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TESTIMONY OF

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(ACQUISITION, TECHNOLOGY & LOGISTICS)

BEFORE THE

HOUSE COMMITTEE ON SMALL BUSINESS

April 22, 2009

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Testimony of

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House Committee on Small Business

Review of the Department of Defense (DoD)

Small Business Innovation Research (SBIR) Program

April 22, 2009

Chairman Velazquez, Ranking Member Graves and Members of the Committee on Small Business:

Thank you for the opportunity to testify on the Small Business Innovation Research (SBIR) Program. I welcome this opportunity to provide a perspective on how the program is implemented and managed within the Department. The program is used as a tool for the Department of Defense (DoD) to seed innovation in our industrial base, and, in so doing, develop leading-edge technologies with the potential to meet warfighter needs today and in the future. Now, more than ever, we need to leverage our nation's small businesses responsiveness, efficiency, and capacity to innovate.

One of our central obligations as public officials is to ensure that we are using taxpayer dollars as productively and efficiently as possible for their intended purpose. In that vein, today I will provide an overview of the SBIR program and its impact, and also

highlight some actions the Department has undertaken to improve the program. We at the Department are always ready to work with the congressional oversight committees, and other participating federal agencies, including the Small Business Administration (SBA) to ensure the SBIR program is as effective as possible.

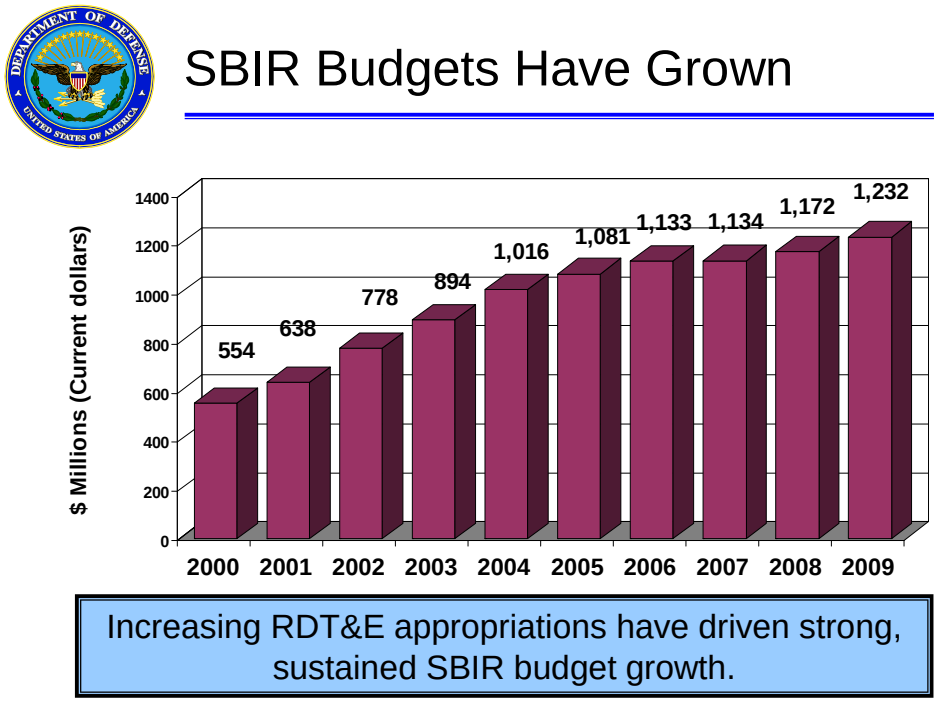
SBIR at DoD

The DoD SBIR Program comprises twelve Military Department, Defense Agency, and other Defense Activity programs, with oversight provided by the DoD Office of Small Business Programs. These participating elements, hereafter referred to as "Components," in order of largest to smallest budget in Fiscal Year 2008 (FY08), are the: Air Force, Navy, Army, Missile Defense Agency (MDA), Office of the Secretary of Defense (OSD), Defense Advanced Research Projects Agency (DARPA), Joint Science and Technology Office of Chemical and Biological Defense (CBD), US Special Operations Command (SOCOM), Defense Threat Reduction Agency (DTRA), Defense Logistics Agency (DLA), Defense Microelectronics Activity (DMEA), and National Geospatial-Intelligence Agency (NGA).

The Department's SBIR budget is determined by a statutory 2.5 percent assessment of the extramural research, development, test and evaluation (RDT&E) budget. Each Component's portion of the overall program is managed to be responsive to specific mission and corresponding technology research and development needs while also being consistent with overarching Department science and technology guidance. In

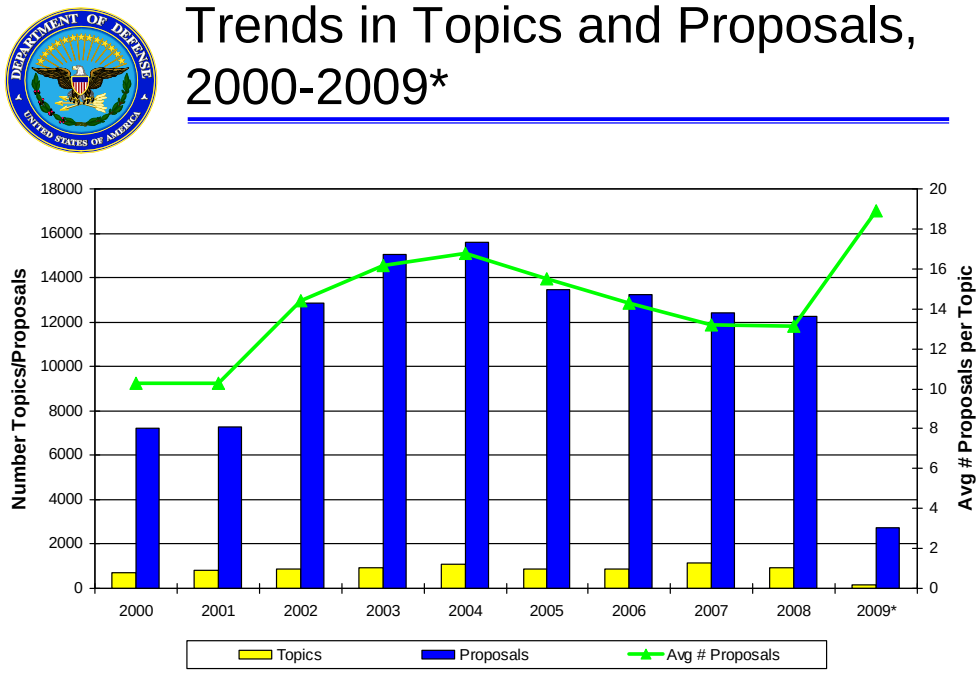
terms of budget, the Department's Program represents over 50 percent of the total federal SBIR budget, which exceeds two billion dollars.

As shown in the chart below, the DoD SBIR Program has experienced substantial growth in recent years, more than doubling in size from FY00 to FY06 to over one billion dollars, and it continued to grow through FY09 to over $1.2 billion. This expansion is driven directly by growth in the underlying RDT&E budget, as the SBIR percentage has remained constant over this period of time. The number of SBIR solicitations has also increased from two to three per year, spaced almost evenly throughout the year.



Likewise, the number of proposals received and contracts awarded have increased proportionally with budget growth. The number of topics, statements of research and development needs, solicited annually has not grown as much. This reflects a trend

towards a greater number of Phase I and II contract awards[1] per topic; effectively increasing the relative degree of investment focus. To illustrate, in FY00, 701 topics attracted 7,201 Phase I proposals; while for FY08, 935 topics drew 12,280 proposals. As shown below, for several years, topics received about 14 proposals each, on average. After a brief dip in FY07 and FY08, we are seeing a substantial surge in early FY09. This increased interest in the program is not surprising as SBIR remains a stable source of innovation capital and opportunity during this time of economic downturn.



The SBIR program funds a great deal of research and development in a given year. The chart below summarizes program activity by DoD component for FY08. In total, 12,280 Phase I and 1,672 Phase II proposals were received and evaluated, 1,826 Phase I

[1] Phase I contracts fund effort to assess the technical feasibility of a proposal while Phase II efforts fund technology development and demonstration and typically result in a prototype. Phase I guidelines are currently $100,000 and

and 1,072 Phase II contracts were awarded. These contracts were awarded to 1,319 different firms. Additionally, 469 FY07 Phase II contracts continuing into FY08 received funding and 34 Phase II "Enhancements" were done to co-fund additional development with sources of non-SBIR federal funding or other non-federal funds.

Annual Report Summary: FY 2008 SBIR Program Activity

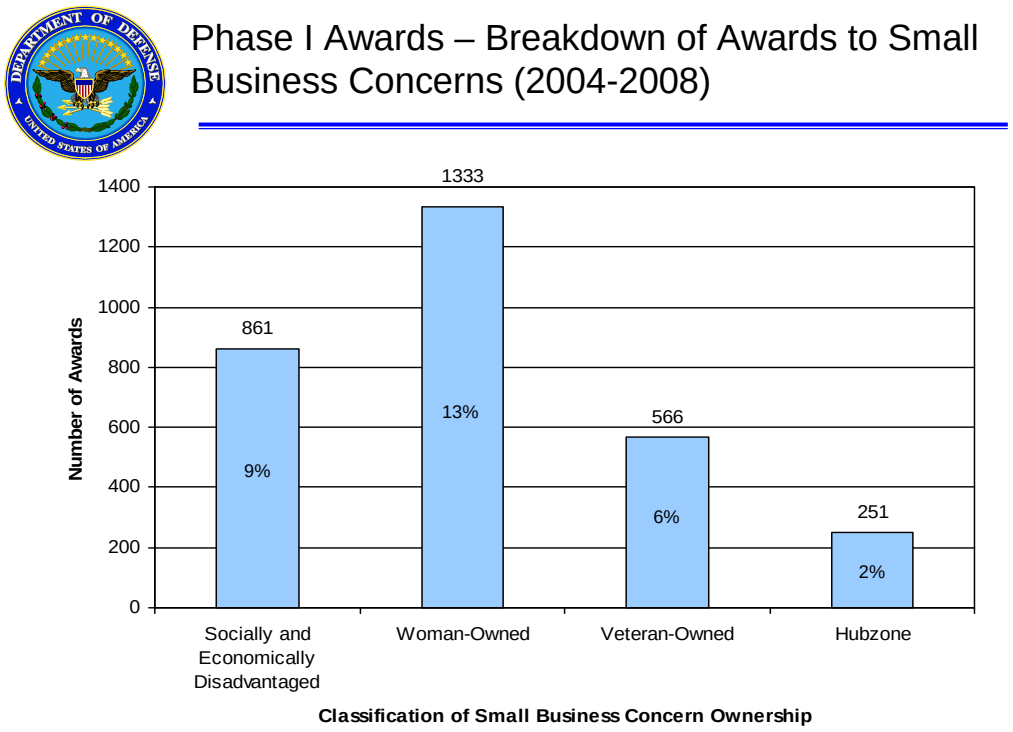
DoD Component	SBIR Budget	# Topics	# Ph I proposals	# Ph I awards	# Ph II proposals	# Ph II awards
Army	$270,409,000	204	2,774	305	335	187
Navy	$273,662,000	221	2,708	567	334	315
Air Force	$337,299,630	310	3,967	485	647	319
DARPA	$66,579,000	64	965	108	106	44
DTRA	$7,124,000	13	173	13	17	7
MDA	$122,689,000	51	600	159	98	90
SOCOM	$8,655,000	5	74	11	12	6
CBD	$12,570,000	8	114	14	13	13
OSD	$68,626,000	58	837	155	100	88
DLA	$2,672,000	1	65	0	8	1
DMEA*	$1,162,250	0	0	5	2	2
NGA*	$649,795	0	0	4	0	0
All DoD	**$1,172,097,675**	**935**	**12,280**	**1,826**	**1,672**	**1,072**

* DMEA began participating in FY07 and fully executed FY08 funding supporting awards derived from FY07 solicitation; NGA is a voluntary participant and also fully employed FY08 funds through awards derived from prior year solicitations.

While awards in the SBIR program are made to small business concerns, no preference is given to small business concerns owned or controlled by socially or economically disadvantaged individuals, Woman-owned small business concerns, Veteran-Owned small business concerns (VOSB), and Small Business Administration (SBA)-certified small business concerns located in Historically Underutilized Business

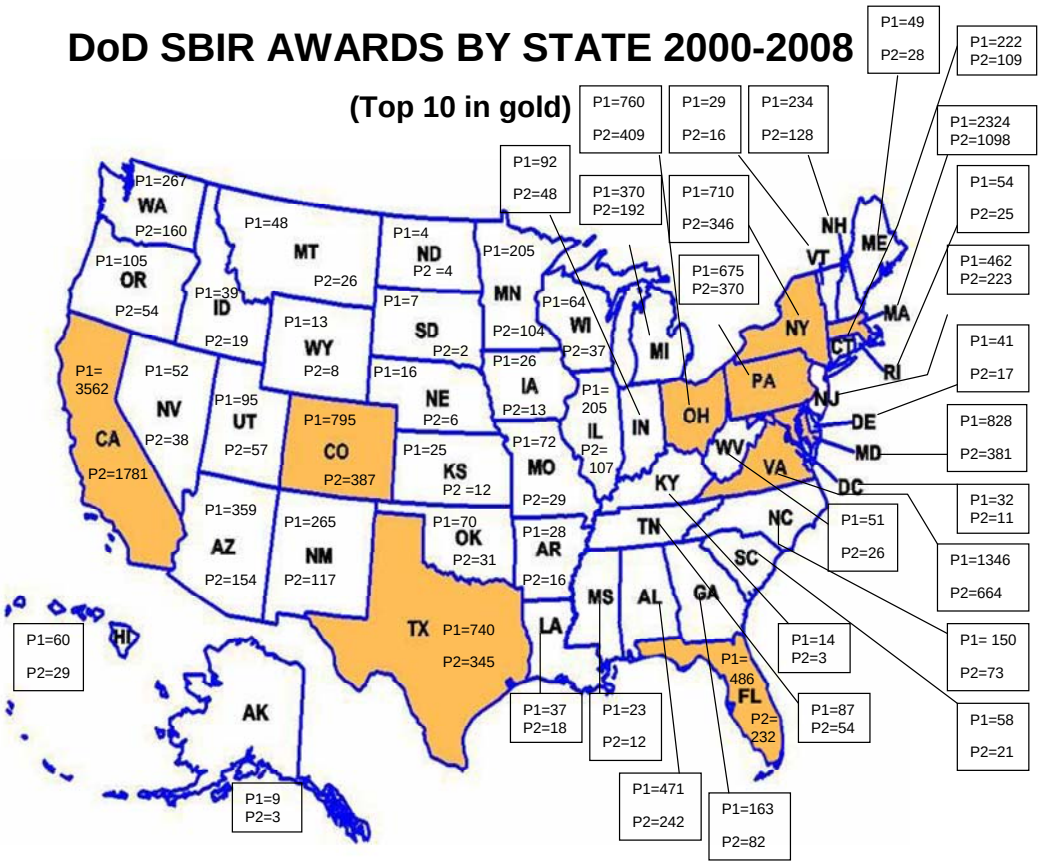
6months duration and Phase II guidelines are currently $750,000 and 2 years duration.

Zones (HUBZone) or awards to these firms account for 30% of all Phase I awards in the past five reporting years, as shown below. WOSB and VOSB firms, in particular, are capturing an increasing percentage of SBIR contract awards. Within the VOSB category, there has been dramatic growth in the percentage of total awards going to Service-Disabled Veteran-Owned small business concerns.



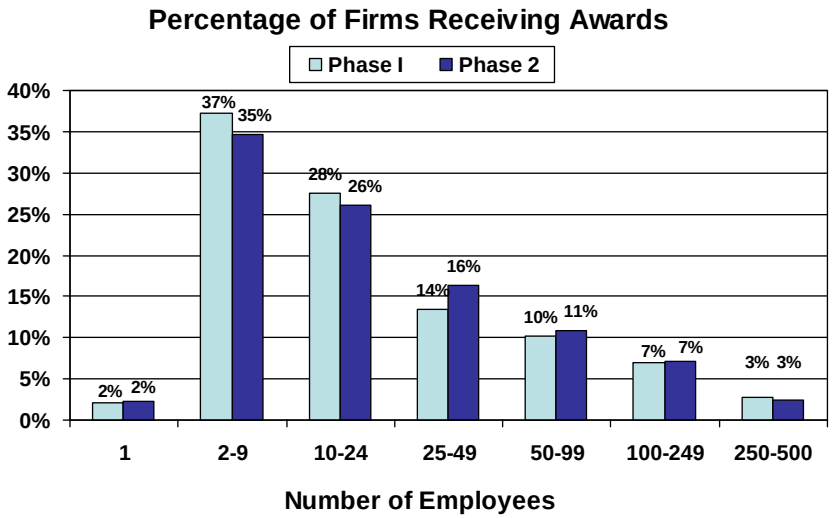
While program participation occurs throughout the United States and awards are made to firms from every state, participation from a few states stands out, as shown below. The states with firms receiving the most awards from 2000 through 2008, in descending order, are: California, Massachusetts, Virginia, Maryland, Colorado, Ohio, Texas, New York, Pennsylvania, and Florida. States that have experienced the greatest percentage increase in the number of awards over this period, starting with the greatest

percentage increase are: Iowa, Indiana, Kentucky, Hawaii, Oregon, Arkansas, Oklahoma, Delaware, Idaho and Utah.



Looking at the size of firms among the DoD SBIR award base, historically, a high percentage are very small. The chart below shows the distribution of firms receiving Phase I and Phase II contracts in FY08 by number of employees. 67% of Phase I award winners had fewer than 25 employees at the time of contact award. Similarly, 63% of Phase II award recipients had fewer than 25 employees at the time of award. The distribution suggests that firm size in not a strong determining factor with respect to reaching Phase II.

SBIR Award Recipient Distribution by Firm Size – FY 2008

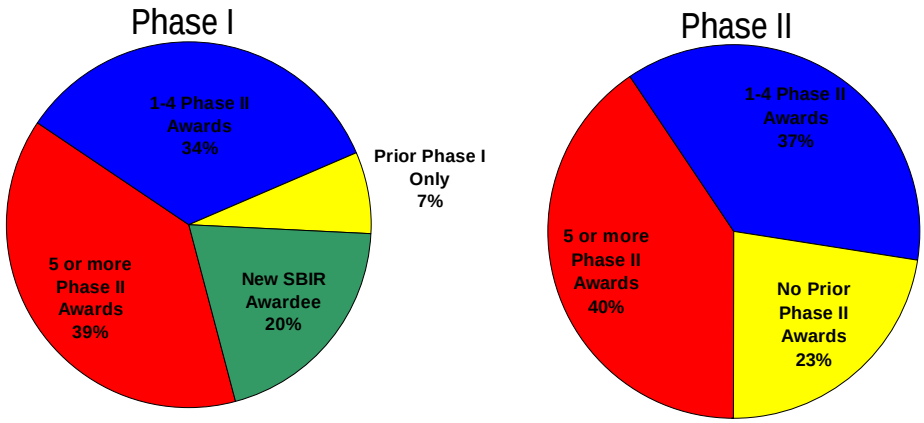


Based on FY08 Annual Report; Firm Data taken from Company Commercialization Report, 2008

The next chart shows the prior experience level with the DoD SBIR Program of FY08 award recipients. 20% of Phase I award winners had never received a DoD Phase I award, while an additional 7% had never received a Phase II award. Among Phase II award recipients, 23% of Phase II award recipients had never before been awarded an SBIR Phase II contract by the Department, while an additional 37% had received four or fewer Phase II awards. These statistics show that the SBIR program is attracting a significant number of new or relatively new program participants.

SBIR Award Recipient Distribution by Prior Experience - FY 2008

Percentage of Firms Receiving Awards

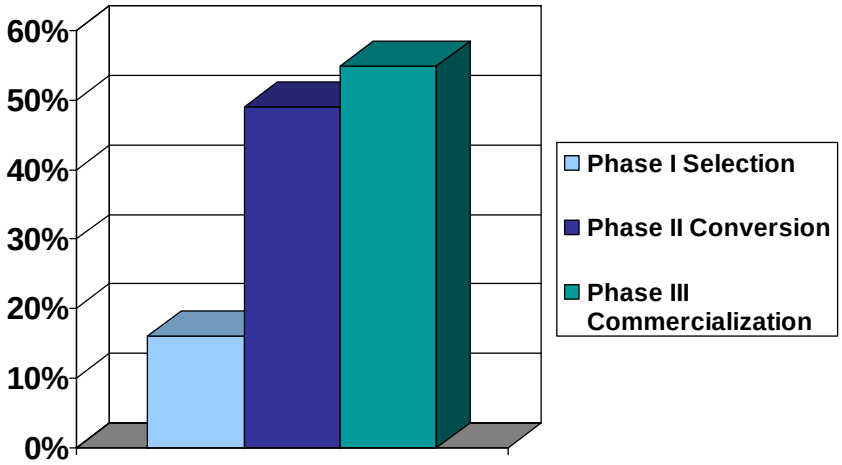


Based on FY08 SBIR Annual Report Data

The SBIR Program is quite competitive. The chart below shows that the Phase I proposal selection and funding rate for a ten-year window of program activity is about 16%, or approximately one in six. While this can be a daunting figure for candidate firms, the percentage that "convert" to Phase II is much higher, almost 50%. Since 2000, the Department has collected data on "Phase III" activity to gauge commercialization[2] of Phase II technology efforts. Over 55% of Phase II contracts deriving from solicitations conducted between 1994 and 2003 report receiving non-SBIR revenue or investment which derives from, extends or concludes the Phase II work.

[2] The SBIR Program Directive, September 24, 2002, section 3(e) defines commercialization as: "The process of developing marketable products or services and producing and delivering products or services for sale (whether by the originating party or by others) to the Government or commercial markets." Phase III is defined in section 4(c) as "…work that derives from, extends or logically concludes effort(s) performed under prior SBIR funding agreements, but is funded by sources other than the SBIR Program."

Historical SBIR Conversion Rates, by Program Phase



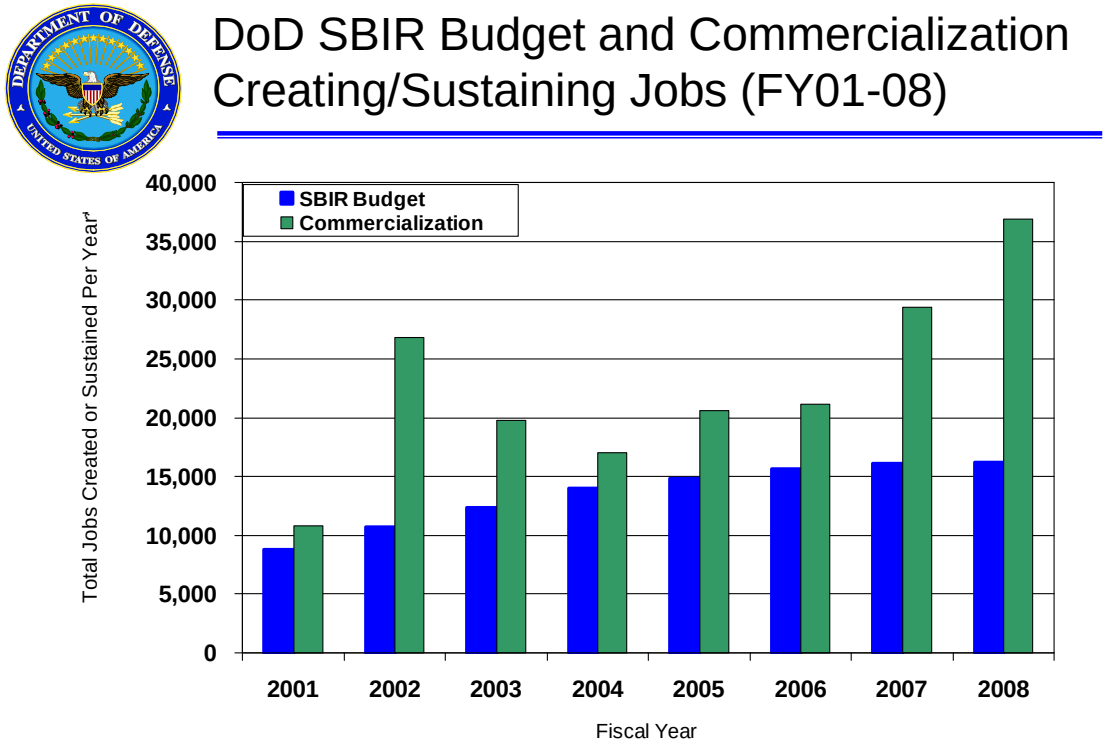
Based on all Phase I and Phase II contracts derived from 1995-2004 solicitations. Commercialization data taken from January 2009 DoD SBIR Commercialization Database.

In the course of administering the SBIR Program, the Department does not collect data specifically measuring job creation. However, we can estimate program job creation or sustainment by calculating the employment associated with SBIR budget expenditure and reported commercialization. Using a conversion factor of 13.8 jobs per one million dollars,[3] DoD SBIR funding supported the creation or sustainment of between 9,000 and 16,000 jobs per year between fiscal years 2001 and 2008 (shown in blue below). New commercialization, in the form of follow-on sales or investment, supported the creation or sustainment of between 10,000 and 37,000 jobs per year (shown in green below).

[3] Figure based on work performed by Dr. Robert Pollin of the University of Massachusetts, Amherst to estimate the impact of public building retrofits. The Department used this figure to estimate the impact of power and energy research and development projects funded through the American Recovery and Reinvestment Act of 2009. The estimate includes direct and indirect jobs. The Alliance for American Manufacturing estimated and impact 18 jobs

Note that this is trending upward at a higher rate than jobs directly supported by the SBIR budget because these jobs are driven by market activity produced by the aggregate of SBIR Program investment to date. This estimate is believed to be conservative as many firms outgrow the SBIR program, are acquired by large firms, or otherwise do not continue to participate and thus report. Further, we do not collect data on commercialization derived directly from Phase I efforts and therefore cannot estimate the follow-on impact of Phase I efforts which do not receive Phase II funding. Additionally, the estimates do not account for any economic spillover effects of knowledge generated through SBIR efforts that create or affect other market activity. On the other hand, this process of jobs creation and sustainment has opportunity costs associated with it. Therefore the foregoing numbers have uncertainties associated with them and one should use some degree of caution in extrapolating to overall program effects.

for every $1 million spent on new infrastructure spending and the US Commerce Department estimated an impact of 16.7 jobs per $1 million spent on “green investments.”



*based on 13.8 jobs/ $1million conversion factor

Source: DoD SBIR Commercialization Database, captured in October every year 2000-2008. Data includes only DoD SBIR phase II Awards reported at time of capture. DoD began systematically collecting this data in 2000.

The Department has many efforts underway to promote more SBIR commercialization in the defense and broader marketplaces. The Military Departments are implementing Commercialization Pilot Programs (CPP), under authority granted by section 9(y) of the Small Business Act, as amended by section 252 of the National Defense Authorization Act for Fiscal Year 2006, to accelerate the transition of certain SBIR-funded technologies to Phase III and into the acquisition process, where the successful transition is expected to meet high priority requirements. The Army, Navy and Air Force are taking different approaches to this challenge and efforts to date show great promise with initial commercialization rates exceeding those of the broader SBIR

Program. The Department plans to transmit our comprehensive annual report to Congress on FY08 CPP activity soon.

The Department plans to hold its fourth *Beyond SBIR Phase II Conference and Technology Showcase* in September 2009 to bring together key technology and acquisition personnel from government and industry to enable the commercialization of SBIR-funded research and development into products. Recent Phase II award recipients from across the country are invited to showcase their technologies at this conference, which features pre-scheduled "technology matchmaking" meetings between these firms and representatives of prime contractors, government technology and acquisition activities, the investment community and manufacturing firms. This conference event is open to all federal agencies and their recent contract or grant recipients.

With regard to policy, we have taken several steps to improve SBIR program utilization as a source of innovation within the Department. A policy memorandum was issued clarifying SBIR Phase II responsibilities to reinforce the imperative of SBIR data rights protection and highlight SBIR as a source of innovation to address Department needs. Additionally, the DoD regulation governing the acquisition system was modified to require that program managers include SBIR in program technology planning and give favorable consideration to successful SBIR technologies. We plan to roll out a new Continuous Learning Module at the Defense Acquisition University and incorporate the module into the training curricula for personnel in systems planning, research, development and engineering, acquisition, and contracting.

Conclusion

In summary, again I thank you for the opportunity to testify on the DoD SBIR Program, its value, and impact. I hope my testimony has provided you with an understanding of how the program is implemented at the Department of Defense. I would be happy to answer any questions you may have.