



By seeking and acquiring vital technologies available through the wealth of U.S. technology developers, the Innovative Technology Transfer Partnership Program supports NASA's Enterprises in achieving their science and mission objectives.

INNOVATIVE TECHNOLOGY TRANSFER PARTNERSHIPS

MAJOR EVENTS IN FY 2004

- Award SBIR and STTR contracts.
- Establish partnerships with innovators under the operation of the Enterprise Engine.

THEME: Innovative Technology Transfer Partnerships

OVERVIEW

Innovative Technology Transfer Partnerships Theme consists of the Technology Transfer Activity and the SBIR/STTR programs. The FY 2004 budget terminates the Commercial Technology program. NASA will support necessary efforts to document and license technologies and make them available to the private sector as legislatively mandated, and prudently manage NASA's intellectual property. NASA will continue to advise entrepreneurs of our technology offerings available for licensing, as well as, solicit partnerships to meet Enterprise technology needs through the use of the Web.

The budget provides for a new approach, known as the Enterprise Engine, to partner with venture capital firms and U.S. industry for the development of technologies that can directly contribute to the agency's core research activities, while benefiting private industry. The Technology Transfer Activity contributes to support the Enterprise mission needs, as well as the national economic strength through innovative technology partnerships with non-aerospace industries. With the FY 2004 budget request, the SBIR/STTR programs and the NTTC will continue, and NASA will provide for tech transfer regulatory requirements, and the Enterprise Engine.

Missions	Goals supported by this theme	Objectives supporting those goals	Reference 2003 Strategic Plan
Understand and Protect our Home Planet	3 - Create a more secure world and improve the quality of life by investing in technologies and collaborating with other agencies, industry, and academia.	3.3 - Improve the Nation's economic strength and quality of life by facilitating innovative use of NASA technology.	
Inspire the Next Generation of Explorers	6 - Inspire and motivate students to pursue careers in science, technology, engineering, and mathematics.	6.4 - Improve higher education capacity to provide for NASA's and the Nation's future science and technology workforce requirements.	
Space Flight Capabilities	10 - Enable revolutionary capabilities through new technology.	10.6 - Enhance NASA's mission by leveraging partnerships between NASA Enterprises, U.S. industrial firms, and the venture capital community for innovative technology development.	

RELEVANCE

The Innovative Technology Transfer Partnerships Program serves all NASA Enterprises and supports their missions by facilitating the development of new technologies through partnerships with U.S. industry. In addition, a new approach known as the Enterprise Engine, to partner with venture capital firms on the development of commercial technologies can directly contribute to the agency's core research activities, while benefiting private industry.

Education and Public Benefits
The Innovative Technology Transfer Partnerships Theme engages institutions of higher education in the NASA mission by providing opportunities and experience for students to help them prepare for successful careers in the field of technology management through NASA intern experience. This portends a broader role for NASA, that of ensuring that management of its technology assets and know-how are effectively used to improve higher education capacity to provide for NASA's and the Nation's future science and technology workforce requirements.

THEME: Innovative Technology Transfer Partnerships

IMPLEMENTATION

Innovative Technology Transfer Partnerships Theme consists of Technology Transfer Activities (NTTC, Tech Transfer Regulatory Requirements, Enterprise Engine), and the SBIR/STTR programs.

NASA **Commercial Programs** will be terminated in FY2004. NASA believes a better approach is to make technology transfer a normal part of doing business whenever it is developing new technologies and leverage existing mechanisms for technology transfer.

Technology Transfer Activities includes the National Technology Transfer Center (NTTC), Tech Transfer Regulatory Requirements and the Enterprise Engine.

The National Technology Transfer Center (NTTC) will continue to serve as a link between U. S. industry and NASA.

Enterprise Engine:

In FY2004, a new concept is being introduced, referred to as the Enterprise Engine. This entails the creation of partnerships between NASA, U.S. industrial firms and the venture capital community to address NASA's new technology mission needs through innovative technology development partnerships.

SBIR/STTR:

The Small Business Innovation Research (SBIR) Program was established by Congress in 1982 to provide increased opportunities for small businesses to participate in R&D, to increase employment, and to improve U.S. competitiveness. The program's specific objectives are to stimulate U.S. technological innovation, use small businesses to meet NASA research and development needs, increase private-sector commercialization of innovations derived from federal R&D, and foster and encourage participation by socially disadvantaged businesses. Legislation enacted in 2000 extended and strengthened the SBIR program and increased its emphasis on pursuing commercial applications of SBIR project results.

Small Business Innovation Research (SBIR) Program:

The Small Business Innovation Research (SBIR) Program was established by Congress in 1982 to provide increased opportunities for small businesses to participate in R&D, to increase employment, and to improve U.S. competitiveness. The program's specific objectives are to stimulate U.S. technological innovation, use small businesses to meet NASA research and development needs, increase private-sector commercialization of innovations derived from federal R&D, and foster and encourage participation by socially disadvantaged businesses. Legislation enacted in 2000 extended and strengthened the SBIR program and increased its emphasis on pursuing commercial applications of SBIR project results.

Small Business Technology Transfer (STTR) Program:

The Small Business Technology Transfer (STTR) Program (modeled after the SBIR program) awards contracts to small business concerns for cooperative research and development with a research institution (RI), such as a university. The goal of the Congress in establishing the STTR program is to facilitate the transfer of technology developed by an RI through the entrepreneurship of a small business. The STTR and SBIR programs share many of the same basic performance requirements and phased funding structures, but nevertheless, STTR is a separate legislated program, is separately funded, and differs from SBIR in several aspects.

Strategy	Schedule by Fiscal Year								Purpose
	01	02	03	04	05	06	07	08	
COMMERCIAL PROGRAMS									Transition to Technology Transfer through the Enterprise Engine Initiative.
TECHNOLOGY TRANSFER PARTNERSHIPS									FY 2004 and beyond includes the Enterprise Engine.
SBIR									Authority expires at end of FY08.
STTR									Authority expires at end of FY08.
<div style="display: flex; justify-content: space-around; align-items: center;"> Tech. & Adv. Concept Development Operations </div>									

THEME: Innovative Technology Transfer Partnerships

PERFORMANCE MEASURES

Annual Performance Goals

3.3.1 OUTCOME: Transfer NASA technology to the Nation.
4ITTP1 Complete 200 transfers of NASA technologies, expertise or facility usage to the U.S. private sector, through hardware licenses, software usage agreements, or Space Act agreements.
6.4.1 OUTCOME: More students prepared to enter STEM workforce
4ITTP2 Engage at least four institutions of higher education in the NASA mission in FY '04 by providing opportunities and experience for students to help prepare them for successful careers in the field of technology management through NASA intern experience.
10.6.1 OUTCOME: Improve NASA's Mission by leveraging partnerships with non-aerospace industry and academia, and facilitate NASA's use of commercially available technology.
4ITTP3 Promote and develop innovative technology partnerships between NASA, venture capital firms and U.S. industry for the benefit of all Enterprise mission needs.
4ITTP4 Align SBIR/STTR with priorities contributing to NASA mission and vision.
4ITTP5 Review and rank all SBIR/STTR proposals within 100 days of solicitations closure. OUTCOME: A well managed program in accordance with Agency implementing strategies.
4ITTP6 For each Development project, complete the current phase within 10% of total life-cycle cost shown on the table below.
4ITTP7 Distribute at least 80% of allocated procurement funding to competitively awarded contracts, including both continuing and new contract activities.
4ITTP8 Complete all milestones within 10% of its baseline schedules.

INDEPENDENT REVIEWS

Types of Review	Performer	Last Review	Next Review	Purpose
Review of Commercial Tech Division Program	National Academy of Public Administration	Jan 1997	TBD	Relevance
Review of SBIR	National Research Council	Sep-02	TBD	Congressional Request - Relevance.

COST

Budget Authority (\$millions)	FY02	FY03	Chng	FY04	Comments
Full Cost Budget FY2004 Initial OMB Submit	163.8	146.9	+22.4	169.3	
Technology Transfer Partnerships	48.7	35.6	+2.3	37.9	Includes Commercial Program in FY02, FY03 and FY04 close out.
SBIR/STTR Programs	115.1	111.3	+20.1	131.4	
<i>Small Business Innovation Research (SBIR)</i>	<i>108.8</i>	<i>105.0</i>	<i>+12.2</i>	<i>117.2</i>	
<i>Small Business Tech Trans (STTR)</i>	<i>6.3</i>	<i>6.3</i>	<i>+7.9</i>	<i>14.2</i>	

Indicates budget numbers in Full Cost.

Indicates changes since the FY 2003 Presidents Budget Submit.

Note: For all formats, the FY02 column reflects the FY02 Congressional Operating Plan dated 9/30/02. The FY03 column reflects the FY03 President's Budget Submit (PBS) as Amended. The Change column includes both programmatic and full cost adjustments. The FY04 column is in full cost.

THEME: Innovative Technology Transfer Partnerships

RESEARCH: Small Business Innovation Research (SBIR)

PURPOSE

Objective	Reference FY 2003 Strategic Plan	Performance Measures
10.6	Enhance NASA's mission by leveraging partnerships between NASA Enterprises, U.S. industrial firms, and the venture capital community for innovative technology development.	4ITTP3, 4ITTP4, 4ITTP5

The SBIR program will invest in innovative technology transfer that can make important contributions to NASA's mission and vision. Furthermore the program will increase small business participation in federal R&D and to provide new technology for NASA needs, increase private sector commercialization of innovations, stimulate technological innovation in the U.S. derived from federal R&D and foster and encourage participation in technological innovation.

OVERVIEW

The SBIR Program consists of two phases (Phase I & II), which leverage the innovation of the small business community by awarding NASA research contracts to meet NASA mission needs, as well as provide commercialization opportunities for the small business. The SBIR topics and subtopics which describe NASA technology needs are developed annually in alignment with NASA strategic planning and emphasize advanced concepts to meet Agency research needs across all NASA Centers.

Phase I is the opportunity to establish the feasibility and technical merit of a proposed innovation. Selected competitively, NASA's Phase I contracts last for 6 months with a maximum funding of \$70,000.

Phase II is the major R&D effort in SBIR. It continues to be the most promising of the Phase I projects based on scientific/technical merit, expected value to NASA, company capability, and commercial potential. Phase II places greater emphasis on evidence of commercial development than Phase I, particularly for NASA uses. Phase II contracts are usually for a period of 24 months with a maximum funding of \$600,000. NASA usually selects approximately 40% of the Phase Is to go on to a Phase II.

PROGRAM MANAGEMENT

The SBIR/STTR Programs are the responsibility of the Office of Aerospace Technology, NASA HQ. The Program administration is implemented through the Commercial Technology Division. The Enterprise Official is Jeremiah Creedon, Associate Administrator for Aerospace Technology at NASA HQ. Theme Director is Robert L. Norwood, Commercial Technology Division and Point of Contact is Carl G. Ray, Program Executive Director for SBIR/STTR Programs at HQ.

TECHNICAL COMMITMENT

Technical Specifications	FY04 President's Budget	Change from Baseline
SBIR Solicitations: NASA issues one SBIR program solicitation annually that sets forth specific R/R&D topics and subtopic areas consistent with stated Agency needs and mission objectives. The topic and subtopic descriptions are sufficiently comprehensive to provide Small Business Concerns (SBCs) insights into NASA research and development needs. SBIR topics and subtopics are developed annually in alignment with NASA strategic planning and emphasize advanced concepts to meet Agency research needs across all NASA Centers. SBIR is a legislatively mandated program which is conducted on a yearly, scheduled basis (see Schedule below).		

Schedule	FY04 President's Budget	Change from Baseline
SBIR 2003 Phase I Solicitation	7-Jul-03	9-Sep-03
SBIR 2002 Phase II Selections Announced	6-Oct-03	6-Oct-03
SBIR 2003 Phase I Selections Announced	21-Nov-03	21-Nov-03

THEME: Innovative Technology Transfer Partnerships

RESEARCH: Small Business Innovation Research (SBIR)

ACQUISITION STRATEGY & PERFORMING ORGANIZATIONS

Data current as of 1/21/2003

The Call for Proposals in the SBIR Program is issued annually. Current research is conducted by small business contractors. Proposals are selected by the NASA SBIR Source Selection Official. In FY 2002, direct procurement represented 2.5% of NASA extra mural R&D funding, but the plan for FY 2003 changes the direct procurement to 0.30%.

Current Acquisitions		Selection Method	Actual *	Performer	Actual *
Cooperative Agreements	%	Full & Open Competition	100%	Industry	97.5%
Cost Reimbursable	%	Sole Source	%	Government	%
Fixed Price	100%		100%	NASA Extramural	2.5%
Grants	%			University	%
Other	%	Sci Peer Review	%	Non Profit	%
* as % of FY02 direct procurement		* as % of FY02 direct procurement		* as % of FY02 direct procurement	
				100%	

Future Acquisitions - Major	Selection	Goals
Annual Solicitation	FY03 4Q	100% Full & Open Competition

AGREEMENTS

Internal: The program is not dependent on other NASA activities outside of the control of the NASA Associate Administrator for Aeronautics Technology.

External: This program is legislatively mandated and is conducted in accordance with the governing legislation. A legislated federal research and development (R&D) set aside reauthorized in 2000 (SBIR), 2002 (STTR) for small high tech firms. Public Law 106-544 enacted December 12, 2000. Re-authorization, extending the SBIR program to FY 2008 and increasing data collection requirements.

INDEPENDENT REVIEWS

Data current as of 1/21/2003

Types of Review	Performer	Last Review	Next Review	Purpose
Independent, External Review	NRC		FY 03	Assessment of the SBIR program. Mandated study will conclude in 3 years.

COST

Budget Authority (\$ in millions)	FY02	FY03	FY04	Comments
Full Cost Budget FY2004 OMB Submit				
Small Business Innovation Research	108.8	105.0	117.2	
Small Business Innovation Research	108.8	105.0	117.2	
Changes since FY 03 Pres. Budget	+0.0	+0.0	+12.2	Reason for Change:
Small Business Programs				
Small Business Innovation			+12.2	Full cost implications.

Indicates budget numbers in Full Cost.

Indicates changes since the FY 2003 Presidents Budget Submit.

Note: For all formats, the FY02 column reflects the FY02 Congressional Operating Plan dated 9/30/02. The FY03 column reflects the FY03 President's Budget Submit (PBS) as Amended. The Change column includes both programmatic and full cost adjustments. The FY04 column is in full cost.

THEME:	Innovative Technology Transfer Partnerships
RESEARCH:	Small Business Technology Transfer Program (STTR)

PURPOSE

Objectives	Reference FY 2003 Strategic Plan	Performance Measures
10.6	Enhance NASA's mission by leveraging partnerships between NASA Enterprises, U.S. industrial firms, and the venture capital community for innovative technology development.	4ITTP3, 4ITTP4, 4ITTP5

The STTR program will invest in innovative technology transfer that can make important contributions to NASA's mission and vision. Furthermore the program will increase small business participation in federal R&D and to provide new technology for NASA needs, increase private sector commercialization of innovations, stimulate technological innovation in the U.S. derived from federal R&D and foster and encourage participation in technological innovation.

The STTR Program consists of two phases (Phase I & II), which leverage the innovation of the research community in conjunction with a small business, by awarding NASA research contracts to meet NASA missions needs, as well as provide commercialization opportunities for the small business. The STTR topics and subtopics are developed annually in alignment with NASA strategic planning and emphasize advanced concepts to meet Agency research needs across all NASA Centers.

Phase I is the opportunity to establish the feasibility and technical merit of a proposed innovation. Selected competitively, NASA's Phase I contracts last for 1 year with a maximum funding of \$100,000.

Phase II is the major R&D effort in STTR. It continues to be the most promising of the Phase I projects based on scientific/technical merit, expected value to NASA, company capability, and commercial potential. Phase II places greater emphasis on evidence of commercial development than Phase I, particularly for NASA uses. Phase II contracts are usually for a period of 24 months with a maximum funding of \$600,000. NASA usually selects approximately 40% of the Phase Is to go on to a Phase II.

PROGRAM MANAGEMENT

The SBIR/STTR Programs are the responsibility of the Office of Aerospace Technology, NASA HQ. The Program administration is implemented through the Commercial Technology Division. The Enterprise Official is Jeremiah Creedon, Associate Administrator for Aerospace Technology at NASA HQ. Theme Director is Robert L. Norwood, at NASA HQ and Point of Contact is Carl G. Ray, Program Executive Director for SBIR/STTR Programs at HQ.

TECHNICAL COMMITMENT

Technical Specifications	FY04 President's Budget	Change from Baseline
STTR Solicitations: NASA issues one STTR program solicitation annually that sets forth specific R/R&D topics and subtopic areas consistent with stated Agency needs and mission objectives. The topic and subtopic descriptions are sufficiently comprehensive to provide Small Business Concerns (SBCs), in collaboration with a Research Institution (RI), insights into NASA research and development needs. STTR topics and subtopics are developed annually in alignment with NASA strategic planning and emphasize advanced concepts to meet Agency institutionally focused research at selected NASA Centers of Excellence in those research areas (See hyperlink for latest research topics). STTR is a legislatively mandated program which is conducted on a yearly, scheduled basis (see Schedule below).		

Schedule	FY04 President's Budget	Change from Baseline
STTR 2003 Phase I Solicitation	7-Jul-03	9-Sep-03
STTR 2003 Phase I Selections Announced	21-Nov-03	21-Nov-03
STTR 2002 Phase II Selections Announced	6-Apr-04	6-Apr-04

THEME Innovative Technology Transfer Partnerships

RESEARCH: Small Business Technology Transfer (STTR)

ACQUISITION STRATEGY & PERFORMING ORGANIZATIONS

Data current as of 1/21/2003

The Call for Proposals in the STTR Program is issued annually. Current research is conducted by small business contractors in partnership with research institutions. Proposals are selected by the NASA STTR Source Selection Official. In FY 2002, direct procurement represented 0.15% of NASA extra mural R&D funding, but the plan for FY 2003 changes the direct procurement to 0.30%.

Current Acquisitions	Actual *	Selection Method	Actual *	Performer	Actual *
Cooperative Agreements	%	Full & Open Competition	100%	Industry	99.7%
Cost Reimbursable	%	Sole Source	%	Government	%
Fixed Price	100%		100%	NASA Extramural	0.3%
Grants	%			University	%
Other	%	Sci Peer Review	%	Non Profit	%
* as % of FY02 direct procurement	100%	* as % of FY02 direct procurement		* as % of FY02 direct procurement	100%

Future Acquisitions - Major	Selection	Goals
Annual Solicitation	Fall 03	100% Full & Open Competition

AGREEMENTS

Internal: The program is not dependent on other NASA activities outside of the control of the NASA Associate Administrator for Aeronautics Technology. *External:* This program is legislatively mandated and is conducted in accordance with the governing legislation. A legislated federal research and development (R&D) set aside reauthorized in 2000 (SBIR), 2002 (STTR) for small high tech firms. Public Law 106-544 enacted December 12, 2000. re-authorization, extending the SBIR program to FY 2008 and increasing data collection requirements.

INDEPENDENT REVIEWS

Data current as of 1/21/2003

Types of Review	Performer	Last Review	Next Review	Purpose
None				

COST

Budget Authority (\$ in millions)	FY02	FY03	FY04	
Full Cost Budget FY2004 OMB Submit				
Small Business Technology Transfer	6.3	6.3	14.2	
Changes since FY 03 Pres. Budget	+0.0	+0.0	+7.9	Reason for Change:
Small Business Technology Transfer			+7.9	Increase STTR to 3.0% of NASA Extramural R&D expenditures and full cost implications.

Indicates budget numbers in Full Cost.
 Indicates changes since the FY 2003 Presidents Budget Submit.

Note: For all formats, the FY02 column reflects the FY02 Congressional Operating Plan dated 9/30/02. The FY03 column reflects the FY03 President's Budget Submit (PBS) as Amended. The Change column includes both programmatic and full cost adjustments. The FY04 column is in full cost.

THEME: Innovative Technology Transfer Partnerships

TECHNOLOGY AND ADVANCED CONCEPTS: Technology Transfer Partnerships

PURPOSE

Objective:	Reference FY 2003 Strategic Plan	Performance Measures
3.3	Improve the Nation's economic strength and quality of life by facilitating innovative use of NASA technology.	4ITTP1
6.4	Improve higher education capacity to provide for NASA's and the Nation's future science and technology workforce requirements.	4ITTP2
10.6	Enhance NASA's mission by leveraging partnerships between NASA Enterprises, U.S. industrial firms, and the venture capital community for innovative technology development.	4ITTP3, 4ITTP4, 4ITTP5

The Technology Transfer Activities are designed to foster partnerships and cooperative activities with U.S. non-aerospace Industry and academia to facilitate the development of technology that is both applicable to NASA mission needs and contributes to commercial competitiveness in global markets. A new element of the Technology Transfer Activity promotes innovative technology partnerships between NASA, venture capital firms and U.S. industry for the benefit of NASA's Enterprise mission needs. These activities engage institutions of higher education in the NASA missions by providing opportunities and experience for students in the field of technology management through NASA intern experience.

OVERVIEW

The FY 2004 budget terminates the Commercial Technology program. The budget provides for a new approach, known as the Enterprise Engine, which establishes partnerships with venture capital firms and U.S. industry on the development of commercial technologies that can directly contribute to the agency's core research activities, while benefiting private industry.

PROGRAM MANAGEMENT

The program responsibility resides at NASA HQ. Enterprise official is Jeremiah Creedon, Associate Administrator for Aerospace Technology at HQ. Theme Director and Point of Contact is Robert L. Norwood, at NASA HQ. This program is in full compliance with NPG 7120.5B.

TECHNICAL COMMITMENT

Technical Specifications	FY04 President's Budget			Change from Baseline
	FY02	FY03	FY04	
Promote and develop innovative technology partnerships between NASA, venture capital firms and U.S. industry for the benefit of NASA's Enterprise mission needs.	\$M 47.2	54.1	28.9	Terminated in FY04, Continue only mandated technology transfer activities.
Engage institutions of higher education in the NASA mission by providing opportunities and experience for minority students in the field of technology management. (CK Metic)	\$M 1.5	1.5	0.0	Project Termination in FY03.
Utilize the Enterprise Engine process to develop new technologies needed for Enterprise missions.			5.0	New Partnership concept.

THEME: Innovative Technology Transfer Partnerships

TECHNOLOGY AND ADVANCED CONCEPTS: Technology Transfer Partnerships

ACQUISITION STRATEGY & PERFORMING ORGANIZATIONS

Data current as of 1/21/2003

Changes since FY03 Pres. Budget: None.

Current Acquisitions	Actual *	Selection Method	Actual *	Performer	Actual *
Cooperative Agreements	16%	Full & Open Competition	84%	Industry	65%
Cost Reimbursable	84%	Sole Source	16%	Government	%
Fixed Price	%		100%	NASA Intramural	%
Grants	%			University	35%
Other	%	Sci Peer Review	%	Non Profit	%
* as % of FY02 direct procurement		* as % of FY02 direct procurement		* as % of FY02 direct procurement	
100%		100%		100%	

Future Acquisitions - Major	Selection	Goals
None		

AGREEMENTS

Internal: The Program is not dependent on other NASA activities outside of the control of the Associate Administrator of the Office of Aerospace Technology.

External: None.

Changes since FY03 Pres. Budget: None.

INDEPENDENT REVIEWS

Data current as of 1/21/2003

Types of Review	Performer	Last Review	Next Review	Purpose
Technology Program Assessment	NAPA	FY1997	FY2004	Assess the quality, relevance and performance of Innovative Technology Transfer Partnership Program.

COST

Budget Authority (\$ in millions)	FY02	FY03	FY04	Comments
Full Cost Budget FY2004 OMB Submit				
Commercial Programs	48.7	35.6	37.9	
Commercial Technology	40.9	29.8	11.5	
Technology Transfer	7.8	5.8	22.4	
SBIR/STTR Program Management			4.0	
Changes since FY 03 Pres. Budget	+0.0	+0.0	+2.3	Reason for Change:
Commercial Technology			-18.3	Terminates in FY 2004 with Full Cost Ramp Down.
Technology Transfer			+16.6	Increased for Enterprise Engine and Transfer of Regulatory Rqmts from Commercial Programs & Full Cost Implications.
SBIR/STTR Program			+4.0	Increase for Program Management.

Indicates budget numbers in Full Cost.

Indicates changes since the FY 2003 Presidents Budget Submit.

Note: For all formats, the FY02 column reflects the FY02 Congressional Operating Plan dated 9/30/02. The FY03 column reflects the FY03 President's Budget Submit (PBS) as Amended. The Change column includes both programmatic and full cost adjustments. The FY04 column is in full cost.