Panel 2 Discussion: "Technology Gaps Ripe for Industry Collaboration"

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Characteristics of Previous Successful Technology Collaborations
- Personal relationships
- Committed relationships
- Incubation of startup company
- Relevance balanced with novelty
- Precompetitive process development
- Part of multilevel engineering problem
- Commercialization of characterization tool
- Industry initiated questions of "what if" and "how does"
- Enabling success along a forward looking industry roadmap

Seeking to generalize from past examples
Relationships
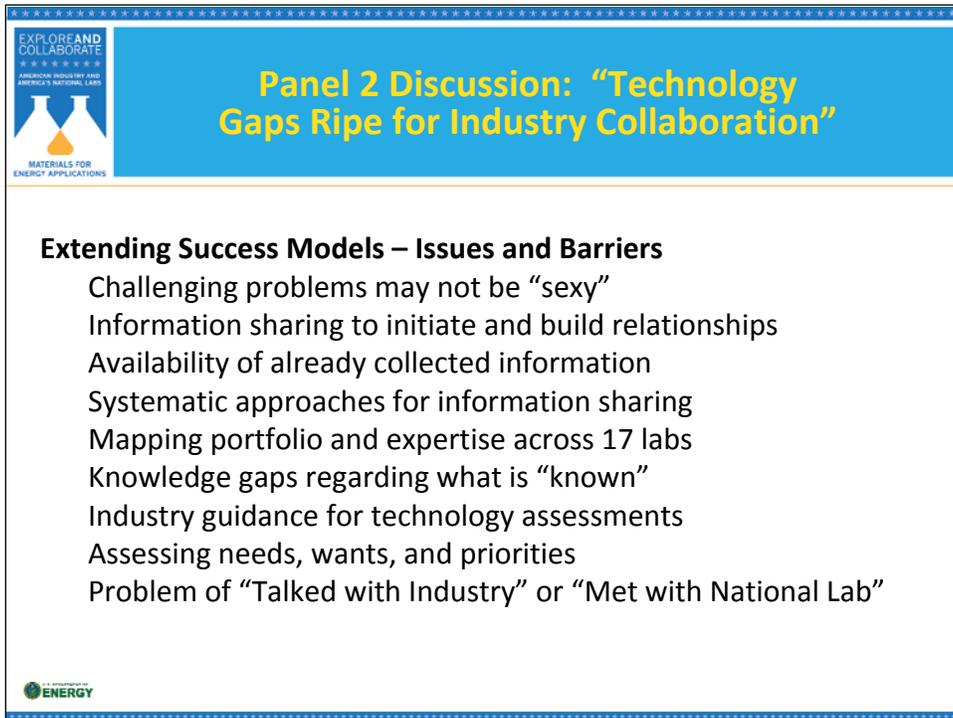   Several, Goodyear, skin in the game
Novelty
    Nanocrystals, Manufacturing
Precompetitive
    Solid State Lighting, Wind Energy, Asylum,
(Not) Critical Path
    Several, SEMATECH

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Extending Success Models – Issues and Barriers
- Challenging problems may not be "sexy"
- Information sharing to initiate and build relationships
- Availability of already collected information
- Systematic approaches for information sharing
- Mapping portfolio and expertise across 17 labs
- Knowledge gaps regarding what is "known"
- Industry guidance for technology assessments
- Assessing needs, wants, and priorities
- Problem of "Talked with Industry" or "Met with National Lab"

Mention of "mundane" topics – e.g. manufacturing

Scientific papers and professional meetings are not enough to publicize technology – partly because industry attendance has dropped

DOE seems complex to outsiders

As often happens in science, sometimes we reinvent the wheel – without knowledge of what industry already knows

Technology assessments without industry input or review is likely to miss needs or priorities

Interactions needed at multiple levels, good impedance match, and with people who can speak to priorities

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Recommendations

Take a systematic approach to information sharing across labs
- Include assessment of TRL and MRL
- Look for and highlight transferable technology
- Evaluate availability and suitability for potential partnerships

Engage industry in technology reviews and assessments
- Identify immediate needs
- Assess priority needs
- Create challenges in pursuit of Holy Grails

Create and be creative to socialize information exchange
- Convene and sustain industry focus groups
- Industry days
- Crowdsourcing