

National Institute of Standards and Technology

The National Institute of Standards and Technology (NIST) is responsible for strengthening the Nation's innovation infrastructure for manufacturing and services, trade, public safety and security, quality of life, and jobs. NIST carries out this mission through four major programs.

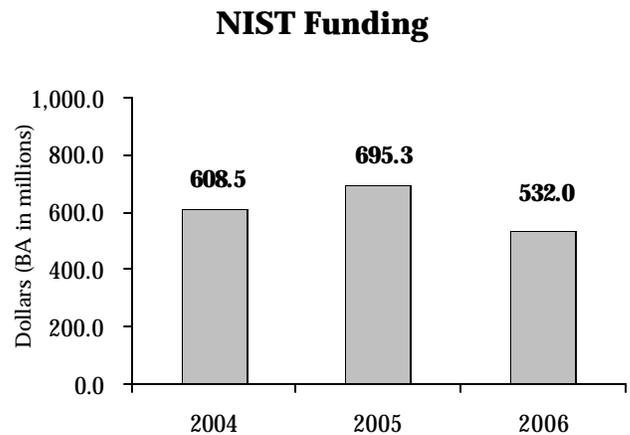
The **NIST Laboratories** research program focuses on providing the measurements, standards, verified data, and test methods necessary to support the development of new technologies and to promote the competitive standing of the U.S. in the global economy. The world-class scientific and technical staff works closely with private industry, academic researchers, and other government agencies.

The **Advanced Technology Program (ATP)** assists industry to invest in and develop high-risk, innovative technologies that promise broad benefits for the Nation.

The **Hollings Manufacturing Extension Partnership (HMEP) Program** assists small manufacturing establishments in assimilating new technologies and manufacturing practices through government-industry partnerships and extension services.

The **Baldrige National Quality Program (BNQP)** is a highly visible quality management program focused on instilling the principles of continuous quality improvement in U.S. businesses and educational, health care, and non-profit organizations.

In addition, NIST has initiated a long-term program to upgrade and maintain its physical plant. Significant and sustained investment to upgrade existing facilities, which are 35 to 45 years old, is required to support NIST research in the 21st century.



Summary of Appropriations

Funding Levels

Appropriation	2004 <u>Actual</u>	2005 <u>Estimate</u>	2006 <u>Estimate</u>	Increase <u>(Decrease)</u>
Scientific and Technical Research and Services	\$340,743	\$378,764	\$426,267	\$47,503
Industrial Technology Services	216,480	247,943	46,800	(201,143)
Construction of Research Facilities	64,271	72,518	58,898	(13,620)
Total Appropriation	621,494	699,225	531,965	(167,260)
Unobligated balance, rescission, STRS	(4,276)	0	0	0
Unobligated balance, rescission, ITS	(8,710)	(3,900)	0	3,900
Working Capital Fund	[282]	[2,900]	[9,470]	[6,570]

Budget Authority

Scientific and Technical Research and Services	336,467	378,764	426,267	47,503
Industrial Technology Services	207,770	244,043	46,800	(197,243)
Construction of Research Facilities	64,271	72,518	58,898	(13,620)
TOTAL, BUDGET AUTHORITY	608,508	695,325	531,965	(163,360)

FTE

Scientific and Technical Research and Services	1,829	1,971	2,064	93
Industrial Technology Services	272	308	46	(262)
Construction of Research Facilities	55	55	62	7
Working Capital Fund	754	694	749	55
Total	2,910	3,028	2,921	(107)

Highlights of Budget Changes

Appropriation: Scientific and Technical Research and Services

Summary of Requirements

	<u>Detailed</u>		<u>Summary</u>	
	<u>FTE</u>	<u>Amount</u>	<u>FTE</u>	<u>Amount</u>
2005 Appropriation			1,971	\$378,764
Adjustments to Base				
Adjustments				
Restoration of FY 2005 Deobligation Offset		\$1,000		
Restoration of Rescissions		5,128		
Less FY 2005 unrequested projects		(8,900)		
Subtotal, adjustments			0	(2,772)
Other Changes				
2005 Pay raise		1,682		
2006 Pay raise		3,871		
Payment to the Working Capital Fund		40		
Full year cost in FY 2006 of positions financed for part year in FY 2005	24	0		
Change in compensable day		(767)		
Civil Service Retirement System (CSRS)		(234)		
Federal Employees' Retirement System (FERS)		358		
Thrift Savings Plan		67		
Federal Insurance Contributions Act (FICA) -OASDI		106		
Health insurance		1,099		
Employees' Compensation Fund		86		
Travel:				
Mileage		3		
Per diem		42		
Rental payments to GSA		1		
Printing and reproduction		9		
Other services:		441		
Working Capital Fund		135		
Commerce Business System		547		
PEPCO rate increase		1,992		
Supplies and materials: Scientific journal subscriptions		119		
General pricing level adjustment:				
Transportation of things		24		
Rental payments to others		48		
Communications, utilities, & miscellaneous charges		108		
Other services		879		
Supplies and materials		299		
Equipment		525		
Subtotal, other cost changes			24	11,480
TOTAL, ADJUSTMENTS TO BASE			24	8,708
2006 Base			1,995	387,472
Program Changes			69	39,795
TOTAL REQUIREMENTS			2,064	427,267
Recoveries from Prior Year Obligations				(1,000)
2006 APPROPRIATION			2,064	426,267

Comparison by Activity

	2005 Currently Avail.		2006 Base		2006 Estimate		Increase / Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
DIRECT OBLIGATIONS								
NIST Laboratories								
Laboratories and technical programs								
Electronics & electrical engineering	258	\$48,718	262	\$50,920	262	\$50,920	0	\$0
Manufacturing engineering	128	21,710	128	22,451	139	27,551	11	5,100
Chemical science & technology	267	43,460	267	45,107	284	51,002	17	5,895
Physics	189	41,390	191	42,305	199	45,305	8	3,000
Materials science & engineering	177	32,567	177	33,548	177	33,548	0	0
Building & fire research	113	21,765	114	22,367	117	24,367	3	2,000
Computer science & applied math.	332	62,410	342	65,536	350	68,376	8	2,840
Standards & technology services	88	15,931	88	16,304	101	20,304	13	4,000
Building competence for advanced measurements program	74	15,190	76	16,053	78	16,803	2	750
Postdoctoral fellowship program	96	10,106	96	10,704	96	10,704	0	0
Computer support	33	7,218	33	6,948	33	6,948	0	0
Business systems	24	9,949	24	10,713	24	10,713	0	0
Research support external projects	0	8,781	0	0	0	0	0	0
Subtotal, Labs & technical programs	1,779	339,195	1,798	342,956	1,860	366,541	62	23,585
National research facilities								
NIST center for neutron research	142	27,918	145	29,547	145	29,547	0	0
National nanomanufacturing & nanometrology facility	11	7,540	13	8,543	20	16,043	7	7,500
Subtotal, National research facilities	153	35,458	158	38,090	165	45,590	7	7,500
Subtotal, NIST laboratories	1,932	374,653	1,956	381,046	2,025	412,131	69	31,085
Baldrige National Quality Program	39	5,460	39	5,666	39	5,666	0	0
TOTAL DIRECT OBLIGATIONS	1,971	380,113	1,995	386,712	2,064	417,797	69	31,085
FINANCING								
Unobligated balance, start of year	0	(3,249)	0	0	0	0	0	0
Recovery of prior year obligations	0	(1,000)	0	(1,000)	0	(1,000)	0	0
Subtotal, financing	0	(4,249)	0	(1,000)	0	(1,000)	0	0
TOTAL BUDGET AUTHORITY	1,971	375,864	1,995	385,712	2,064	416,797	69	31,085
Unobligated balance, rescission		0		0		0		
Transfers	0	2,900	0	760	0	9,470	0	8,710
TOTAL APPROPRIATION	1,971	378,764	1,995	386,472	2,064	426,267	69	39,795

Highlights of Program Changes

	<u>Base</u>		<u>Increase / Decrease</u>	
	<u>FTE</u>	<u>Amount</u>	<u>FTE</u>	<u>Amount</u>
<u>NIST Laboratories</u>	1,956	\$381,806	+69	+\$39,795

An increase (+31 FTE, +\$19,600) is requested for **Advances in Manufacturing** to enhance the research capabilities of the National Nanomanufacturing and Nanometrology Facility in the state of the art NIST Advanced Measurement Laboratory to address the critical areas where the U.S. manufacturing sector faces pressing needs; to provide measurement and standards support for nanodevices, nanomagnetics, nanomanipulation, and nanocharacterization in order to develop innovative new products based on nanotechnology; to develop open standards for enterprise integration that facilitate the exchange of business and manufacturing data to build efficient, flexible manufacturing supply chains; and to support international standardization efforts to forestall potential regulatory barriers to U.S. exports.

Of this amount, a transfer of \$3,000 will be made to the NIST Working Capital Fund.

An increase (+5 FTE, +\$3,000) is requested for **Measurements and Standards for Homeland Security** to expand two of NIST's public safety and security programs to provide urgently needed enhancements for the safety of emergency first responders and buildings and to increase the effectiveness and reliability of biometric-based identification systems.

Of this amount, a transfer of \$60 will be made to the NIST Working Capital Fund.

An increase (+33 FTE, +\$17,195) for **New Measurement Horizons for the U.S. Economy and Science** to provide the measurement infrastructure needed by the Nation's research community, particularly for biosystems and health, quantum processing, interoperability and security for emerging scientific systems, and to provide increased resources for high priority fundamental research to build new capabilities necessary to develop and maintain state-of-the-art knowledge.

Of this amount, a transfer of \$5,650 will be made to the NIST Working Capital Fund.

STRS Initiative Name	Manufacturing engineering	Chemical science and technology	Building and fire research	Physics	Computer science and technology	Standards and applied mathematics	Building competence for advanced measurements program	National nanomanufacturing and nanometrology facility	Transfers to the NIST Working Capital Fund
Advances in Manufacturing (\$19,600)									
National nanomanufacturing and nanometrology facility								7,500	2,500
Nanomanufacturing research	3,500								500
Manufacturing enterprise integration	1,600								
Expanding access to global markets through measurements and standards						4,000			
Measurements and Standards for Homeland Security (\$3,000)									
Improved guidelines and standards for first responders and buildings				2,000					
Biometrics					940				60
New Measurement Horizons for the U.S. Economy and Science (\$17,195)									
Biosystems and health		5,895							1,300
Interoperability and security for emerging scientific systems					1,900				100
Quantum processing -- beyond high-end computing			3,000						1,000
Building competence for advanced measurements							750		3,250
STRS Total	5,100	5,895	3,000	2,000	2,840	4,000	750	7,500	8,710

Appropriation: Industrial Technology Services**Summary of Requirements**

	<u>Summary</u>	
	FTE	Amount
2005 Appropriation	308	\$244,043
Adjustments to Base:		
Adjustments		
Restoration of unobligated balances rescission		3,900
TOTAL, ADJUSTMENTS TO BASE	0	3,900
2006 Base	308	247,943
Program Changes	(262)	(201,143)
2006 APPROPRIATION	46	46,800

Comparison by Activity

	2005 Currently Avail.		2006 Base		2006 Estimate		Increase / Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
DIRECT OBLIGATIONS								
Advanced Technology Program	244	\$144,263	244	\$140,399	0	\$0	(244)	(\$140,399)
Hollings Manufacturing Extension Partnership Program	64	116,442	64	107,544	46	46,800	(18)	(60,744)
TOTAL DIRECT OBLIGATIONS	308	260,705	308	247,943	46	46,800	(262)	(201,143)
FINANCING								
Unobligated balance, start of year		(12,862)						
Recovery of prior obligations		(3,800)						
Unobligated balance, end of year		0						
Subtotal, financing		(16,662)				0		
TOTAL BUDGET AUTHORITY	308	244,043			46	46,800		
Unobligated balance, rescission		3,900				0		
TOTAL APPROPRIATION	308	247,943			46	46,800		

Highlights of Program Changes

	<u>Base</u>		<u>Increase / Decrease</u>	
	<u>FTE</u>	<u>Amount</u>	<u>FTE</u>	<u>Amount</u>
<u>Advanced Technology Program</u>	244	\$140,399	-244	-\$140,399

A decrease (-244 FTE, -\$140,399) is requested. The Administration proposes that the program be eliminated. Therefore, no funding is requested for this program in FY 2006.

<u>Hollings Manufacturing Extension Partnership</u>	64	\$107,544	-18	-\$60,744
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A decrease (-18 FTE, -\$60,744) is requested. The Administration proposes to fund the program at \$46.8 million, a 50 percent reduction from the FY 2005 grant level. At this level, the Administration will maintain a national network of centers while focusing funding based on centers' performance and need.

Appropriation: Construction of Research Facilities**Summary of Requirements**

	Detailed		Summary	
	<u>FTE</u>	<u>Amount</u>	<u>FTE</u>	<u>Amount</u>
2005 Appropriation			55	\$72,518
Adjustments to Base				
Adjustments				
Restoration of Rescissions		\$982		
FY 2005 Boulder construction		(7,000)		
Less FY 2005 unrequested projects		(43,500)		
Subtotal, adjustments			0	(49,518)
Other Changes				
2005 Pay raise		37		
2006 Pay raise		86		
Change in compensable day		(17)		
Civil Service Retirement System (CSRS)		(5)		
Federal Employees' Retirement System (FERS)		8		
Thrift Savings Plan		2		
Federal Insurance Contributions Act (FICA) -OASDI		2		
Health insurance		25		
General pricing level adjustment:		18		
Other services		352		
Supplies and materials		20		
Equipment		6		
Subtotal, other cost changes			0	534
TOTAL, ADJUSTMENTS TO BASE			0	(48,984)
2006 Base			55	23,534
Program Changes			7	35,364
2006 APPROPRIATION			62	58,898

Comparison by Activity

	2005 Currently Avail.		2006 Base		2006 Estimate		Increase / Decrease	
	ETE	Amount	ETE	Amount	ETE	Amount	ETE	Amount
DIRECT OBLIGATIONS								
Construction & Major Renovations	55	\$90,189	55	\$23,534	62	\$58,898	7	\$35,364
TOTAL DIRECT OBLIGATIONS	55	90,189	55	23,534	62	58,898	7	35,364
FINANCING								
Unobligated balance, start of year		(17,671)						
Unobligated balance, end of year		0						
Subtotal, financing		(17,671)				0		
TOTAL BUDGET AUTHORITY	55	72,518			62	58,898		
Transfer to Working Capital Fund		0				0		
TOTAL, APPROPRIATION	55	72,518			62	58,898		

Highlights of Program Changes

	<u>Base</u>		<u>Increase / Decrease</u>	
	<u>FTE</u>	<u>Amount</u>	<u>FTE</u>	<u>Amount</u>
<u>Construction and Major Renovations</u>	55	\$23,534	+7	+\$35,364

An increase (0 FTE, +\$31,964) is requested in support of the **NIST Facilities Improvement Plan (FIP)** for critical construction, major repair, and renovation projects at the NIST sites in Boulder, Colorado, and Gaithersburg, Maryland. Projects for the Boulder site include: (1) completion of the central utility plant (+\$9,400); (2) the design for the renovation of Building 1 (+\$6,500); and (3) the design and limited renovation of Building 4 (+\$4,000). One project for the Gaithersburg site is for the relocation and remediation of NIST North (+\$4,000). The request for safety, capacity, maintenance, and major repairs (SCMMR) funding (+\$8,064) will help NIST replace significantly degraded HVAC and mechanical equipment, install energy saving systems, and implement enhanced security and fire protection systems – all efforts to reduce long-term facilities costs and protect NIST staff and visitors.

An increase (+7 FTE, +\$3,400) is requested for **Maintenance for the Advanced Measurement Laboratory** to provide sufficient funds to maintain and repair this complex new facility now and in the years to come.

Appropriation: Working Capital Fund**Comparison by Activity**

	2005 Currently Avail.		2006 Base		2006 Estimate		Increase / Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
DIRECT OBLIGATIONS								
Direct Obligations		\$2,900		\$760		\$9,470	0	\$8,710
Reimbursable Obligations	694	162,596	691	153,065	749	153,065	58	0
WCF Investments		24,548		23,028		23,028	0	0
TOTAL OBLIGATIONS	694	190,044	691	176,853	749	185,563	58	8,710
FINANCING								
Unobligated balance, start of year		(124,529)		(82,024)		(82,024)		0
Unobligated balance, end of year		82,024		64,305		64,305		0
Offsetting collections from:								
Federal funds		(100,031)		(113,104)		(113,104)		0
Non-Federal sources		(44,608)		(45,270)		(45,270)		0
Subtotal, financing	0	(187,144)	0	(176,093)	0	(176,093)	0	0
TOTAL BUDGET AUTHORITY	694	2,900	691	760	749	9,470	58	8,710
TRANSFERS								
From other accounts		(2,900)		(760)		(9,470)		(8,710)
TOTAL, APPROPRIATION	694	0	691	0	749	0	58	0