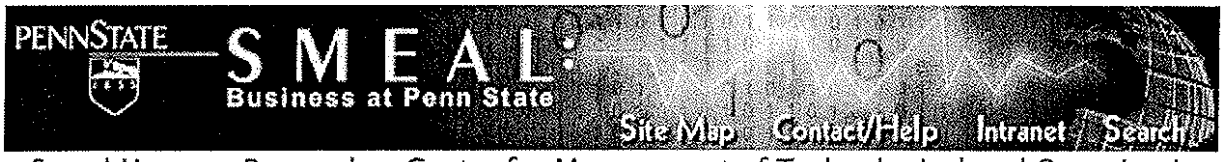

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Penn State Smeal CMTOC: Forty-Seventh Meeting

"Collaborative Competence: A Major Basis of Competitive Advantage"
Rick Jarman Director, Advanced Manufacturing Affairs Eastman Kodak Company

Rick Jarman presented theory and practice related to effective R&D collaboration. His presentation was based on a book that Gene Allen (MCS Software) and he wrote on this subject. Their expertise focuses almost exclusively on process R&D rather than product R&D. They were motivated to write the book because of their conviction that collaboration was becoming an essential core competency that companies need to develop. The need for collaboration is increasing because of the rapid development of information technology, increased globalization, and the fast pace of competition. Few companies have the resources or the time for ambitious process R&D initiatives related to product creation or supply-chain management, e.g., rapid prototyping, reduced cycle time, greater cost control and efficiency. Such initiatives can be accelerated by developing an infrastructure for collaboration with other companies. The value contribution of collaboration increases as the relationship between companies deepens, e.g., strategic partnerships yield more for a company than cross licensing.

A McKinsey study found that collaboration experience can help a company to retain its best engineers. Some of the earliest experiments with collaboration showed that companies frequently used some of their weakest engineers in collaborative projects. The McKinsey study also showed that shortage of funds to conduct a project was the primary motivator for collaboration, but that ineffective teams were the primary reason that collaboration failed. For example, teams consisting only of engineers were likely to fail because engineers often do not understand financial metrics, e.g., return on net assets, and related measures.

An effective team needs legal, technical, and business resources. An effective facilitator also is important for success. A facilitator can help the team rework initial ideas, develop a "white paper" for the project, facilitate networking, and develop effective communication between companies.

Business restructuring and new government regulations can be a catalyst for undertaking process R&D projects Companies may be motivated to collaborate when they have started R&D projects, but internal funds are limited, or their requests for additional internal funds are rejected. The availability of U.S. government funds, e.g., DARPA, ATP, may be a catalyst for firms to collaborate, but foreign funds also may be available. R&D collaboration is usually not an anti-trust issue as long as the technology is considered to be "precompetitive", and companies file regularly with the Department of Justice. U.S. agencies that fund process R&D projects usually want the technologies that are developed to be made public within five years. However, the companies may actually push for faster release so that their suppliers have faster access to the new technology. Success is enhanced when suppliers and developers work with at least one big end-user that will undertake a pilot and move the technology quickly into production. Rick cited where Ford benefitted from a clear focus on failure-mode reduction. Also, the involvement of several companies in a project can facilitate the establishment of a new standard. The participating companies need to agree on what their respective benefits will be, what knowledge is complementary to what the company is currently doing, who is the back-home recipient, and how will the knowledge gained be extracted. The ideal is a flexible multiple center with virtually collocated, peer-to-peer relationships with parties who have a shared vision, common culture, and clear accountability.