

# S&BIR at the Department of Defense:

## The Committee's Report

The National Academies

Washington DC

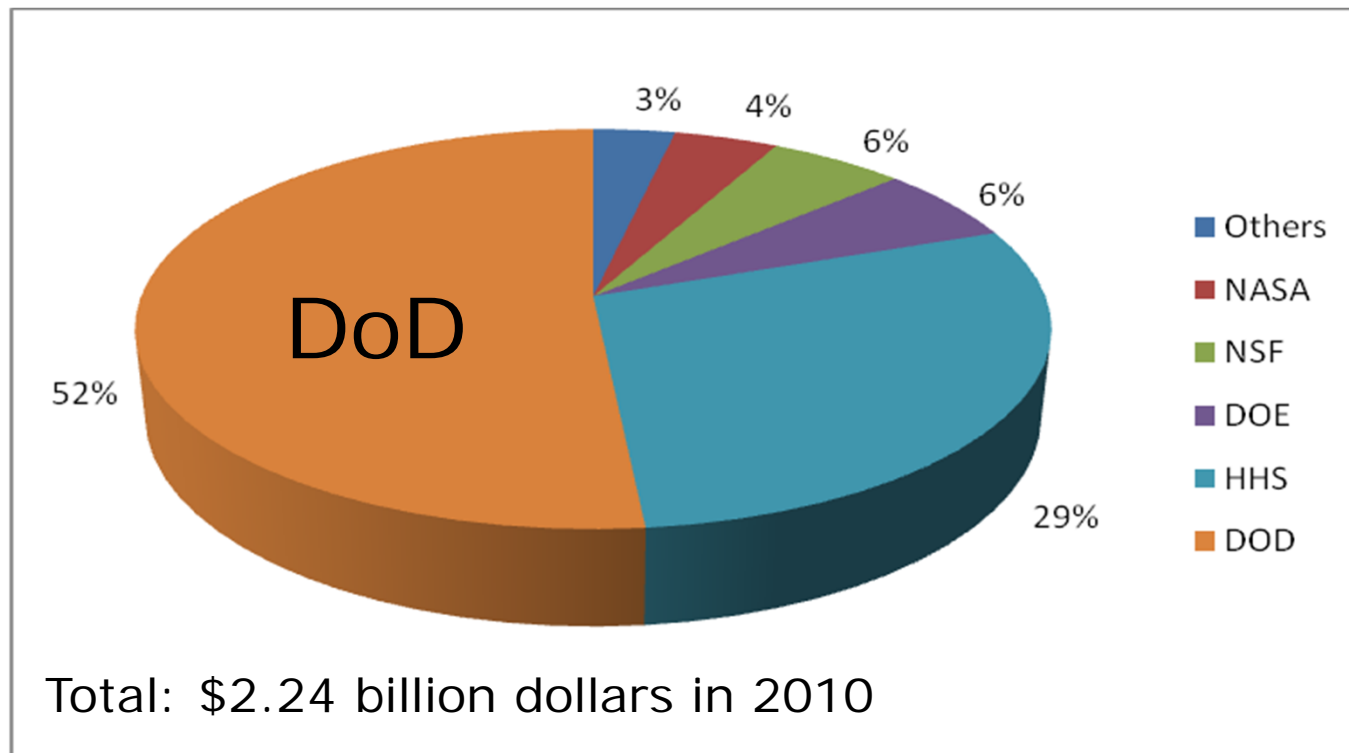
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# Our National Security depends on Leadership in Technology

- U.S. National Security Strategy from WWII to today has relied on “Technological Superiority”
- U.S. must take advantage of research investments with:
  - Public/private partnerships (Gov./Univ./Industry)
  - Funding for research and commercialization
  - Emphasis on both product and process technology developments
  - Development of high-tech workforce
  - Focus on “dual-use” applications (commercial & government use)

# SBIR remains the single largest innovation program for small businesses.



SBIR/STTR funding, FY2010.

SOURCE: <http://www.sbir.gov>, accessed November 1, 2013.

# The Committee's Round One Assessment of SBIR

- Improved the public's understanding of the challenges of Early Stage Finance
- Documented the diversity and flexibility of the SBIR programs
- Assessed effectiveness of agency SBIR programs
- Highlighted benefits of SBIR to agency missions and to the US innovation system
- Key Finding: "SBIR is sound in concept and effective in practice"

# The Study had a Major Impact on the 2011 SBIR Reauthorization

- Many contributions to the 2011 Reauthorization of the SBIR Program including
  - Extension of the program: until 2017
  - Increase in award size: \$150,000 for Phase I and \$1 million for Phase II.
  - Increase in set-aside: From 2.5% to 3.2%
  - Enhanced Agency Flexibility: Can use Phase I from another agency for Phase II award
  - Expanded Management Resources: Up to 3% of program funds
  - Commercialization: Incentives to use SBIR technologies in agency acquisition programs

# Focus of the Second Round Assessment

- How can the DoD SBIR program work better to address the four Congressional Objectives of the Program:
  - Stimulate technological innovation
  - Use small businesses to meet federal R&D needs
  - Foster participation by women-owned and minority-owned small businesses
  - Increase private sector commercialization of innovation derived from federal R&D
- Important:
  - We do not seek to provide a value on the contributions of the program, compared to other possible uses.
  - We were not asked to consider if SBIR should exist or not.

# Our Methodology

- The Committee assimilated information from a complement of research tools
  - 20 in-depth case studies
  - Public Workshops (on University Participation and Program Diversity)
  - Analysis of agency data (including CCR & FPDS)
  - Surveys that built on the 2005 survey
  - Consultations with agency managers (except Army)
  - Literature review
- Broad definition of Commercialization—from product rollout, to licensing, to patenting, to sales, to procurement.

# Key Findings

The DoD SBIR Program is meeting  
3 of its 4 legislated goals

- ✓ Stimulate technological innovation
- ✓ Use small businesses to meet federal R&D needs
  - Foster participation by women-owned and minority-owned small businesses
- ✓ Increase private sector commercialization of innovation derived from federal R&D



# SBIR Projects at DoD Commercialize at a Substantial Rate

- Projects funded by the SBIR program are
  - Reaching the market at an appropriate rate,
  - Attracting substantial amounts of follow-on investment.
  - More than 45% of Phase II projects report sales (NRC 2011 Survey).
  - Over time, about 70 percent of Phase II projects at DoD reach the market. (DoD Commercialization Database)

SBIR projects at DoD are  
in broad alignment with  
the agency's mission needs.

- There is substantial evidence that outputs from the program are taken up by federal agencies and in particular by DoD and by its primes.
- Also some outputs have been picked up in civilian markets.

# Growing use of SBIR in DoD Acquisitions

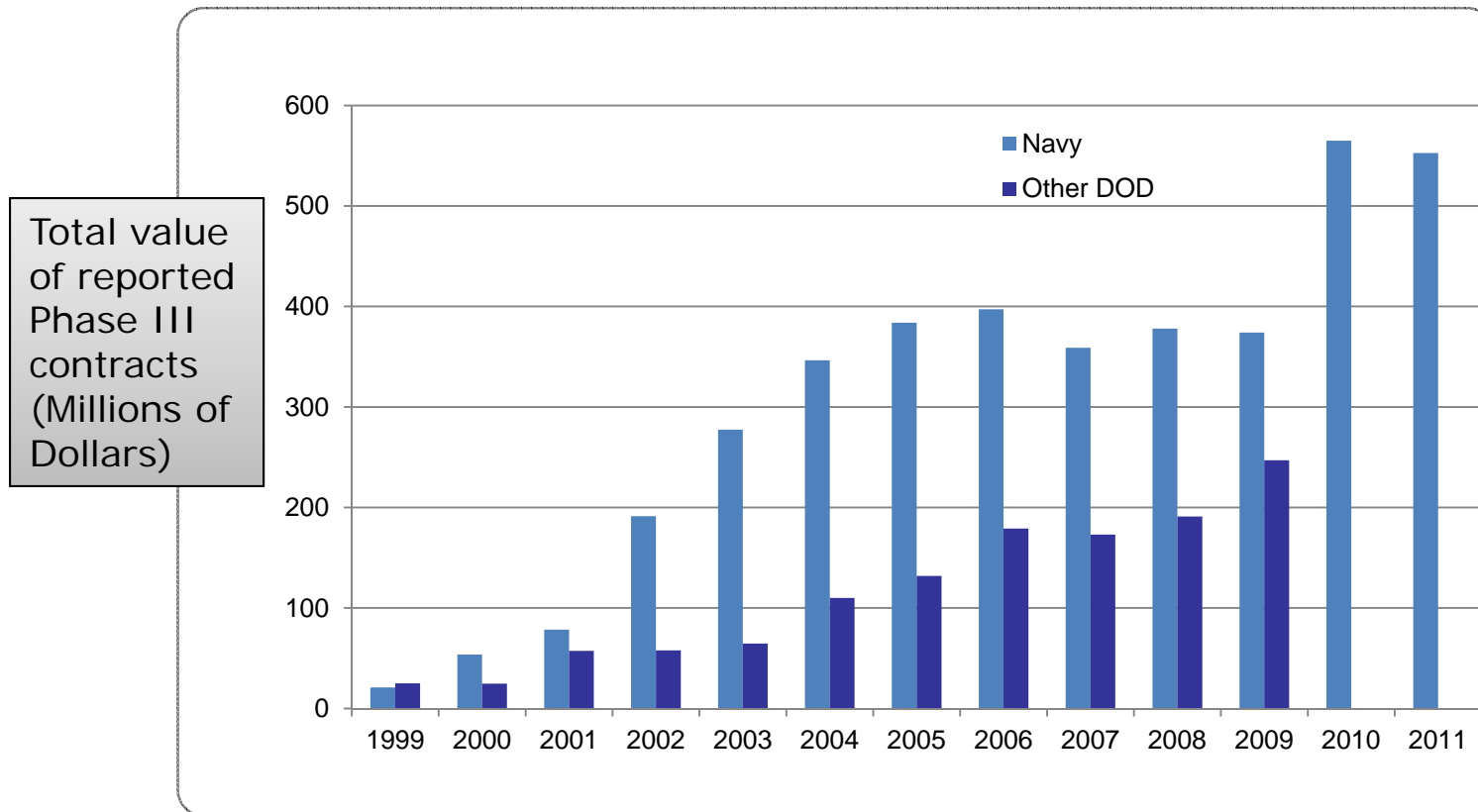
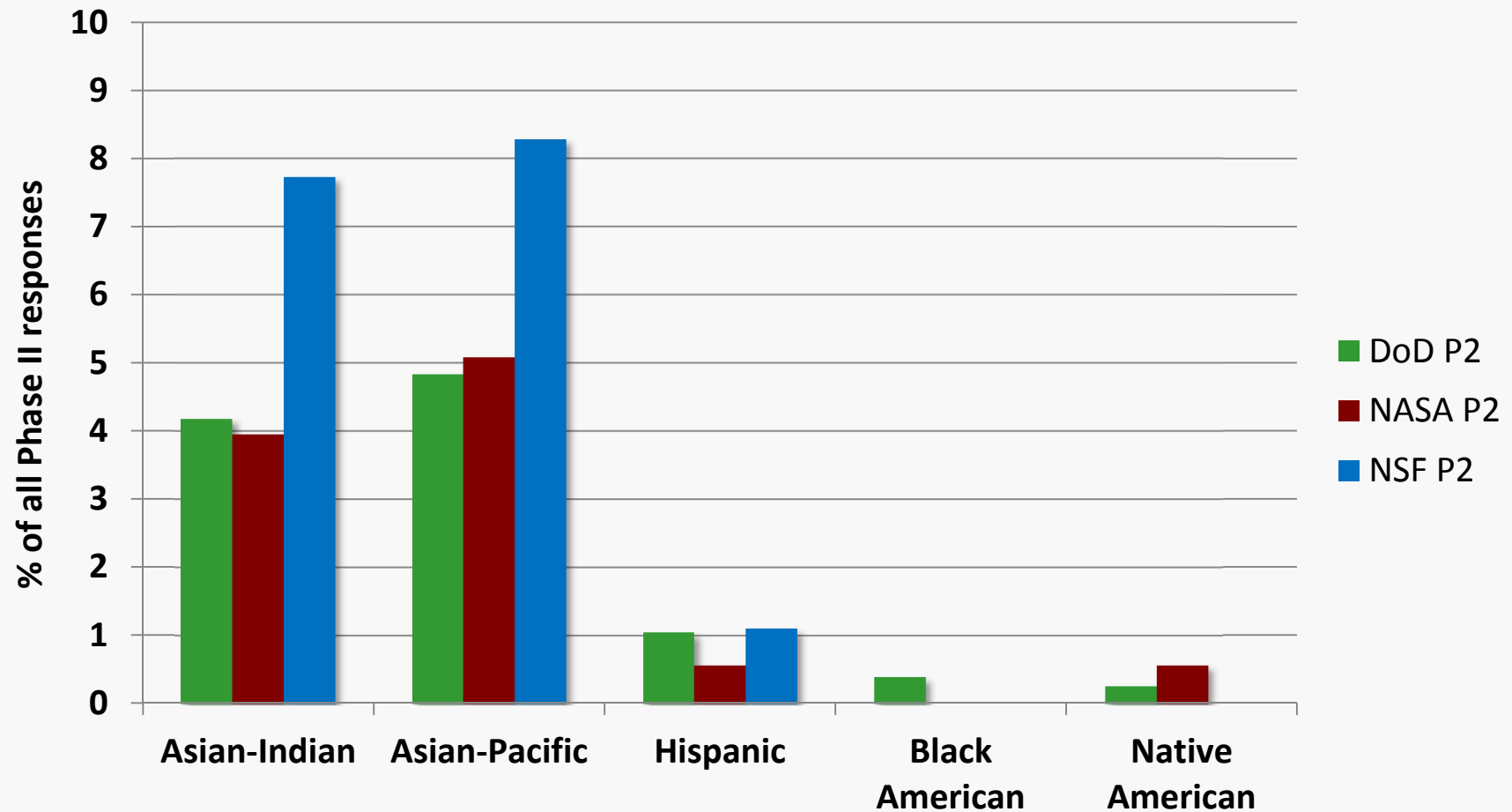


Chart (from Navy) shows aggregate Phase III contracts by FY. Note the steady increase outside Navy.

## Current participation of women and other under-represented groups in the SBIR program is low and not increasing.

- Approximately 15 percent of awards went to woman-owned small businesses (WOSB) and 7 percent to minority-owned small businesses (MOSB).
- Black- and Hispanic-owned small businesses are themselves a very small share of MOSB overall. (2011 NRC Survey)
  - Black-owned small businesses accounted for approximately 0.5 percent of all respondents; Hispanic-owned firms, about 1 percent.
- DoD has not made sustained efforts to “foster and encourage” the participation of woman- and minority-owned small businesses.

# Phase II - PI's by ethnicity and agency



## To address this puzzle, we convened a February 2013 workshop on “Innovation, Diversity, and Success in the SBIR/STTR Programs”

- Workshop participants explored multiple strategies:
  - Improve outreach to Historically Black Colleges and Universities, women minority advocacy organizations
  - Foster peer networks
  - Incentivize Program Managers
  - Speed up processing of awards and contracts
  - Track and analyze data; study demographic trends in entrepreneurship
  - Entrepreneurship training

# The SBIR program at DoD supports the development and adoption of technological innovations.

- Selection of topics and individual projects for funding maintains a strong focus on developing innovative technologies.
- More than one-third of DoD Phase II survey respondents reported a link to a university for the surveyed project
  - Including use of faculty as Principal Investigators (PIs), use of graduate students as researchers, licensing of technology from universities, and use of a university as a subcontractor,
  - Participation level has increased from the 2005 survey.

# Key Recommendations

## Improving the DoD SBIR Program



# Encourage Commercialization

- **Encourage Prime Contractors:** Experiment with different kinds of incentives to encourage primes to work more effectively—and more often—with SBIR firms to commercialize new technologies.
- **Brief PEOs:** Use new administrative funding in part to develop better briefing materials for PEOs and PCOs
- **Provide Financial Incentives:**
  - Encourage components to experiment with financial incentives for the adoption of SBIR technologies.
  - Encourage components to add explicit targets to prime contracts

# Address Under-Represented Populations

- **No Quotas:** DoD should not develop quotas for the inclusion of selected populations into the SBIR program.
  - Such an approach is not necessary to meet Congressional intent and is likely to reduce program effectiveness.
- **Outreach and Education:** DoD should develop an outreach and education program focused on expanding participation of under-represented populations.
- **Tracking and Metrics:** The DoD Office of Small Business should improve tracking and metrics against which to benchmark the activities of DoD components.

# Improve Tracking, Data Collection, and Adoption of Best Practices

- **Alignment:** Better align data collection, agreed metrics, and utilization of effective evaluation and assessment tools to guide program management.
- **Annual Report:** A single, more comprehensive annual report could be used to satisfy the reporting requirements of numerous Congressional sponsors.
- **Data Accuracy:** Improve the the Federal Procurement Data System (FPDS).
  - FPDS does not currently track subcontracts executed through prime contractors (primes) at DoD.
  - FPDS does not currently track SBIR projects as they commercialize within DoD, beyond the first Phase III contract.

# Streamline Program Management and Agency Mission Objectives

- **Maintain Continuity of Technical Point of Contact (TPOC):** Consider ways to support ongoing engagement by TPOCs in projects after they have formally handed them on at the end of a rotation.
- **Protect Data Rights:** Work with SBA to explore mechanisms that more effectively protect SBIR data rights.
- **Disseminate Best Practices:** Track experimentation within the SBIR program and develop mechanisms to share best practices.

# Improve Contracts and Audits

- **Improve Audits:** Develop less onerous and more effective auditing procedures for small businesses that can be completed in a timelier manner.
- **Improve Contracting Practices:** Provide opportunities for small businesses to raise concerns about contracting practices at the component level.



# Thank You

**The Honorable Jacques S. Gansler**

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