

NASA's SBIR Community: Opportunities and Challenges



Washington DC
June 21, 2011

Jacques Gansler, Ph.D., NAE
University of Maryland

Innovation is Key to the Future Growth and Security of the United States

**We need to innovate to create
new products and new jobs**

SBIR is one of our Best Tools to Stimulate Innovation

**How do we know this?
We carried out a comprehensive study of
the program**



After nearly 20 years of operation,
The Congress asked the Academies:

How well is SBIR Working Overall?

Focus of the NRC Assessment

- Do the agency SBIR programs meet program objectives?
 - to stimulate technological innovation
 - to increase private sector commercialization of innovations
 - to use small business to meet federal research and development needs
 - to foster and encourage participation by minority and disadvantaged persons in technological innovation

What did the NRC Study of SBIR do?

- **Unprecedented Large Scale Original Field Research**
 - Surveyed Over 7000 Projects
 - Phase I Award Survey targeted 3000 firms
 - Survey on Phase II Awards (1992-2002) involved over 4000 firms
 - Program Manager Survey
 - Technical Manager Surveys (TPOCs and COTRs)
 - Conducted ~100 Case Studies
 - Case Study selection reflects program diversity
- **Surveys & Case Studies Developed in Consultation with Agencies & SBIR users**



What did we find?

SBIR is “sound in concept and effective in practice”

NASA's SBIR Awards Support Small Businesses

- **Company Creation:** 20% of respondents to NRC Firm Survey stated that they were founded at least in part due to SBIR
- **Research Initiation:** Over 2/3rds of SBIR Phase II award recipients say that they would not have undertaken the research in the absence of SBIR
- **Company Growth:** Significant part of firm growth resulted from award
- **Partnering:** SBIR funding is often used to partner with Universities and other firms

NASA's SBIR Program Stimulates Private Sector Commercialization

- Nearly half (46%) of Phase II Projects surveyed reached the market and generated revenue
- SBIR Phase II Projects generated over \$2.3 billion (between 1983-1996) in revenues, according to NASA Commercial Metrics Survey
- 17.7% of SBIR Phase II Projects generated revenue in excess of \$1 million

The NASA SBIR Program Stimulates Collaboration, Innovation, Knowledge

- Stimulates links among NASA, small businesses, and universities
 - Nearly 1/3 of NRC Phase II respondents reported having university participation in their projects
- Knowledge Creation and Diffusion
 - A quarter of all projects responding to the NRC Phase II Survey filed at least one patent
 - SBIR projects also generated peer-reviewed academic articles with 161 respondents reporting 220 published articles

NASA Project Managers finds SBIR Provides Useful Results—NRC Survey

- **SBIR creates valuable commercial outcomes**
 - 63% of surveyed projects have significant non-commercial research value
 - 34.6% of surveyed projects resulted in a commercial product or service
- **SBIR Research is Valuable, but not Loved**
 - 57 percent of COTRs surveyed said that SBIR Phase II project produced useful results for NASA
 - On a 10 point scale, they rated SBIR research quality at 6.98 and non-SBIR research at 7.45 (both mean values)
 - A few COTRs rated it very low
- **SBIR is linked to NASA missions**
 - Over 2/3rds of COTRs reported that SBIR spending gave the same or more benefits to NASA's missions as other NASA R&D projects

**The Current Phase of the NRC Assessment
will Bring better Information and Examine
New Issues and Challenges**

This study is now underway...

Issues for the Current SBIR Study

- Assessing the efficacy of post-award commercialization programs
 - Gap funding mechanisms, e.g., applying Phase II-plus awards more broadly to address agency needs and operations.
- Exploring strategies to encourage participation by minorities and women led firms in SBIR.

Issues for the Current SBIR Study

- We are also seeking to better understand:
 - University-industry partnering and synergies with the SBIR programs.
 - New approaches to streamlining the application and grant/contract awarding processes
 - The role of complementary state and federal programs.

Today's Conference Examines the NASA SBIR Program's Links to Small Businesses, Universities, and Prime Contractors

- Panel I: Achievements and Challenges of the NASA SBIR Program
- Panel II: Challenges for Small Business in the NASA Space:
- Panel III: The University-SBIR/STTR Connection
- Panel IV: Connecting the Mission Directorates and the Primes to SBIR

We welcome your
Participation

And look forward to your
continued cooperation



Thank You

The Honorable Jacques S. Gansler
Professor and Roger C. Lipitz Chair in
Public Policy and Private Enterprise
Director, Center for Public Policy and Private Enterprise
University of Maryland
301-405-4794
jgansler@umd.edu