

NOVEL FINANCING FOR INNOVATION

Select list of reports from the National Academies related to the topic financing for innovation*

Government-University-Industry Research Roundtable Meeting
February 2014

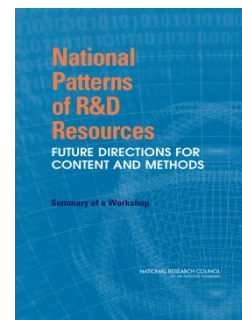


Capturing Change in Science, Technology, and Innovation: Improving Indicators to Inform Policy (2013) – DBASSE & PGA

Capturing Change in Science, Technology, and Innovation assesses and provides recommendations regarding the need for revised, refocused, and newly developed indicators of STI activities that would enable NCSES to respond to changing policy concerns. This report also identifies and assesses both existing and potential data resources and tools that NCSES could exploit to further develop its indicators program. Finally, the report considers strategic pathways for NCSES to move forward with an improved STI indicators program. The recommendations offered in *Capturing Change in Science, Technology, and Innovation* are intended to serve as the basis for a strategic program of work that will enhance NCSES's ability to produce indicators that capture change in science, technology, and innovation to inform policy and optimally meet the needs of its user community.

National Patterns of R&D Resources: Future Directions for Content and Methods: Summary of a Workshop (2013) – DBASSE

National Patterns of R&D Resources: Future Directions for Content and Methods addresses the following questions: (1) what additional topics and tabulations could be presented without modifying the current portfolio of R&D censuses and surveys, (2) what additional topics and tabulations might be presented by expanding these current data collections, (3) what could be done to enhance international comparability of the tabulations, (4) since much of the information on non-profit R&D providers and recipients is estimated from 15 year-old data, what impact might this be having on the quality of the associated National Patterns tabulations, (5) what statistical models could be used to support the issuance R&D estimates at state-level and geographic regions below the national level, (6) what use could be made from the recent development of administrative sources of R&D information, and finally, (7) what graphical tools could be added to the current tabulations to enhance the communication of R&D patterns to the users of this series of publications.



Best Practices in State and Regional Innovation Initiatives: Competing in the 21st Century (2013) – PGA

This study focuses on the significant activity at the state level, with the goal of improving the public's understanding of key policy strategies and exemplary practices. Based on a series of workshops and conferences that brought together policymakers along with leaders of industry and academia in a select number of states, the study highlights a rich variety of policy initiatives underway at the state and regional level to foster knowledge based growth and employment. Perhaps what distinguishes this effort at the state level is most of all the high degree of pragmatism. Operating out of necessity, innovation policies at the state level often involve taking advantage of existing resources and recombining them in new ways, forging innovative partnerships among universities, industry and government organizations, growing the skill base, and investing in the infrastructure to develop new technologies and new industries. Many of these initiatives are being guided

by leaders from the private sector and universities. The study's goal is to illustrate the approaches taken by a variety of highly diverse states as they confront the increasing challenges of global competition for the industries and jobs of today and tomorrow.

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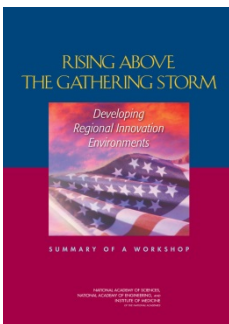
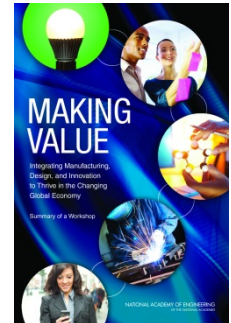
Continuing Innovation in Information Technology (2012) – DEPS

In 1995, the National Research Council's Computer Science and Telecommunications Board (CSTB) produced the report *Evolving the High Performance Computing and Communications Initiative to Support the Nation's Information Infrastructure*. A graphic in that report, often called the "tire tracks" diagram because of its appearance, produced an extraordinary response by clearly linking government investments in academic and industry research to the ultimate creation of new information technology industries with more than \$1 billion in annual revenue. Used in presentations to Congress and executive branch decision makers and discussed broadly in the research and innovation policy communities, the tire tracks figure dispelled the assumption that the commercially successful IT industry is self-sufficient, underscoring through long incubation periods of years and even decades. The figure was updated in 2002, 2003, and 2009 reports produced by the CSTB. With the support of the National Science Foundation, CSTB updated the tire tracks figure. *Continuing Innovation in Information Technology*

includes the updated figure and a brief text based in large part on prior CSTB reports.

Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy (2012) – NAE

Manufacturing is in a period of dramatic transformation. But in the United States, public and political dialogue is simplistically focused almost entirely on the movement of certain manufacturing jobs overseas to low-wage countries. The true picture is much more complicated, and also more positive, than this dialogue implies. The National Academy of Engineering has been concerned about the issues surrounding manufacturing and is excited by the prospect of dramatic change. On June 11-12, 2012, it hosted a workshop in Washington, DC, to discuss the new world of manufacturing and how to position the United States to thrive in this world. The workshop steering committee focused on two particular goals. First, presenters and participants were to examine not just manufacturing but the broad array of activities that are inherently associated with manufacturing, including innovation and design. Second, the committee wanted to focus not just on making things but on making value, since value is the quality that will underlie high-paying jobs in America's future. *Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy* summarizes the workshop and the topics discussed by participants.



Rising Above the Gathering Storm: Developing Regional Innovation Environments: A Workshop Summary (2012) – PGA

The ability of the states to drive innovation was the impetus behind a major workshop held in Madison, Wisconsin, on September 20-22, 2011. Titled "Rising Above the Gathering Storm: Developing Regional Innovation Environments," the workshop brought together leaders in education, government, economic development, and industrial innovation to discuss state and regional initiatives to boost competitiveness through science, technology, and innovation. The conference was organized around four major themes: Revitalizing K-12 Science and Mathematics Education; Strengthening Undergraduate Education in Science and Engineering; Building Effective Partnerships Among Governments, Universities, Companies, and Other Stakeholders; and Fostering Regional Technology Development and Entrepreneurship. *Rising Above the Gathering Storm: Developing Regional Innovation Environments: A Workshop Summary* gives an overview of the presentations, observations, and recommendations made

during the workshop.

Rising to the Challenge: U.S. Innovation Policy for the Global Economy (2012) – PGA

America's position as the source of much of the world's global innovation has been the foundation of its economic vitality and military power in the post-war. No longer is U.S. pre-eminence assured as a place to turn laboratory discoveries into new commercial products, companies, industries, and high-paying jobs. As the pillars of the U.S. innovation system erode through wavering financial and policy support, the rest of the world is racing to improve its capacity to generate new technologies and products, attract and grow existing industries, and build positions in the high technology industries of tomorrow. *Rising to the Challenge: U.S. Innovation Policy for Global Economy*, emphasizes the importance of sustaining global leadership in the commercialization of innovation which is vital to America's security, its role as a world power, and the welfare of its people. The rapid transformation of the global innovation landscape presents tremendous challenges as well as important opportunities for the United States.

