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# Interaction between Federal Laboratories and State TBED Programs

Presentation by:

Dan Berglund

President and CEO

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# State Science and Technology Institute

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## ■ Mission

- Enhance initiatives, particularly those at the state level, that encourage economic growth through the application of science and technology
- Advance cooperation in science and technology between the states and the federal government

## ■ Funders

- Kauffman Foundation
- MEP, EDA
- More than 30 states and 100+ universities, cities, and TBED organizations



# Background on TBED

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TBED fosters a climate where innovative companies that develop and adopt technology will thrive.

- Occurs at the state and regional level
- States spent ~\$1.8B in FY2004 on TBED programs
  - 39 states spent more than \$1M
  - Spending ranged from \$0 to \$354M



# TBED Approaches

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- Building research capacity
  - Centers of excellence, recruiting eminent scholars
- Encouraging collaboration
  - University-industry partnerships, technology councils
- Increasing access to capital
  - Direct and indirect investment in cos., state SBIR programs
- Developing a technically-skilled workforce
  - STEM education, brain retention
- Encouraging and supporting entrepreneurship
  - Tech commercialization, incubators
- Developing appropriate physical infrastructure
  - Research parks, high-speed Internet access



# Summary of Statistics

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- Surveys sent to 48 states
  - 31 surveys completed
  - Total survey response rate: **65%**
  - 22 states reported working with a federal lab (71% of responses)
- What type of projects have states worked with fed labs?
  - 68% - Collaborative research projects
  - 68% - Technology transfer to companies
  - 64% - Industry cluster development
  - 59% - Education and outreach



## Other reasons cited for working w'labs

- Technology transfer to government
- Commercial and Test Services Agreements (CSA/TSA)
- Oversees scientific aspects during the creation of a science museum
- Technology testing and review
- Strategic facility planning
- Peer review



# Summary of Statistics

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- The 22 State TBED Organizations reported working with 52 individual federal laboratories
- 67% of the labs are located in the same state as the responding TBED organization
- Labs that were mentioned more than two times:
  - National Renewable Energy Laboratory ( 5 states )
  - Argonne National Laboratory ( 3 states )
  - Idaho National Laboratory ( 3 states )
  - Oak Ridge National Laboratory ( 3 states )



## For all respondents: Do states agree or disagree?

- Four point scale, 4 = strongly agree to 1 = strongly disagree
  - **3.23** = I understand how to initiate a relationship with a federal laboratory. ( 30 responses )
  - **2.96** = Federal lab officials understand the goals and needs of organizations like mine. ( 25 responses )
  - **2.88** = Federal lab officials understand the needs of companies my organization serves. ( 25 responses )
  - **2.83** = Federal lab officials understand and accommodate the difference between working with companies vs. working with academics. ( 23 responses )
  - **2.67** = Overall, companies in my region have found working with federal labs to be productive. ( 24 responses )



For all respondents:

## Do states agree or disagree? (cont.)

- Four point scale, 4 = strongly agree to 1 = strongly disagree
  - **2.57** = It is fairly easy to find out what technologies federal labs have available for transfer. ( 28 responses )
  - **2.46** = Federal labs understand and are responsive to companies' needs for prompt action and decisions. ( 24 responses )
  - **2.42** = Setting up a potential collaboration with a federal lab is an efficient and effective process. ( 24 responses )
  - **2.23** = When working with federal labs, issues regarding disposition of intellectual property are worked out up front, fairly, efficiently, and in a timely manner. ( 22 responses )
  - **2.07** = Federal labs market the availability of their technologies effectively. ( 29 responses )



# General Comments

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- “The labs’ intention to work with companies is good. However, their business model and practices do not match well with the needs of companies, especially small ones.”
- “The labs have tended to want 100% control and assume that we will pay for everything.”
- “The federal lab needs to see industry partners as true partners rather than sources of revenue.”
- “Focus on solving problems or pursuing opportunities rather than pushing their technology.”
- “Tech transfer is a contact sport, not a glossy publication.”



# General Comments

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- “The federal labs need to be pro-active participants in working to develop collaboration rather than simply saying we have all these great technologies and resources that you can use. State and regional TBED organizations along with federal labs need to work together to design outreach and other activities that meet the customers’ needs. Both groups need to do a better job of listening to the needs of customers. The focus needs to be on successful projects rather than justifying the TBED or national lab's program or organization.”



# For respondents who HAVE worked with the fed labs

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- Four point scale, 4 = strongly agree to 1 = strongly disagree
  - **3.55** = I understand how to initiate a relationship with a federal laboratory. ( 22 responses )
  - **2.91** = Federal lab officials understand the goals and needs of organizations like mine. ( 22 responses )
  - **2.81** = Federal lab officials understand the needs of companies my organization serves. ( 21 responses )
  - **2.80** = Federal lab officials understand and accommodate the difference between working with companies vs. working with academics. ( 20 responses )
  - **2.68** = It is fairly easy to find out what technologies federal labs have available for transfer. ( 22 responses )



## For respondents who HAVE worked with the fed labs (cont.)

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- Four point scale, 4 = strongly agree to 1 = strongly disagree
  - **2.67** = Overall, companies in my region have found working with federal labs to be productive. ( 18 responses )
  - **2.43** = Federal labs understand and are responsive to companies' needs for prompt action and decisions. ( 21 responses )
  - **2.30** = Setting up a potential collaboration with a federal lab is an efficient and effective process. ( 20 responses )
  - **2.28** = When working with federal labs, issues regarding disposition of intellectual property are worked out up front, fairly, efficiently, and in a timely manner. ( 18 responses )
  - **2.14** = Federal labs market the availability of their technologies effectively. ( 22 responses )



## Reasons cited NOT to work with the labs

- Not been able to work out mutually acceptable terms for collaborative projects
- Federal labs have not expressed an interest in working collaboratively with state or regional TBED organizations
- The size difference between small state TBED organizations and large federal laboratories makes interactions difficult
- More value added by working with universities or nonprofit research institutions
- Have not had the time
- “Federal lab has a line a mile long waiting to see them, and we are near the back of the line”



# Respondents who HAVE NOT worked with the fed labs

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- Four point scale, 4 = strongly agree to 1 = strongly disagree
  - **3.33** = Federal lab officials understand the goals and needs of organizations like mine. ( 3 responses )
  - **3.25** = Federal lab officials understand the needs of companies my organization serves. ( 4 responses )
  - **3.00** = Federal lab officials understand and accommodate the difference between working with companies vs. working with academics. ( 3 responses )
  - **3.00** = Setting up a potential collaboration with a federal lab is an efficient and effective process. ( 3 responses )
  - **2.67** = Overall, companies in my region have found working with federal labs to be productive. ( 6 responses )



## Respondents who HAVE NOT worked with the fed labs (cont.)

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- Four point scale, 4 = strongly agree to 1 = strongly disagree
  - **2.67** = Federal labs understand and are responsive to companies' needs for prompt action and decisions. ( 3 responses )
  - **2.38** = I understand how to initiate a relationship with a federal laboratory. ( 8 responses )
  - **2.17** = It is fairly easy to find out what technologies federal labs have available for transfer. ( 6 responses )
  - **2.00** = When working with federal labs, issues regarding disposition of intellectual property are worked out up front, fairly, efficiently, and in a timely manner. ( 4 responses )
  - **1.86** = Federal labs market the availability of their technologies effectively. ( 7 responses )



## To summarize...

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- States who have worked with the federal labs know how to initiate relationships (3.55), and states who have not worked with them do not (2.38).
- Across the board, state agencies feel that federal labs do not market their technologies effectively. This statement is consistently ranked last.
- Higher marks are given for the actions of fed lab officials.
- Lower marks are given for the collaboration process with the federal labs.



# Respondents' Recommendations

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## Outreach/Communication

- Expand the availability of lab resources, such as staff expertise and facilities, to local companies and organizations.
- Have annual workshops to review progress.
- Produce informational CDs to hand out, or eNewsletters to highlight available technologies.
- Produce a one-page summary of equipment, personnel, and research projects to be shared with companies.
- Initiate more site visits.
- Have the labs meet with the governor, state policy makers, and industry on a regular basis.



# Respondents' Recommendations

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## **Flexibility**

- Allow federal labs to use their funding to engage local and state organizations.
- Allow the labs to define their program scope and mission to leverage state industries and strengths, rather than simply responding to federal priorities.
- Develop understandings with each lab on the extent by which they can pay for certain parts of the collaboration.
- Form relationships based on matching technologies and interests, not just on proximity to labs.



# Respondents' Recommendations

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## Structure

- Hire tech transfer personnel with industry experience.
- Establish industry advisory teams to evaluate the performance of tech transfer programs.
- Simplify licensing procedures.
- Share IP ownership for joint research.
- Take the FLC model to a smaller level, organizing by states instead of regions.
- Provide local grants that take less time to complete.



# Suggested Initiatives for the FLC

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- Establish a formal mechanism for interaction between the states and federal laboratories, with the explicit mission of developing more programmatic relationships.
- Develop a FLC Government Tech Transfer Professional Certification Program supported by TBED organizations.
- Develop a national database that identifies all commercially available technologies that TBED organizations can access.
- Organize an annual technology showcase or summit for state TBED groups.
- Provide insights into the problems and interests of agencies in DC (serve as a channel into the agencies)



# Conclusion

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“what we have here is a failure to communicate”

- Paul Newman, *Cool Hand Luke*



# Questions for Discussion

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- Do the federal laboratories take a technology-push approach or a tech-pull approach? Should one approach be favored over the other?
- We have heard from a number of states that the mission-oriented operation of the federal laboratories inhibits more opportunities. Is this a correct assessment?
- Is someone responsible for looking beyond tech transfer to understand how the lab fits in the region?
- Given the importance of proximity, how do states without federal labs partner effectively with labs?
- Are there opportunities to improve communication with state TBED programs?



# Contact Information

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**For more information, contact:**

Dan Berglund

State Science & Technology Institute

614/901-1690

[berglund@ssti.org](mailto:berglund@ssti.org)

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