

Engineering Technology Industry Council

Meeting held July 22, 2005 at CAPITAL Center

Voting Members Present:

Norm Armour	LSI Logic
Gerhard Beenen	Steridian
Eileen Boerger	Agilis Solutions
Dave Brown	Tektronix
Robin Furness	PacifiCorp
Michelle Girts	CH2M Hill
Gary Kaleta	Gunderson/OMI
Chris King	Oregon Display Consortium
Steve Pawlowski	Intel
Wally Rhines	Mentor Graphics
Dave Timmins	Eastman Kodak
Jim Troisi	IBM
Craig Zemke (phone)	JELD-WEN
Fred Ziari	IRZ Technologies

Non-Voting Members Present:

Martha Anne Dow	OIT
Bob Dryden	PSU
Bruce Schafer	OUS
Ed Thompson	OHSU/OGI

Other Attendees:

Morgan Anderson	Intel
Kathy Clevenger	Microchip Technology
Ken Cone	OUS
Joyce Cresswell	Saturday Academy
Bruce DeYoung	OSU Extension
Charmagne Ehrenhaus	OCATE
Ron Geason	PSU
Joe Graf	SOU
Dave Johnson	UO
Jim Lundy	OSU
John Marsaglia (phone)	WOU
John Miller (phone)	EOU
Kathy Miller	Hewlett-Packard
Anna Putnam	AeA Scholar
George Quainoo	SOU
Gordon Reistad	OSU
Roger Rennekamp	OSU Extension/4H
Bill Roberts	OHSU/OGI
Michele Vitali	OUS

Michelle Girts, ETIC Chair, opened the meeting by reporting that Fred Ziari has been appointed as an ETIC Vice Chair by the Chancellor and he will share responsibilities with Norm Armour. She also noted that since our last meeting Dave Timmins, Plant Engineering Manager with Eastman Kodak Company, joined ETIC as a voting member and John Tortorici, President of the Software Association of Oregon, joined as a nonvoting member.

Michelle asked for approval of the May 9, 2005 meeting minutes. A motion was made, seconded and unanimously approved to accept the minutes.

Legislative/Board Update

Michelle Girts briefed the Council on the budget. The Governor's Recommended Budget included \$21.7 million for ETIC within the OUS budget. The House and the Senate have separate but similar budget bills for OUS. Both include some across-the-board reductions, bringing the ETIC allocation to approximately \$21 million. If the Legislature adjourns by the

Engineering Technology Industry Council

Meeting held July 22, 2005 at CAPITAL Center

end of August, the State Board of Higher Education will review the OUS budget for the fiscal year ending June 30, 2006 at their meeting in early September.

Michelle reviewed the status of SB838 (Oregon Innovation Council; Commercialization Fund, SB853 (University Venture Development Funds), SB364 (Workforce 2005), SB343 (Articulation), and SB300 (Expanded Options) . She also shared some slides from the recent AEED (Academic Excellence & Economic Development) report to the board on July 15th. Their report recommends six opportunity areas which include:

Connecting research opportunity areas with clusters:

1. Nanoscience and microtechnologies
2. Sustainability and natural resources
3. Neuroscience and biomedical research

Strong infrastructure:

4. Education
5. Engineering & IT
6. Healthcare Workforce

Within their report, ETIC was recognized as a well established model for partnership with traditional and high-tech industries. The report also indicated that an opportunity area exists for aligning ETIC with P-20 goals for student preparation in science, technology and math. ETIC was also noted as part of the infrastructure for a vital economy. The Joint Boards of Education met in July and discussed how the Boards could work together on strategic planning.

Oregon Industry 2005-2010 Research Needs

Michelle spoke to the group about ETIC's "real time" challenge. An idea that originated in ETIC's strategic planning session was to develop a more frequent exchange between industry and academia on cutting edge research topics and how they relate to the engineering, technology and computer science problems that industry need to have solved to make their businesses excel. Some ideas that have come forward in the past include:

- Analog testing and quality of digital/mixed test
- Database security
- Energy management (conservation, renewables)
- Lean manufacturing (best practices through all business functions)
- Modeling interconnect
- Noise analysis
- Power management in electronic design

Michelle opened up the discussion for industry members to augment the list with additional ideas. The intent is to influence research activities at universities as well as curriculum development. She said she wanted to hear from the universities at the September meeting, followed by prioritization and a path forward. Ideas included, but were not limited to:

- Artificial Intelligence techniques needed to provide data for power distribution
- Bio-mechatronics
- Bio-sensing – wearable medical instrumentation
- Data mining of large volumes of semiconductor processing data
- Energy storage including fuel cells
- Healthcare delivery in light of aging population
- Human vision system
- Material science, non-semiconductor, supporting biomedical engineering and nanotechnology
- Material science, semiconductor -- increasing density, decreasing feature size
- Medical information sharing
- New ways of accessing databases that can be used by non-technical people
- Post processing large amounts of chip test to increase fault coverage; testers getting more expensive
- Power consumption and management of semiconductor circuits

Engineering Technology Industry Council
 Meeting held July 22, 2005 at CAPITAL Center

- Programming a highly parallel heterogeneous architecture
- Real-time fault detection and defects management
- Self diagnostic systems that enhance fault tolerance using error isolation or self-repairing techniques – at both nanoscale and in large power distribution systems.
- Transportation solutions that minimize energy and still serve lean manufacturing
- X-ray scan and search, quick analysis and evaluation

ETIC Membership and Clusters

Michelle discussed industry clusters with the Council in relation to our ETIC membership. The oregonclusters.org identifies the various clusters in the state, which are groups of companies and institutions linked by interdependencies in providing a similar or related group of products and/or services. They often share common markets, technologies, workforce needs, buyer-seller relationships, and policy concerns. Bruce provided the following list which mapped our ETIC companies to a cluster, as well as identified clusters not previously listed (engineering, imaging).

Analysis of Clusters vs ETIC Membership

<i>Clusters listed on OregonClusters.org</i>	<i>ETIC Members from company in Cluster</i>
Aerospace/Aviation	
Agriculture/Food	IRZ
Apparel/Sporting Goods	
Biomedical Devices	
Biosciences	
Creative Services	
Cyber Security	
Defense	
Destination Retail	
Display Technology	
Distribution & Logistics	
Education	
Energy	PacificCorp
Financial Services	
Fisheries	
Food Processing	
Forest Products	JELD-WEN
Healthcare	PhTech
High Tech	ESI, HP, Tektronix, Xerox
Metals	
Nanotechnology	
Nursery	
Professional & Business Services	
Silicon	Intel, LSI
Software	Agilis Solutions, Mentor Graphics
Telecommunications	
Tourism & Hospitality	
Transportation Equipment	Gunderson
 <i>Clusters not listed on OregonClusters.org</i>	
Engineering	CH2MHill
Imaging	Eastman Kodak

The group noted that the high-tech cluster overlapped with several other clusters. Ed Thompson noted he'd like to see some ETIC companies join that represent the biomedical biosciences industry. Craig Zemke noted JELD-WEN should fit into building products rather than forest products.

Engineering Technology Industry Council

Meeting held July 22, 2005 at CAPITAL Center

The group concluded that we should allow for multiple matches of industry representatives and clusters. For instance, Intel and LSI should also both be listed under nanotechnology. Doing so will help identify any areas ETIC is currently not representing but should. Michelle requested names and companies for clusters that we need to identify.

ETIC-sponsored ASE Apprenticeship

Joyce Cresswell introduced Anna Putnam, a 2005 high school graduate that participated in the ASE Apprenticeship program last year and had a position with Dr. Jun Jaio at PSU assisting with nanotech research. She is an AEA scholarship and MECOP recipient, and despite scholarship offers out of state, she has decided to stay in Oregon and attend OSU. She spoke briefly to the Council on the rewards of the ASE Apprenticeship program and thanked the members for their support.

Eastern Oregon Partnership

Fred Ziari updated the Council on some new connections between Eastern Oregon University and Hermiston including enhancing the pre-college 'pipeline' in Eastern Oregon.

Computer Science Task Force Update

Bruce gave a report on behalf of the computer science task force that was created after the last ETIC meeting where a significant downturn in CS graduates was noted. The task force consists of industry members (Mentor Graphics, Intel, Agilis Solutions, Synopsys), the Software Association of Oregon, as well as computer science chairs and professors from each of the universities. The task force had met four times. They had reviewed a variety of published research on the subject, considered and prioritized the problem scope and developed an initial recommendation.

That recommendation is *to improve perceptions of Computer Science as a major and career*. Other recommendations (not in any particular order) the group has considered are:

- Improving pre-college preparation for CS as a college major
- Retaining students in CS programs
- Improving match between skills/knowledge of CS grads with the job market of 2006 and beyond
- Improving feasibility of attracting transfers from other majors, returning students, and/or community college transfers
- Improving perceptions of CS among younger students

Over time the task force will come back with additional recommendations, but they have decided to focus their initial efforts on improving perception. This would be accomplished by designing and implement a marketing campaign that targets high school students, parents, counselors and teachers. Two types of messages will be delivered: 1) examples of careers based on CS degrees featuring Oregon alumni and representing diversity in careers and individuals; and 2) statements from industry on the need for CS graduates and characteristics of CS careers. Employment projection data would also be included in the campaign. Possible media include a brochure with a CD-ROM or a website link. Ideas regarding delivery methods and possible incentives to include are being discussed. The task force hopes that each ETIC member will provide statements on behalf of industry for the campaign. A budget has not yet been determined for the campaign. Bruce said his department's budget could provide a portion of the costs of the project.

Bruce requested feedback from the ETIC members. It was suggested that *improving pre-college preparation for CS as a college major* is a significant challenge in this area and perhaps we should be reaching down to the middle and high school level. Eileen Boerger noted that as a member of the task force she had participated in several discussions regarding short-term vs. long-term solutions. While the task force decided to start with a short-term solution it felt strongly that reaching younger students was extremely important. Other discussion followed regarding general trends in downturns and perceptions. Overall, the work of the task force to date was widely accepted by the Council.

Summit Planning Update

The official name of the summit is now the Oregon Pre-Engineering & Applied Sciences Strategic Planning Summit. The date has been set for September 15th and 16th and it will be held at the Conference Center at PCC Rock Creek. A facilitator has been selected, materials are being development and a simple logo and website are being set up.

Morgan Anderson suggested Project Lead the Way as a future agenda item.

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Scorecard Reports

While 6/30/05 scorecard reports were not scheduled for today's ETIC meeting, PSU was prepared to preview their report a copy of which is located on the ETIC website at http://www.oregonetic.org/investment_indicators/03-05/PSU2005-0722.pdf. Bob Dryden reported that PSU is carrying over approximately \$1 million, a portion of which is due to the excellent financial performance by the OMSE program. PSU exceed its private support goal by \$3.5 million, and had positive variances for student credit hours and degrees granted in both the undergraduate and graduate categories.

There being no further business, the meeting was adjourned.