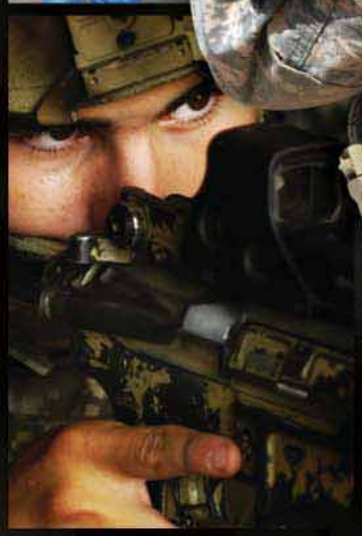
ARMY SBIR

SMALL BUSINESS INNOVATION RESEARCH



COMMERCIALIZATION Brochure

United States small businesses are the engine of innovation and economic stability and will undoubtedly be a major factor in our economic recovery. Each year small businesses account for approximately half of the United States Gross Domestic Product and are responsible for approximately three fourths of the new jobs created. Innovation is the primary tool that these small businesses use to be competitive against more established businesses and is the reason our economy is the envy of the world. The Small Business Innovation Research (SBIR) Program is the Nation's largest source of early-stage technology financing. Through programs such as SBIR we are ensuring that our small businesses have the opportunity to put ideas into practice and ultimately, into the hands of our Soldiers so they are prepared to meet future challenges.

This brochure focuses on the tremendous benefits the Army realizes through the SBIR Program. Through SBIR and other similar programs, we now know that the best ideas don't necessarily come from large corporations or even our government laboratories; most often innovative technologies are invented by creative individuals and small, entrepreneurial companies. The future readiness and effectiveness of our armed forces will be determined, in large measure, by our investment in cutting-edge technologies from U.S. small businesses.

On behalf of our brave men and women in uniform and the Army's leadership, I thank you for your unselfish contributions to our Soldiers, America's Army, and our Nation.

Thomas H. Killion
Deputy Assistant Secretary
(Research and Technology)

The SBIR and STTR Programs

Congress established the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs to provide small businesses and research institutions opportunities to participate in government-sponsored research and development (R&D).

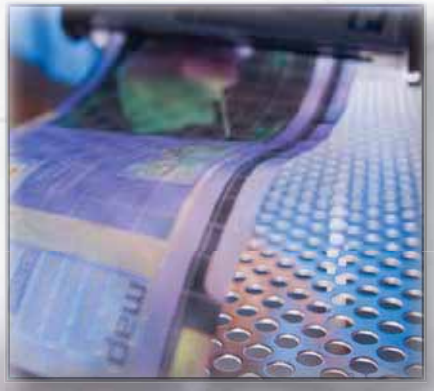
The goals of the SBIR and STTR Programs are to:

1. Stimulate technological innovation.
2. Use small business to meet Federal R&D needs.
3. Foster and encourage participation by socially and economically disadvantaged small business concerns (SBCs), and by SBCs that are 51 percent owned and controlled by women, in technological innovation.
4. Increase private sector commercialization of innovations derived from Federal R&D, thereby increasing competition, productivity, and economic growth.

While STTR has the same objectives as SBIR regarding the involvement of small businesses in Federal R&D and the commercialization of their innovative technologies, the STTR Program requires participation by universities, federally funded research and development centers (FFRDCs), and other non-profit research institutions.

Both the SBIR and STTR Programs use a three-phase program structure, reflecting the high degree of technical risk involved in developing and commercializing cutting edge technologies.

- Phase I is a feasibility study that determines the scientific, technical, and commercial merit and feasibility of a selected concept. Phase I projects are competitively selected from proposals submitted against solicitation topics seeking specific solutions to stated government needs.
- Phase II represents a major R&D effort, culminating in a well-defined deliverable prototype (i.e., a technology, product, or service).
- In Phase III, the small business or research institute is expected to obtain funding from the private sector and/or non-SBIR/STTR government sources to develop the prototype into a viable product or service for sale in Government or private sector markets.



	SBIR	STTR
PHASE I	6 months $70,000 maximum	6-12 months $100,000 maximum
PHASE I Option	4-Month option (Government's discretion) $50,000 maximum, to fund Interim Phase II efforts	No option
PHASE II	2 years $730,000 maximum	2 years $750,000 maximum
PHASE III	Unlimited time Non-SBIR funding	Unlimited time Non-STTR funding

For more information, visit our website: www.armysbir.army.mil

SUCCESS STORIES

Phase III represents the successful culmination of an SBIR project. While Phase II success is measured by whether the prototype product or service developed by the small business can meet an Army need, Phase III success is indicated by the small business marketing and selling the products or services outside of the SBIR Program with revenues from Government or private customers.

The following Success Stories represent the best in Phase III commercialization efforts by participating small businesses.

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U.S. Army Research Laboratory

PComP™ - Nanocomposite Thermal Spray Powder

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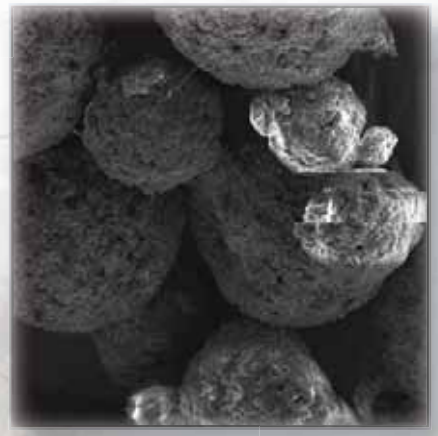
The annual cost of corrosion to the U.S. economy is estimated at $270 billion — $40 billion of which is attributed to the Department of Defense (DoD). To address this issue, MesoCoat Inc. has developed PComP™, an easily grindable thermal spray coating composition to replace tungsten carbide cobalt and hard chrome plating in high-wear equipment rebuilding applications. PComP™ nanocomposite thermal spray powders offer an unparalleled combination of toughness and hardness whose characteristics are a result of a unique, patented coating microstructure that combines high hardness zones of a ductile metal in an optimum geometry.

Coating solutions provided by MesoCoat's technology would directly reduce the cost of corrosion. MesoCoat's PComP™ technology can enhance wear and corrosion resistance, along with reducing spallation in a variety of applications including aircraft materials, landing gears, rail guns, bearings, military vehicles, and ship structures. The nanocomposite materials will replace chrome plating for repairing F-22, F-15, F-16, and F-35 aircraft since DoD has banned use of chrome plating and no acceptable substitute exists for joint fighters. Funds from a DoD program to develop thermal barrier and chrome replacement coatings have assisted MesoCoat with the development of environmentally safe, superior performance coatings that would eliminate the use of toxic and carcinogenic compounds and processes currently being used for coating many metal structures.

Phase III Impacts

MesoCoat closed a $1.4M seed investment round in December 2009 that includes milestone-based options for an additional $18.8M. Equity and seed investments, federal grants and contracts, and ongoing investment from various industry leading value chain partners, have helped MesoCoat grow in size.



MesoCoat
Advanced Coating Technologies

Photos courtesy of the U.S. Army, www.defense.gov and www.flickr.com

US ARMY RDECOM

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