanical Engineering
Dr. R. H. Humphreys, School of Physics and Astronomy
Dr. R. M. Hexter, Department of Chemistry
Dean W. E. Ibele, Graduate School
Dr. E. B. Lee, Head, Department of Electrical Engineering
Mr. W. Malloy, Director, Plans and Communication, Sperry Univac
Mr. R. J. Tierney, University of Minnesota Attorney



UNIVERSITY OF MINNESOTA
TWIN CITIES

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138 Lind Hall
207 Church Street S.E.
Minneapolis, Minnesota 55455
(612) 373-0132

April 9, 1980

Mr. George T. Piercy
Senior Vice President
Exxon Corporation
1251 Avenue of the Americas
New York, New York 10020

Dear Mr. Piercy:

As background for our meeting on April 25, 1980, we are sending an update concerning the status of the Center for Microelectronic and Information Sciences.

The Board of Directors (membership attached) met on March 20, 1980. The Board agreed upon several items:

- The Center name will be:

Center for Microelectronic and Information Sciences

- The Center shall concentrate on programs relevant to theory and application in the areas of:
 - Microelectronic Design
 - Distributed and Parallel Processing
 - Automation and Applications
- Specific focal points within these three areas will be formulated and selected by an extremely competent Technical Advisory Committee (membership attached). This Committee will later evaluate project proposals and oversee projects. The first meeting of the committee will be in May.
- The Center will support projects suggested by unsolicited proposals, projects solicited by issuance of internal RFQs, and projects initiated in response to RFQs from external agencies. The Technical Advisory Committee will guide project selection, and will be responsible to the Board of Directors for the integrity and quality of the technical program.
- The Center's explicit intent is to encourage the optimal use of shared resources by interdisciplinary, inter-organizational research teams. For example, the Center will not acquire expensive resources which

Page 2
Mr. George T. Piercy
April 9, 1980

duplicate that which Center-affiliated industrial organizations own and are willing to make available for Center sponsored projects. Research projects encompassing varied disciplines and University-Industry teams will be encouraged.

- A Search Committee has been established for the permanent Director. (Membership attached)
- Plans to affiliate with other Universities were discussed.
- The Center will be international in scope; additional funding to make this goal a reality is actively being sought.

Development of the Center is moving both swiftly and carefully. Highest priority is being given to:

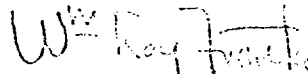
- Getting a permanent Director in place.
- Starting Technical Advisory Committee activities, especially the definition of the focus.
- Attracting additional industrial and government sponsorship.
- Affiliating other Universities with the Center.


We believe the Center to be the prototype of a new kind of institution - one that promotes synergism through the optimal sharing of resources and interdisciplinary research by University/industry teams.

We are very pleased to be able to meet with you on April 25 to discuss our very exciting and rewarding venture.

Thank you.

Sincerely,


W. R. Franta
Acting Co-Director


R. Y. Fain
Acting Co-Director

WRF/RVK:cg

Enc: 3

cc: Dean R. Stachle
Vice-President W. Bruning