Managing the Change from an Individual Project-Driven Research Agenda to a Consortia Agenda

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Concept to reality (28 industry members) and operating successfully within four years (2008-2012). We have been NSF I/UCRC center from 2010.

It was a grueling journey. But it is worth it and the whole team will do it all over again.
Outline (10 minutes)

• Mission of the CIMJSEA
• Background: individual project driven agenda
• Need: Consortia Agenda
• Approach: IAB Task Force
• Outcome: Hybrid Approach
• Question and Answers
Missions of the Center for Integrative Materials Joining Science for Energy Applications:

• Close the gap between material development and weldability

• Scientifically based methodologies for assessing material weld-ability/join-ability that span nm to mm scale
  – (1) extending the life of material joints within the aging energy infrastructure
  – (2) reduction of the time and cost of deploying advanced materials (bulk materials, Hybrid, advanced) for the new energy infrastructure

• Develop new generation of materials joining engineers & scientists

• Strong support from community organizations including American Welding Society
Individual Projects are Established by In-Depth Interviews and consultation with executives within these companies.

• Although, the companies wanted to share their results, the scope of each project is related to each member’s technical interests!

> $1 million per year
Current Status of Collaboration

- 48% of projects currently sharing precompetitive technology
- Evolves by natural alignment
  - Typical in welding
- High level of synergy with no formal process
- Increasing the percentage of collaboration is required for long-term stability of the center.
- Task force lead by IAB members was initiated January 2012
Recommendation from Task Group – July 2012

– Option I: Formalize & Measure Current Ad Hoc Process
  • Synergies and Collaboration Opportunities at Thrust Level

– Option II: Common Project Development
  • Industry Member and University level collaboration

– Option III: Cross-Cutting Collaborations
  • Major Collaborative Projects funded with supplemental fees collected from Industry Members

– Challenges and difficulties for implementation were discussed
Update: Implementation of Crosscutting Project Development in Two Thrust Areas (Jan 2013)

- **Thrust Area: integrated Process Modeling**
  - Lead: Jacque Bader (Rolls Royce)
  - Technical needs identified in collaboration with other member companies
  - Sent out to the faculty (November 2012)

- **Thrust Area: Weldability and Life Extension**
  - Lead: Jack deBarbadillo (Special Metals)
  - Technical needs identified in collaboration with other member companies (November 2012)

- **Plan: Select one collaborative project from each thrust area**
  - Funding methods to do the same will be discussed

- **Verbal Update of the discussions from January 7 and 8 meeting**