Growing Innovation Clusters for American Prosperity

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The National Academies
Washington DC
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Charles W. Wessner, Ph.D.
The National Academies

Welcome to the National Academies

- **National Academy of Sciences**
  - **Chartered by Congress in 1863**
  - **A self-perpetuating Honorary Society**
- **National Research Council (1916)**
  - **The Operating Arm of the National Academies**
- **National Academy of Engineering (1964)**
- **Institute of Medicine (1970)**

The National Academies' Board on Science, Technology, and Economic Policy (STEP)

- **The mandate of the Board is to integrate understanding of scientific, technological, and economic elements in the in the formulation of national policies affecting the economic well-being of the United States.**
- **STEP studies identify means of accelerating innovation, advancing competitiveness, and improving monitoring of the nation's economic performance**
- **STEP convenes expert committees, conferences, and workshops, and issues authoritative reports.**

STEP's Innovation Work Includes

- **Best Practice in Public-Private Partnerships**
  - **Chaired by Gordon Moore, Chairman Emeritus, Intel**
- **Innovation in Global Industries**
  - **Chaired by David Morgenthaler, Morgenthaler Ventures**
- **Patents in the Knowledge Based Economy**
  - **Chaired by Richard Levin, Yale University & Mark Myers, University of Pennsylvania**

STEP's Innovation Work Includes

- **Comparative National Innovation Policies: Best Practice for the 21st Century**
  - **Chaired by Amb. Alan Wm. Wolff, Dewey & LeBoeuf, Former Deputy USTR**
- **Best Practices in State and Regional Programs**
  - **New Study--Chaired by Mary Good, University of Arkansas, Former Under Secretary for Technology at the Department of Commerce**
- **Crossing the Valley of Death: An Assessment of the Small Business Innovation Research (SBIR) Program**
  - **Chaired by Jacques Gansler, University of Maryland, and Former Under Secretary for Technology and Acquisition at the Department of Defense**

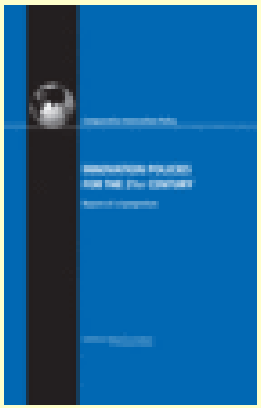
STEP's Innovation Program is Reviewing Global Best Practice in Innovation Policy

The Rest of the World in Hard at Work

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

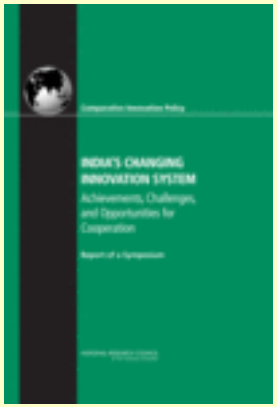
Recent Reports in STEP' Study of Comparative Innovation Policy

Innovative Flanders:
Innovation Policies for the 21st Century:



Innovation Policies for the 21st Century:

21st Century Innovation Systems for Japan and the United States:
Lessons from a Decade of Change



India's Changing Innovation System:

STEP's Comprehensive Analysis of Government-Industry Partnerships

- **Key Finding: "Partnerships work" when properly structured, funded, and managed**
- **Partnerships help capitalize on a nation's R&D investments**
  - **Accelerate the commercialization of new technologies in the marketplace**
  - **Contribute to national missions in health, energy, defense, and the environment**

One Example: The Small Business Innovation Research (SBIR) Program

- **A recent NRC assessment finds that that SBIR program is Effective in**
  - **Creating new small firms**
    - **Over 20% of survey respondents said that they were founded as a result of a prospective SBIR award**
  - **Encouraging collaboration between small firms and universities**
  - **Bringing innovative technologies to market**
    - **Example: A123 Batteries for Hybrid Cars**
  - **Generating employment**

A New Program Based on a Proven Model: The Technology Innovation Program

- **Draws on internationally recognized Best Practices of the Advanced Technology Program***
  - **Adds Universities as Lead Partners**
- **TIP is addressing Critical National Needs, like Energy, Infrastructure, and Health**
- **We will hear from TIP Director, Marc Stanley on the role this program is playing to encourage innovation and cluster development in the United States**

***See National Research Council, ATP: Assessing Outcomes, 2001**

University-Industry Linkages Enhance Local Growth & National Competitiveness

- **Universities that are able to connect with Industry Grow the Economy and are Assets for National and Regional Competitiveness**
- **We need Innovative Universities to Keep and Improve our Standard of Living**
- **A Variety of New Incentives and New Institutions are Needed**
- **We look forward to remarks by Arizona State University President Crow and University of Akron President Luis Proenza on their initiatives**

R&D Consortia are another Tool to Link Universities with Industry

- **R&D Consortia coordinate Pre-Competitive Research to Develop New Technologies**
- **U.S. has experience in Successful R&D Consortia**
  - **The Sematech Consortium was successful in helping to restore the health of the U.S. Semiconductor Industry in the 1990's**
  - **The SRC's Focus Centers are a proven model to team universities to conduct exploratory research needed for next-generation technologies**
- **New Consortia can Provide a Proven Path Forward for New Technologies, such as Flexible Displays and Battery Technologies**

The Importance of Using Proven Mechanisms for Promoting Innovation

- **Key Question: How to keep Industry here?**
  - **How do you capture the benefits of the stimulus and rising R&D budgets for the U.S. Economy?**
  - **How do you meet the locational competition for investment in the industries of today, as well as the industries of tomorrow?**
- **Answer: Fund Proven Innovation Partnerships that invest in U.S.-based firms and U.S. clusters**
  - **Innovation is not just a high technology, science based phenomenon;**
  - **Support for innovation means supporting the small and large companies that will provide tomorrow's growth and employment**

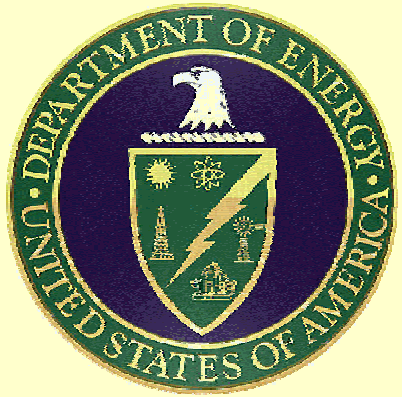
Today's Conference: Growing Innovation Clusters for American Prosperity

- **This meeting is a key part of STEP's work on Best Practice in State and Regional Innovation Policies**
- **This meeting will:**
  - **Highlight the role of clusters in promoting economic growth**
  - **Examine the government's role in stimulating clusters**
  - **Explore role of universities and foundations in their development.**
  - **Learn of specific strategies in place around the country**
  - **Identify institutions and programs that can be leveraged now to grow and sustain clusters**

We Look Forward to a Lively and Constructive Discussion

- **We thank our distinguished speakers, moderators, and participants for their willingness to join us today—some of whom have come a long way.**
- **We also welcome your participation in this meeting.**
  - **Your interventions can be a valuable contribution to state and national policy.**

We thank our Sponsors



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Their collective efforts and your participation make this conference possible

It is now my pleasure to introduce Ed Penhoet, Chairman of the National Academies' Board on Science, Technology, and Economic Policy