

1. “21 (21st Century Research Fund)”
1998
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1999 8% 5
32% ,
42% 가 ,
NIH 50% , (NCI) 65%
. NSF 26% , EPA 17%
.(1)

< 1> President's FY1999 Budget for Federal R&D

Agency	FY1998 Estimate	FY1999 Budget	FY2000 Projected	FY2001 Projected	FY2002 Projected	FY2003 Projected	% Change FY98-03 Current \$	% Change FY98-03 Constant \$
NIH	13097	14163	14989	15918	17225	19332	47.5%	32.7%
NASA	9616	9504	9397	9389	9493	9513	-3.1%	-12.8%
Energy Non-defense	3334	3781	3691	3815	3842	3806	14.2%	2.7%
NSF	2568	2857	2946	3038	3131	3229	25.8%	13.1%
Agriculture	1559	1552	1564	1555	1558	1559	.0%	-10.1%
Commerce	1081	1084	1096	1096	1106	1077	-4%	-10.4%
Interior	609	629	632	624	623	623	2.5%	-7.8%
Transportation	676	775	816	774	727	700	3.6%	-6.8%
EPA	637	631	641	696	725	746	17.1%	5.3%
Other Agencies	1535	1776	1727	1742	1754	1771	15.3%	3.7%
Non-defense R&D	35624	37697	38505	39708	40944	43124	21.1%	8.9%

Source: AAAS, "President's Budget Projects Increases for Nondefense R&D to FY 2003"

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 1999 R&D 800
 1998 41 (5.3%) 가 NIH
 R&D 가 (149) 14% 20 가, DOE
 11.4% 가 .(2)

< 2> TOTAL R&D BY AGENCY
 CONGRESSIONAL ACTION ON R&D IN THE FY 1999 BUDGET
 (BUDGET AUTHORITY IN MILLIONS OF DOLLARS)

Agency	Fy 98 Estimate	FY 99 Estimate	FY 99 Congress	Change from Request	Request Percent	Change from FY 98	FY 98 Percent
Defense (military)	37,430	37,010	38,532	1,522	4.1%	1,102	2.9%
"S&T" 6.1-6.3+Medical	7,800	7,181	7,803	622	8.7%	3	0.0%
All other DOD R&D	29,630	29,828	30,729	900	3.0%	1,099	3.7%
NASA	9,884	9,504	9,727	223	2.3%	-157	-1.6%
Energy	6,288	7,142	7,002	-140	-2.0%	714	11.4%
Health and Human Services	13,809	14,888	15,748	860	5.8%	1,939	14.0%
NIH	13,097	14,163	14,943	780	5.5%	1,846	14.1%
NSF	2,568	2,857	2,784	-73	-2.6%	216	8.4%
Agriculture	1,553	1,549	1,656	107	6.9%	103	6.6%
Interior	609	629	627	-2	-0.4%	19	3.0%
Transportation	676	775	696	-79	-10.1%	20	3.0%
EPA	672	657	692	36	5.4%	20	3.0%
Commerce	1,081	1,083	1,076	-8	-0.7%	-5	-0.5%
NOAA	580	540	599	58	10.8%	19	3.3%
NIST	492	532	467	-65	-12.3%	-26	-5.2%
Education	209	265	231	-34	-12.7	22	10.7%
USAID	150	154	150	-4	-2.6%	0	0.0%
VA	608	670	686	16	2.4%	78	12.9%
NRC	61	53	51	-2	-309%	-10	-16.5%
Smithsonian	146	155	151	-4	-2.7%	5	3.3%
All Other	362	343	361	18	5.2%	-1	-0.3%
Total R&D	76,106	77,134	80,170	2,435	3.1%	4,064	5.3%
Defense R&D	40,409	40,288	41,823	1,535	3.8%	1,414	3.5%
Nondefense R&D	35,697	37,446	38,347	907	2.4%	2,650	7.4%
Basic Research	15,724	16,917	17,494	577	3.4%	1,770	11.3%

가 1998

11.3% 가(18) 175 가 . 14.6%가
 가 84 NIH . NIH

48% (10 37%) . NSF DOA
 10%, 10.5% .
 2000 “21 ” 380 .(
 3) 1999 3% .
 가,
 (interagency)
 . “Information
 Technology for the 21st Century ” .

< 3> PRELIMINARY ANALYSIS OF R&D IN FY 2000 BUDGET BY AGENCY
 (Budget Authority in Millions of Dollars)

Agency	FY 1998 Actual	FY 1999 Estimate	FY 2000 Budget	Change FY 99-00 Amount	Change FY 99-00 Percent
Defense (military)	37,569	37,975	35,065	-2,909	-7.7%
"S&T" (6.1-6.3)	7,712	7,791	7,386	-405	-5.2%
All other DOD R&D	29,857	30,184	27,679	-2,505	-8.3%
Health and Human Services	13,842	15,750	16,047	297	1.95%
NIH	13,110	14,971	15,289	318	2.1%
NASA	9,751	9,715	9,770	55	0.6%
Energy	6,351	6,974	7,447	473	6.8%
National Science Foundation	2,501	2,714	2,890	176	6.5%
Agriculture	1,561	1,660	1,850	190	11.4%
Commerce	1,091	1,075	1,172	97	9.0%
NOAA	581	600	600	0	0.0%
NIST	503	468	565	97	20.8%
Interior	472	499	590	91	18.2%
Transportation	590	603	836	233	38.7%
EPA	636	669	645	-24	3.6%
All Other	1,515	1,648	1,579	-69	-4.2%
Total R&D	75,878	79,282	77,890	-1,392	-1.8%
Defense R&D	40,571	41,208	38,483	-2,726	-6.6%
Nondefense R&D	35,306	38,074	39,408	1,334	3.5%
Basic Research	15,522	17,286	18,102	816	4.7%
Applied Research	15,460	16,559	16,649	90	0.5%
Development	42,600	43,051	40,729	-2,322	-5.4%
R&D Facilities and Equipment	2,296	2,386	2,411	25	1.0%

2. Information Technology for the 21st Century Initiative (IT2)

IT2 OSTP, NSTC,
PCAST (DOD, DOE, NSF, NOAA, NASA, NIH)

IT2 1998 8 (President's Information
Technology Advisory Committee: PITAC)가
OSTP가

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60%

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(visualization)

IT 2 가

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IT 2

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2) 28%가 3 6 6 가 2000

3) (WEF) 가 6 “ (New Economy)”가 가 21 “

IT2 62% (228) 가 , 34% 가
 .(4) (146 : 40%)
 NSF 4) 1 (27%) DOD , 7
 (19%) DOE , 38 (10%) NASA , 6 (2%)
 NIH NOAA

< 4> IT² Funding by Agency

Agency	Fundamental Information Technology Research	Advanced Computing for Science, Engineering, and the Nation	Social, Economic, and Workforce Implications of Information Technology	Total
DoD	\$ 100M	---	---	\$ 100M
DOE	\$6M	\$62M	\$2M	\$70M
NASA	\$18M	\$19M	\$1M	\$38M
NIH	\$2M	\$2M	\$2M	\$6M
NOAA	\$2M	\$4M	---	\$6M
NSF	\$100M	\$36M	\$10M	\$146M
Total	\$ 228M	\$ 123M	\$ 15M	\$ 366M

IT2
 . 15 Nest Generation Internet(NGI)
 HPCC DOE Accelerated Strategic Computing
 Initiative(ASCI) IT2
 가 “21 ”(Keeping America Secure
 for the 21st Century) 5 ”
 (CIARI)
 Cyber Corps

4) 1 (68%) 가 , 36 (25%) , (7%)
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Cyber Corps
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1998 8 (PITAC)가 가
IT2

3. “新 (New S&T Compact)”
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“IT2 ”
가 (NSTC)
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가 (National Bioethics Advisory Commission)
IT2
가
“New S&T Compact” NSTC
, (PCAST)
OSTP
”New S&T Compact”

III.

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2010 R&D 가 " " " 가 " 1 "

1. ' (Federal Research Investment Act)

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Bill Frist John Rockefeller 2010 R&D (FRIA)

30% (mandatory spending) 70% 30 (discretionary spending) 67% 1965 (33% 5).

< 5> DISCRETIONARY SPENDING PROPOSALS IN THE FY2000 CONGRESSIONAL BUDGET RESOLUTION
(BUDGET AUTHORITY IN BILLIONS OF DOLLARS)

	FY 1999 Est.	FY 2000 Prop.	FY 2001 Prop.	FY 2002 Prop.	FY 2003 Prop.	FY 2004 Prop.	% Change FY 99-04 current \$	% Change FY 99-04 current \$
Discretionary Spending by Budget Function								
Defense	280.3	290.0	304.8	309.3	319.4	328.1	17.1%	5.6%
Nondefense	276.3	256.1	245.0	247.5	255.2	258.6	-6.4%	-15.6%
international	22.5	17.7	16.4	16.1	16.0	16.4	-27.0%	-34.1%
general science	18.8	17.9	17.9	17.9	17.9	17.9	-4.7%	-14.0%
energy	2.9	1.8	0.5	1.9	1.9	1.9	-34.2%	-40.6%
environment	23.4	22.0	21.3	21.1	22.0	22.5	-3.7%	-13.1%
agriculture	4.3	3.9	3.7	3.7	3.6	3.6	-16.6%	-24.8%
commerce	3.7	3.5	2.1	1.7	1.8	1.8	-51.4%	-56.2%
transportation	13.3	12.2	11.9	11.3	11.2	11.2	-16.0%	-24.2%
education	46.6	51.1	50.6	51.3	54.3	56.3	20.8	9.0%
health	30.1	29.3	27.9	27.7	27.5	27.3	-9.2%	-18.1%
income security	32.8	28.7	27.9	30.3	34.6	35.2	7.3%	-3.2%
veterans	19.3	20.9	19.1	19.0	19.0	19.0	-1.5%	-11.1%
justice	26.2	23.1	24.4	24.4	24.4	24.4	-6.8%	-15.9%
general gov't	13.2	11.4	11.0	11.1	11.1	11.1	-15.9%	-24.1%
all other nondefense	19.3	12.6	10.3	10.0	9.9	10.0	-48.2%	-53.2%
Total Discretionary	556.6	546.1	549.8	556.8	574.6	586.7	5.4%	-4.9%
proposed financing for above total:								
Allowances	0.0	9.8	8.5	6.4	4.4	4.5		
Discretionary Limits	556.6	537.2	541.9	551.0	--	--		

2.1% 14
2.5% 1999 377.2 2010

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Caucus)"가

" (S&T
(guiding principles)

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OSTP가 가

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‘ 가 ’(National Science Policy Study)

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Newt Gingrich

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” (Unlocking Our Future:

Toward a New National Science Policy)

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8) Committee on Science, Unlocking Our Future: Toward a New National Science Policy, U.S. House of Representatives, One Hundred Fifth Congress, September 1998.

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