

WCN - FYE

Notes only (James Key  
is doing minutes.)

8/01/86

JGB

WELLSPRING WORK GROUP ON ADVANCED MANUFACTURING

Attending the meeting of the Wellspring Work Group on Advanced Manufacturing were W. C. Norris, Chairman, John Lacey, Chuck Denny, Herb Johnson, James Key, S. Ramalingam, Don Riley, Steve Gage, Dr. Stutzman, and Jane Belau.

Chairman's remarks were given by W. C. Norris. He provided the background for the discussion of advanced manufacturing, talked about NSF grants covering five new engineering research centers with technology transfer as part of the program. John Lacey described the Semiconductor Research Corporation. Mr. Norris noted Japan's redoubling of its efforts at using advanced technology referring to the growth in their budgets for research and development. He also said they had an 8 to 1 advantage in labor costs, and stressed the need for addressing advanced manufacturing in view of the need for America to become and remain competitive in a number of different areas.

John Lacey outlined the Minnesota Wellspring Advanced Manufacturing Centers proposal. There were four objectives identified in the document:

1. To provide Minnesota industry with the earliest access to state-of-the-art computer integrated manufacturing technology in both mechanical and electronic production.
2. An objective is to help accelerate the transfer of advanced manufacturing technology from the university to industry.
3. To provide advanced manufacturing services on a contract basis to industry, particularly small- and medium-sized businesses who cannot afford to develop their own capability for computer integrated manufacturing systems.
4. To transfer the technology and know-how to Minnesota manufacturers so they can better compete in world markets.

It was noted by Mr. Lacey in conjunction with number 4 that there should be hands-on experience using people assigned by industry to the center in order to accomplish this technology transfer. Herb Johnson mentioned the SAE paper by GM executives and said he would share this with committee members.

It was urged that initially money not be spent on buildings but on the program. The question was raised as to what kind of facilities are available. John Lacey reported they looked at buildings of about 50,000 square feet. Chuck Denny noted that the Vincent Brass and Copper Building in the Technology Corridor across from the Supercomputer Institute is available. Johnson and Denny strongly urge placement in the Technology Corridor. W. C. Norris said this would be the preferred approach, but it is always nice to have competition at which point representatives of the Technology Corridor said they would, indeed, make the most attractive offer.

It was also noted that there should be two out-state centers. Denny noted both Mankato and St. Cloud are industrial centers and would be good sites for location. The comment was made that it would be also good to leave it to the legislature to look at some non-metropolitan sites.

There was substantial discussion of ownership: should it be owned by the private sector; would it be owned by the private sector? It was agreed that support should come from the public sector, but also that it could, initially, start out with public sector support with all or part being assumed by the private sector at some future date. For example, the outreach portion could be spun-off to the private sector. Graduate students should work there. The Advanced Manufacturing Institute would be the owner of the Advanced Manufacturing Center. It could possibly be sold to a consortium of industries.

The University of Minnesota mentioned that it has its own internal proposal which is unofficial since the University has not endorsed it. It has been presented to the Dean of IT and the President of the University, but it will be presented to the new Provost who arrives August 15. They have prepared three options with a high-end of \$20 million for the biannium. This money would be used to upgrade the lab facilities, modernize and beef-up on-campus facilities, but move toward placement in the Technology Corridor; it would use and R&D Center with pilot activity. The low-end of the three proposals

requests \$1.5 million and just addresses upgrading up facilities. Ultimately they envisioned a function with one-third on-campus and two-thirds off-campus. They don't like the REI model for ownership because they feel it is not as interested in faculty research needs. They feel the Advanced Manufacturing structure could be industry-involved, but basically within the university. The Department of Economic Development would provide the funding. The Dean of IT could be the CEO. Comment was also made that for him to assume those additional responsibilities of CEO were of concern. (The University representative also noted there is going to be a request for funding Engineering Research Centers.) Comments were made by other members of the group that if the money is funneled through the university, the university then would lose money in some other portion of the budget, rather than having it be an additional amount of funding. It was noted that 7 to 12 chairs in Manufacturing are vacant nationwide and they want to be able to attract and keep good people in that field at the University. Following questions by Herb Johnson it was stressed that there is no intent of a duplicate facility and there is great need to work together in putting this proposal in place. It was agreed that a proposal is needed that the university can also support. Riley expressed a concern that

contract manufacturing would take over the center too soon. He said they need planning money as well. Ramalingam said that why not have an existing consortium of companies putting money into the productivity center and CIM. They should have an up-front commitment by major industry in order to proceed.

Chuck Denny made the point that they didn't want to compete with currently existing job shops, that they could cover that by starting the institute then turning over to private industry. The center would make complete products whereas job shops make components. Ramalingam said if you can demonstrate the advanced technology is successful, then technology could be used in job shops that would then make them more competitive. It was recommended that added into the proposal was an objective to make job shops more competitive and more successful, which also adds a small business element to the proposal. Herb Johnson said that it is important to move these technologies to the job shops and small business. Riley discussed university fit. He said it would need to be close to the university because of the student-faculty travel time. While on-campus would be desirable, the Technology Corridor would be close enough. Riley views the proposal as a

framework, but if the Advanced Technology Center is supposed to be the source of the technology with University outreach, then the university community would have some recommendation. Dr. Stutzman asked if the University would accept this kind of activity as part of promotional criteria for faculty and Riley said yes they could accept this experience for promotion if they would also publish along the way. Dr. Stutzman said that we should place a priority on the survival of the job shop otherwise the tools and dyes will increasingly be made overseas. It was also mentioned that it is important that smaller businesses get access to the supercomputer as a utility.

Another objective discussed was to study ways in which the job shop can survive.

Another objective strongly supported by Herb Johnson and others was that a goal would be to have the Advanced Manufacturing Center be self supporting. While various time lines were recommended, it was felt that it would be better if that were left open-ended.