



FFRDC Research and Development Survey: Fiscal Year 2012

Detailed Statistical Tables | NSF 14-302 | Ubi Ufm&\$%

Ronda Britt
Project Officer
Research and Development Statistics Program
(703) 292-7765

General Notes

The data presented in this report were compiled from the National Science Foundation (NSF) FY 2012 Federally Funded Research and Development Center (FFRDC) Research and Development Survey. ICF International currently conducts the survey under contract to NSF.

The reference period of this annual survey is the fiscal year of the surveyed FFRDC. The survey collects the separately budgeted R&D expenditures by source of funding and type of cost reported by FFRDCs. The FFRDC survey is administered in conjunction with the Higher Education Research and Development (HERD) Survey, previously the Survey of Research and Development Expenditures at Universities and Colleges (Academic R&D Survey). Prior to FY 2009, the resulting FFRDC data were published in the Academic R&D Expenditures series of detailed statistical tables. The FY 2008 FFRDC data were published both in the Academic R&D Expenditures report and separately in a FY 2008 report, establishing a new detailed statistical tables series solely for FFRDC data. Terms used are defined below.

- *Separately budgeted R&D expenditures.* All funds expended for activities specifically organized to produce research outcomes. These activities are either commissioned by an agency external to the FFRDC or are separately budgeted by the FFRDC.
- *Expenditures.* Funds actually spent by the FFRDC during its fiscal year.
- *Federally funded research and development centers.* R&D-performing organizations that range in organizational structure from traditional contractor-owned/contractor-operated or government-owned/contractor-operated to structures in which degrees of contractor/government control and ownership vary. FFRDCs are formed to achieve particular federal R&D objectives that cannot be met as effectively by existing organizations.

Data presented in trend tables were compiled from the most recently completed survey cycle. Prior-year data have been reviewed for consistency with current-year responses and, when necessary, revised in consultation with respondents. FFRDCs revise data from previous years when important changes occur in reporting practices and program classifications, and only the latest tables incorporate such changes. For accurate historical data, use only the most recently published detailed statistical tables.

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Table **R&D expenditures**

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TABLE 1. Total and federally financed R&D expenditures at federally funded research and development centers, by character of work and type of FFRDC: FYs 2011–12

(Dollars in thousands)

Type of FFRDC	2011				2012			
	All R&D expenditures	Basic research	Applied research	Development	All R&D expenditures	Basic research	Applied research	Development
Total R&D, all FFRDCs	17,808,614	6,567,716	5,165,732	6,075,166	17,446,036	6,139,311	5,361,496	5,945,229
University-administered FFRDCs	5,270,323	2,230,323	1,295,813	1,744,187	5,174,091	2,160,167	1,385,899	1,628,025
Nonprofit-administered FFRDCs	5,533,083	1,588,759	1,657,367	2,286,957	5,464,141	1,532,883	1,589,076	2,342,182
Industry-administered FFRDCs	7,005,208	2,748,634	2,212,552	2,044,022	6,807,804	2,446,261	2,386,521	1,975,022
Federally financed R&D, all FFRDCs	17,385,466	6,423,347	4,972,004	5,990,115	17,006,331	5,998,392	5,162,235	5,845,704
University-administered FFRDCs	5,132,389	2,144,029	1,265,097	1,723,263	5,028,368	2,080,587	1,345,540	1,602,241
Nonprofit-administered FFRDCs	5,383,525	1,575,033	1,552,476	2,256,016	5,307,421	1,518,182	1,494,566	2,294,673
Industry-administered FFRDCs	6,869,552	2,704,285	2,154,431	2,010,836	6,670,542	2,399,623	2,322,129	1,948,790

FFRDC = federally funded research and development center.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, FFRDC Research and Development Survey.

TABLE 2. R&D expenditures at university-administered federally funded research and development centers, by character of work: FYs 1953–2012

(Dollars in millions)

Fiscal year	All R&D expenditures	Basic research		Applied research and development	
		Amount	Percent	Amount	Percent
1953	121	33	27.3	88	72.7
1954	141	39	27.7	102	72.3
1955	180	49	27.2	131	72.8
1956	194	51	26.3	143	73.7
1957	240	65	27.1	175	72.9
1958	293	78	26.6	215	73.4
1959	338	92	27.2	246	72.8
1960	360	97	26.9	263	73.1
1961	410	115	28.0	295	72.0
1962	470	136	28.9	334	71.1
1963	530	159	30.0	371	70.0
1964	629	191	30.4	438	69.6
1965	629	208	33.1	421	66.9
1966	630	227	36.0	403	64.0
1967	673	250	37.1	423	62.9
1968	719	276	38.4	443	61.6
1969	725	275	37.9	450	62.1
1970	737	269	36.5	468	63.5
1971	716	260	36.3	456	63.7
1972	753	244	32.4	509	67.6
1973	817	296	36.2	521	63.8
1974	865	390	45.1	475	54.9
1975	987	439	44.5	548	55.5
1976	1,147	512	44.6	635	55.4
1977	1,384	600	43.4	784	56.6
1978	1,717	na	na	na	na
1979	1,935	1,022	52.8	913	47.2
1980	2,246	1,132	50.4	1,114	49.6
1981	2,486	1,270	51.1	1,216	48.9
1982	2,479	1,327	53.5	1,152	46.5
1983	2,737	1,484	54.2	1,253	45.8
1984	3,150	1,690	53.6	1,461	46.4
1985	3,523	1,765	50.1	1,758	49.9
1986	3,895	1,876	48.2	2,018	51.8
1987	4,206	2,033	48.3	2,173	51.7
1988	4,531	2,245	49.6	2,285	50.4
1989	4,730	2,352	49.7	2,377	50.3
1990	4,832	2,428	50.2	2,404	49.8
1991	5,078	2,595	51.1	2,484	48.9
1992	5,247	2,843	54.2	2,404	45.8
1993	5,295	2,938	55.5	2,357	44.5
1994	5,271	2,998	56.9	2,273	43.1
1995	5,363	2,742	51.1	2,622	48.9
1996	5,380	2,580	48.0	2,800	52.0
1997	5,440	2,683	49.3	2,757	50.7
1998	5,531	2,636	47.7	2,895	52.3
1999	5,644	2,732	48.4	2,912	51.6
2000	5,675	2,863	50.5	2,812	49.5
2001	5,944	2,906	48.9	3,038	51.1
2002	7,069	3,698	52.3	3,371	47.7

TABLE 2. R&D expenditures at university-administered federally funded research and development centers, by character of work: FYs 1953–2012

(Dollars in millions)

Fiscal year	All R&D expenditures	Basic research		Applied research and development	
		Amount	Percent	Amount	Percent
2003	7,200	3,760	52.2	3,441	47.8
2004	7,603	3,706	48.7	3,898	51.3
2005	7,826	3,802	48.6	4,024	51.4
2006	7,790	3,873	49.7	3,918	50.3
2007 ^a	5,855	1,756	30.0	4,099	70.0
2008 ^b	4,702	1,628	34.6	3,073	65.4
2009	4,959	1,804	36.4	3,155	63.6
2010	5,330	2,194	41.2	3,135	58.8
2011 ^c	5,270	2,230	42.3	3,040	57.7
2012	5,174	2,160	41.7	3,014	58.3

na = not applicable; separate data for basic research and applied research and development were not collected for FY 1978.

^a Prior to FY 2007, Los Alamos National Laboratory was administered by University of California. On 1 June 2006, administration was transferred to Los Alamos National Security LLC, an industrial firm administrator.

^b Prior to FY 2008, Lawrence Livermore National Laboratory was administered by University of California. On 1 October 2007, administration was transferred to Lawrence Livermore National Security LLC, an industrial firm administrator.

^c R&D expenditures decreased in FY 2011 due to removal of expenditures for capital projects. In this survey, R&D expenditures do not include capital projects. In previous years, some federally funded research and development centers included capital expenditures in their R&D totals. Previous years include an unknown amount of capital expenditures, estimated to be less than \$500 million per year.

NOTE: Because of rounding, detail may not add to total.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, FFRDC Research and Development Survey.

TABLE 3. R&D expenditures at nonprofit-administered federally funded research and development centers, by character of work: FYs 2001–12

(Dollars in millions)

Fiscal year	All R&D expenditures	Basic research		Applied research and development	
		Amount	Percent	Amount	Percent
2001	2,165	899	41.5	1,266	58.5
2002	2,271	963	42.4	1,307	57.6
2003	2,463	1,027	41.7	1,437	58.3
2004	2,586	1,037	40.1	1,548	59.9
2005	2,817	1,170	41.5	1,647	58.5
2006	2,860	1,194	41.7	1,666	58.3
2007	3,189	1,324	41.5	1,866	58.5
2008 ^a	4,598	1,369	29.8	3,230	70.2
2009	4,997	1,522	30.5	3,475	69.5
2010	5,431	1,567	28.9	3,864	71.1
2011	5,533	1,589	28.7	3,944	71.3
2012	5,464	1,533	28.1	3,931	71.9

^a Prior to FY 2008, five federally funded research and development centers administered by the MITRE Corporation reported only internal R&D projects. After discussions with the National Science Foundation in FY 2011, these five federally funded research and development centers agreed to report all operating expenditures for FYs 2008–11. The revisions added \$1,160 million to total R&D for FY 2008, \$1,192 million for FY 2009, and \$1,241 million for FY 2010.

NOTE: Because of rounding, detail may not add to total.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, FFRDC Research and Development Survey.

TABLE 4. R&D expenditures at industry-administered federally funded research and development centers, by character of work: FYs 2001–12

(Dollars in millions)

Fiscal year	All R&D expenditures	Basic research		Applied research and development	
		Amount	Percent	Amount	Percent
2001	1,962	70	3.6	1,892	96.4
2002	2,197	83	3.8	2,114	96.2
2003	2,463	336	13.6	2,128	86.4
2004	2,443	188	7.7	2,255	92.3
2005	2,612	137	5.3	2,474	94.7
2006	2,569	131	5.1	2,438	94.9
2007 ^a	4,781	2,217	46.4	2,564	53.6
2008 ^b	6,316	2,382	37.7	3,934	62.3
2009	6,434	2,545	39.6	3,889	60.4
2010	7,283	2,881	39.6	4,403	60.4
2011 ^c	7,005	2,749	39.2	4,257	60.8
2012	6,808	2,446	35.9	4,362	64.1

^a Prior to FY 2007, Los Alamos National Laboratory was administered by University of California. On 1 June 2006, administration was transferred to Los Alamos National Security LLC, an industrial firm administrator.

^b Prior to FY 2008, Lawrence Livermore National Laboratory was administered by University of California. On 1 October 2007, administration was transferred to Lawrence Livermore National Security LLC, an industrial firm administrator.

^c R&D expenditures decreased in FY 2011 due to removal of expenditures for capital projects. In this survey, R&D expenditures do not include capital projects. In previous years, some federally funded research and development centers included capital expenditures in their R&D totals. Previous years include an unknown amount of capital expenditures, estimated to be less than \$500 million per year.

NOTE: Because of rounding, detail may not add to total.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, FFRDC Research and Development Survey.

TABLE 5. Total and federally financed R&D expenditures at federally funded research and development centers, by character of work and FFRDC: FY 2012
(Dollars in thousands)

FFRDC	Sponsor	Location	Total				Federally financed			
			All R&D expenditures	Basic research	Applied research	Development	All R&D expenditures	Basic research	Applied research	Development
All FFRDCs			17,446,036	6,139,311	5,361,496	5,945,229	17,006,331	5,998,392	5,162,235	5,845,704
University-administered FFRDCs			5,174,091	2,160,167	1,385,899	1,628,025	5,028,368	2,080,587	1,345,540	1,602,241
Ames Lab.	DOE	Ames, IA	33,853	23,915	8,669	1,269	32,884	23,402	8,474	1,008
Argonne National Lab.	DOE	Argonne, IL	679,387	304,973	184,041	190,373	625,502	281,096	170,595	173,811
Fermi National Accelerator Lab.	DOE	Batavia, IL	412,438	412,438	0	0	411,248	411,248	0	0
Jet Propulsion Lab.	NASA	Pasadena, CA	1,493,613	149,361	149,361	1,194,891	1,493,613	149,361	149,361	1,194,891
Lawrence Berkeley National Lab.	DOE	Berkeley, CA	767,554	562,670	204,337	547	710,822	526,010	184,265	547
Lincoln Lab.	DOD, OSD	Lexington, MA	873,104	91	791,702	81,311	871,380	91	791,702	79,587
National Ctr. for Atmospheric Research	NSF	Boulder, CO	169,743	83,394	27,781	58,568	151,752	78,303	21,135	52,314
National Optical Astronomy Observatories	NSF	Tucson, AZ	46,557	46,557	0	0	42,298	42,298	0	0
National Radio Astronomy Observatory	NSF	Charlottesville, VA	79,168	71,465	5,046	2,657	78,562	71,054	5,046	2,462
Princeton Plasma Physics Lab.	DOE	Princeton, NJ	81,389	81,389	0	0	79,316	79,316	0	0
SLAC National Accelerator Lab.	DOE	Stanford, CA	329,747	329,747	0	0	324,698	324,698	0	0
Software Engineering Institute	DOD, OSD	Pittsburgh, PA	113,371	0	14,962	98,409	112,583	0	14,962	97,621
Thomas Jefferson National Accelerator Facility	DOE	Newport News, VA	94,167	94,167	0	0	93,710	93,710	0	0
Nonprofit-administered FFRDCs			5,464,141	1,532,883	1,589,076	2,342,182	5,307,421	1,518,182	1,494,566	2,294,673
Aerospace FFRDC	DOD, Air Force	El Segundo, CA	39,746	2,650	30,386	6,710	1,351	958	123	270
Arroyo Ctr.	DOD, Army	Santa Monica, CA	31,278	0	31,278	0	31,278	0	31,278	0
Brookhaven National Lab.	DOE	Upton, NY	516,921	402,153	51,605	63,163	489,496	393,926	37,893	57,677
Ctr. for Advanced Aviation System Development	DOT, FAA	McLean, VA	159,311	0	8,204	151,107	150,274	0	7,890	142,384
Ctr. for Communications and Computing	DOD, NSA/CSS	Alexandria, VA	62,600	15,650	31,300	15,650	62,600	15,650	31,300	15,650
Ctr. for Enterprise Modernization ^a	Treasury (IRS), VA	McLean, VA	226,539	0	12,409	214,130	226,539	0	12,409	214,130
Ctr. for Naval Analyses	DOD, Navy	Alexandria, VA	91,628	0	91,628	0	91,628	0	91,628	0
Ctr. for Nuclear Waste Regulatory Analyses Homeland Security Studies and Analysis Institute ^b	NRC	San Antonio, TX	13,147	0	13,147	0	12,465	0	12,465	0
Homeland Security Systems Engineering and Development Institute ^b	DHS	Arlington, VA	30,213	0	30,213	0	30,213	0	30,213	0
Homeland Security Systems Engineering and Development Institute ^b	DHS	McLean, VA	77,159	0	1,828	75,331	77,159	0	1,828	75,331
National Biodefense Analysis and Countermeasures Ctr.	DHS	Frederick, MD	31,201	0	31,201	0	31,201	0	31,201	0
National Defense Research Institute	DOD, OSD	Santa Monica, CA	53,832	0	53,832	0	53,832	0	53,832	0
National Renewable Energy Lab.	DOE	Golden, CO	398,873	16,974	77,567	304,332	379,950	16,974	72,595	290,381
National Security Engineering Ctr. ^c	DOD, OSD	Bedford, MA/McLean, VA	946,737	0	49,667	897,070	946,737	0	49,667	897,070
Oak Ridge National Lab.	DOE	Oak Ridge, TN	1,553,460	864,267	689,193	0	1,511,725	864,267	647,458	0
Pacific Northwest National Lab.	DOE	Richland, WA	1,033,768	231,189	187,890	614,689	1,013,245	226,407	185,058	601,780
Project Air Force	DOD, Air Force	Santa Monica, CA	41,031	0	41,031	0	41,031	0	41,031	0
Science and Technology Policy Institute Studies and Analyses Ctr.	NSF	Washington, DC	7,547	0	7,547	0	7,547	0	7,547	0
	DOD, OSD	Alexandria, VA	149,150	0	149,150	0	149,150	0	149,150	0
Industry-administered FFRDCs			6,807,804	2,446,261	2,386,521	1,975,022	6,670,542	2,399,623	2,322,129	1,948,790

TABLE 5. Total and federally financed R&D expenditures at federally funded research and development centers, by character of work and FFRDC: FY 2012
(Dollars in thousands)

FFRDC	Sponsor	Location	Total				Federally financed			
			All R&D expenditures	Basic research	Applied research	Development	All R&D expenditures	Basic research	Applied research	Development
Frederick National Lab. for Cancer Research ^d	NIH	Frederick, MD	430,100	47,700	382,400	0	430,100	47,700	382,400	0
ID National Lab.	DOE	Idaho Falls, ID	536,399	32,184	273,563	230,652	525,734	31,544	268,124	226,066
Judiciary Engineering and Modernization Ctr.	U.S. Courts	McLean, VA	5,309	0	295	5,014	5,309	0	295	5,014
Lawrence Livermore National Lab.	DOE	Livermore, CA	1,353,454	167,151	1,005,345	180,958	1,301,188	164,339	955,891	180,958
Los Alamos National Lab.	DOE	Los Alamos, NM	2,056,878	2,056,878	0	0	2,013,692	2,013,692	0	0
Sandia National Labs.	DOE	Albuquerque, NM	2,293,307	135,730	658,740	1,498,837	2,262,162	135,730	649,241	1,477,191
Savannah River National Lab.	DOE	Aiken, SC	132,357	6,618	66,178	59,561	132,357	6,618	66,178	59,561

DOD = Department of Defense; DOE = Department of Energy; DHS = Department of Homeland Security; DOT = Department of Transportation; FAA = Federal Aviation Administration; FFRDC = federally funded research and development center; IRS = Internal Revenue Service; NASA = National Aeronautics and Space Administration; NIH = National Institutes of Health; NRC = Nuclear Regulatory Commission; NSA/CSS = National Security Agency/Central Security Service; NSF = National Science Foundation; OSD = Office of the Secretary of Defense; VA = Department of Veterans Affairs.

^a Prior to FY 2009, Center for Enterprise Modernization was listed as Internal Revenue Service (IRS) FFRDC.

^b On 5 March 2009, Homeland Security Studies and Analysis Institute and Homeland Security Systems Engineering and Development Institute were created. These new FFRDCs replaced Homeland Security Institute.

^c Prior to FY 2011, National Security Engineering Center was listed as C3I FFRDC.

^d Prior to FY 2012, Frederick National Laboratory for Cancer Research was listed as National Cancer Institute at Frederick.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, FFRDC Research and Development Survey, FY 2012.

TABLE 6. R&D expenditures at federally funded research and development centers, by source of funds and FFRDC: FY 2012
(Dollars in thousands)

FFRDC	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	All other sources
All FFRDCs	17,446,036	17,006,331	39,428	184,244	77,120	138,913
University-administered FFRDCs	5,174,091	5,028,368	19,253	49,484	25,517	51,469
Ames Lab.	33,853	32,884	724	148	0	97
Argonne National Lab.	679,387	625,502	5,491	23,487	1,920	22,987
Fermi National Accelerator Lab.	412,438	411,248	0	501	689	0
Jet Propulsion Lab.	1,493,613	1,493,613	0	0	0	0
Lawrence Berkeley National Lab.	767,554	710,822	11,340	16,456	13,640	15,296
Lincoln Lab.	873,104	871,380	0	622	0	1,102
National Ctr. for Atmospheric Research	169,743	151,752	1,241	7,482	9,268	0
National Optical Astronomy Observatories	46,557	42,298	0	0	0	4,259
National Radio Astronomy Observatory	79,168	78,562	0	0	0	606
Princeton Plasma Physics Lab.	81,389	79,316	0	0	0	2,073
SLAC National Accelerator Lab.	329,747	324,698	0	0	0	5,049
Software Engineering Institute	113,371	112,583	0	788	0	0
Thomas Jefferson National Accelerator Facility	94,167	93,710	457	0	0	0
Nonprofit-administered FFRDCs	5,464,141	5,307,421	16,246	56,319	48,837	35,318
Aerospace FFRDC	39,746	1,351	0	3,815	31,194	3,386
Arroyo Ctr.	31,278	31,278	0	0	0	0
Brookhaven National Lab.	516,921	489,496	5,304	9,536	0	12,585
Ctr. for Advanced Aviation System Development	159,311	150,274	0	0	0	9,037
Ctr. for Communications and Computing	62,600	62,600	0	0	0	0
Ctr. for Enterprise Modernization ^a	226,539	226,539	0	0	0	0
Ctr. for Naval Analyses	91,628	91,628	0	0	0	0
Ctr. for Nuclear Waste Regulatory Analyses	13,147	12,465	91	214	28	349
Homeland Security Studies and Analysis Institute ^b	30,213	30,213	0	0	0	0
Homeland Security Systems Engineering and Development Institute ^b	77,159	77,159	0	0	0	0
National Biodefense Analysis and Countermeasures Ctr.	31,201	31,201	0	0	0	0
National Defense Research Institute	53,832	53,832	0	0	0	0
National Renewable Energy Lab.	398,873	379,950	4,271	10,860	2,996	796
National Security Engineering Ctr. ^c	946,737	946,737	0	0	0	0
Oak Ridge National Lab.	1,553,460	1,511,725	903	21,074	14,619	5,139
Pacific Northwest National Lab.	1,033,768	1,013,245	5,677	10,820	0	4,026
Project Air Force	41,031	41,031	0	0	0	0
Science and Technology Policy Institute	7,547	7,547	0	0	0	0
Studies and Analyses Ctr.	149,150	149,150	0	0	0	0
Industry-administered FFRDCs	6,807,804	6,670,542	3,929	78,441	2,766	52,126
Frederick National Lab. for Cancer Research ^d	430,100	430,100	0	0	0	0
ID National Lab.	536,399	525,734	772	5,098	0	4,795
Judiciary Engineering and Modernization Ctr.	5,309	5,309	0	0	0	0
Lawrence Livermore National Lab.	1,353,454	1,301,188	3,018	4,988	277	43,983
Los Alamos National Lab.	2,056,878	2,013,692	0	43,186	0	0
Sandia National Labs.	2,293,307	2,262,162	139	25,169	2,489	3,348
Savannah River National Lab.	132,357	132,357	0	0	0	0

FFRDC = federally funded research and development center.

^a Prior to FY 2009, Center for Enterprise Modernization was listed as Internal Revenue Service (IRS) FFRDC.

^b On 5 March 2009, Homeland Security Studies and Analysis Institute and Homeland Security Systems Engineering and Development Institute were created. These new FFRDCs replaced Homeland Security Institute.

^c Prior to FY 2011, National Security Engineering Center was listed as C3I FFRDC.

^d Prior to FY 2012, Frederick National Laboratory for Cancer Research was listed as National Cancer Institute at Frederick.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, FFRDC Research and Development Survey, FY 2012.

TABLE 7. Total R&D expenditures at federally funded research and development centers, by FFRDC: FYs 2003–12

(Dollars in thousands)

FFRDC	2003	2004	2005	2006	2007	2008	2009	2010	2011 ^a	2012
All FFRDCs	12,126,880	12,632,207	13,254,522	13,218,497	13,824,987	15,616,390	16,390,111	18,044,105	17,808,614	17,446,036
Aerospace FFRDC	32,745	32,529	32,500	34,200	36,490	38,940	41,470	44,149	45,827	39,746
Ames Lab.	25,213	27,227	29,293	26,460	25,254	27,306	29,012	30,836	32,442	33,853
Argonne National Lab.	500,828	520,881	482,051	472,961	489,684	533,530	543,169	650,504	710,435	679,387
Arroyo Ctr.	27,889	26,101	28,152	24,518	25,195	23,852	27,692	28,647	32,180	31,278
Brookhaven National Lab.	452,728	450,342	483,039	490,686	510,212	480,455	569,240	535,546	526,571	516,921
Ctr. for Advanced Aviation System Development ^b	6,633	6,462	6,429	6,601	7,290	126,171	133,869	149,686	165,645	159,311
Ctr. for Communications and Computing	45,960	50,238	50,800	51,500	57,400	59,500	66,293	71,927	72,600	62,600
Ctr. for Enterprise Modernization ^b	2,834	3,687	4,802	6,342	7,101	166,894	181,958	170,460	187,785	226,539
Ctr. for Naval Analyses	75,869	79,087	83,837	87,499	99,993	106,967	109,694	109,068	85,165	91,628
Ctr. for Nuclear Waste Regulatory Analyses	17,625	16,847	16,391	16,397	17,007	17,960	16,614	15,346	16,377	13,147
Fermi National Accelerator Lab.	303,340	318,435	323,153	330,980	337,306	340,486	376,791	402,658	420,119	412,438
Frederick National Lab. for Cancer Research	296,000	335,000	334,400	334,500	339,800	509,700	378,200	643,935	431,600	430,100
Homeland Security Institute ^c	na	na	NA	20,521	25,370	27,400	na	na	na	na
Homeland Security Studies and Analysis Institute ^c	na	na	na	na	na	na	32,173	33,402	36,870	30,213
Homeland Security Systems Engineering and Development Institute ^{b, c}	na	na	na	na	na	na	3,387	58,715	85,154	77,159
ID National Lab.	330,154	180,306	232,289	163,074	248,322	236,037	388,062	478,356	425,072	536,399
Jet Propulsion Lab.	1,390,560	1,551,171	1,606,409	1,548,019	1,717,203	1,733,597	1,711,528	1,640,341	1,543,969	1,493,613
Judiciary Engineering and Modernization Ctr. ^b	na	4,650	5,309							
Lawrence Berkeley National Lab.	441,500	482,159	482,672	485,626	503,775	573,917	611,711	759,381	788,386	767,554
Lawrence Livermore National Lab.	1,286,215	1,425,840	1,456,368	1,431,019	1,353,980	1,301,874	1,321,633	1,370,747	1,424,993	1,353,454
Lincoln Lab.	522,851	594,822	627,201	622,993	618,011	641,386	706,555	789,502	822,358	873,104
Los Alamos National Lab.	2,106,145	1,986,235	2,101,211	2,145,200	2,046,260	2,073,538	2,172,179	2,505,913	2,307,197	2,056,878
National Astronomy and Ionosphere Ctr. ^d	11,508	12,285	13,831	14,108	13,591	12,586	14,738	13,203	14,317	na
National Biodefense Analysis and Countermeasures Ctr.	na	na	na	na	6,320	12,979	19,934	50,058	41,786	31,201
National Ctr. for Atmospheric Research	140,756	154,714	135,893	153,343	144,293	161,130	203,627	220,328	198,231	169,743
National Defense Research Institute	26,908	26,550	25,747	34,203	38,152	40,051	42,265	51,652	46,330	53,832
National Optical Astronomy Observatories	44,409	43,020	52,775	54,616	53,608	55,922	56,972	57,145	47,889	46,557
National Radio Astronomy Observatory	42,842	42,215	52,023	40,771	129,000	146,098	151,396	137,607	81,305	79,168
National Renewable Energy Lab.	221,496	226,460	211,323	196,449	190,874	229,399	273,640	326,652	386,539	398,873
National Security Engineering Ctr. ^b	32,696	35,932	37,213	37,073	46,368	936,228	939,312	925,027	941,187	946,737
Oak Ridge National Lab.	690,538	776,203	897,252	928,090	1,083,509	1,251,336	1,259,259	1,538,412	1,558,073	1,553,460
Pacific Northwest National Lab.	679,000	692,370	779,522	749,365	851,512	885,984	1,064,230	1,116,648	1,095,923	1,033,768
Princeton Plasma Physics Lab.	66,764	75,255	81,803	78,151	75,720	78,154	81,113	83,932	84,863	81,389
Project Air Force	33,555	33,049	35,742	39,107	39,315	41,794	45,162	43,957	44,171	41,031
Sandia National Labs.	1,742,861	1,833,571	1,946,435	1,968,488	2,031,309	2,076,786	2,043,509	2,157,022	2,277,166	2,293,307
Savannah River National Lab.	94,423	94,326	98,650	102,547	114,895	118,400	130,292	127,160	134,530	132,357
Science and Technology Policy Institute	6,710	3,681	5,415	6,800	5,600	6,000	5,100	6,000	8,700	7,547

TABLE 7. Total R&D expenditures at federally funded research and development centers, by FFRDC: FYs 2003–12

(Dollars in thousands)

FFRDC	2003	2004	2005	2006	2007	2008	2009	2010	2011 ^a	2012
Software Engineering Institute	45,412	57,920	62,262	75,636	80,566	80,963	89,077	99,334	107,837	113,371
SLAC National Accelerator Lab.	164,747	206,402	205,690	214,026	231,960	234,316	294,421	354,393	327,716	329,747
Studies and Analyses Ctr.	110,200	126,226	118,600	130,400	141,500	146,500	166,000	156,000	156,200	149,150
Thomas Jefferson National Accelerator Facility	106,966	104,659	113,349	96,228	81,242	82,254	88,834	90,456	90,456	94,167

na = not applicable. NA = not available; R&D totals not available for Homeland Security Institute in FY 2005.

FFRDC = federally funded research and development center.

^a R&D expenditures decreased in FY 2011 due to removal of expenditures for capital projects. In this survey, R&D expenditures do not include capital projects. In previous years, some FFRDCs included capital expenditures in their R&D totals. Previous years include an unknown amount of capital expenditures, estimated to be less than \$500 million per year.

^b See "Data Anomalies" in the technical notes for changes in reporting.

^c On 5 March 2009, Homeland Security Studies and Analysis Institute and Homeland Security Systems Engineering and Development Institute were created. These new FFRDCs replaced Homeland Security Institute.

^d On 1 October 2011, National Astronomy and Ionosphere Center was decertified as an FFRDC.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, FFRDC Research and Development Survey.

TABLE 8. Total and federally financed R&D expenditures at federally funded research and development centers, by FFRDC: FYs 2009–12
(Dollars in thousands)

FFRDC	Total				Federally financed			
	2009	2010	2011 ^a	2012	2009	2010	2011	2012
All FFRDCs	16,390,111	18,044,105	17,808,614	17,446,036	15,942,851	17,590,588	17,385,466	17,006,331
University-administered FFRDCs	4,958,944	5,329,620	5,270,323	5,174,091	4,811,485	5,178,035	5,132,389	5,028,368
Ames Lab.	29,012	30,836	32,442	33,853	29,012	30,289	31,471	32,884
Argonne National Lab.	543,169	650,504	710,435	679,387	498,847	603,841	663,194	625,502
Fermi National Accelerator Lab.	376,791	402,658	420,119	412,438	374,668	402,150	419,583	411,248
Jet Propulsion Lab.	1,711,528	1,640,341	1,543,969	1,493,613	1,711,528	1,640,341	1,543,969	1,493,613
Lawrence Berkeley National Lab.	611,711	759,381	788,386	767,554	555,842	703,564	732,920	710,822
Lincoln Lab.	706,555	789,502	822,358	873,104	704,050	785,774	819,664	871,380
National Astronomy and Ionosphere Ctr. ^b	14,738	13,203	14,317	na	14,032	13,084	13,635	na
National Ctr. for Atmospheric Research	203,627	220,328	198,231	169,743	177,877	188,960	182,310	151,752
National Optical Astronomy Observatories	56,972	57,145	47,889	46,557	52,089	52,920	42,730	42,298
National Radio Astronomy Observatory	151,396	137,607	81,305	79,168	149,960	136,748	80,401	78,562
Princeton Plasma Physics Lab.	81,113	83,932	84,863	81,389	80,985	83,521	84,352	79,316
SLAC National Accelerator Lab.	294,421	354,393	327,716	329,747	294,421	350,377	320,941	324,698
Software Engineering Institute	89,077	99,334	107,837	113,371	80,618	96,595	107,348	112,583
Thomas Jefferson National Accelerator Facility	88,834	90,456	90,456	94,167	87,556	89,871	89,871	93,710
Nonprofit-administered FFRDCs	4,997,292	5,431,352	5,533,083	5,464,141	4,845,821	5,276,747	5,383,525	5,307,421
Aerospace FFRDC	41,470	44,149	45,827	39,746	14,386	12,962	13,511	1,351
Arroyo Ctr.	27,692	28,647	32,180	31,278	27,692	28,647	32,180	31,278
Brookhaven National Lab.	569,240	535,546	526,571	516,921	545,267	515,142	504,491	489,496
Ctr. for Advanced Aviation System Development	133,869	149,686	165,645	159,311	127,037	142,498	155,254	150,274
Ctr. for Communications and Computing	66,293	71,927	72,600	62,600	66,293	71,927	72,600	62,600
Ctr. for Enterprise Modernization ^{c, d}	181,958	170,460	187,785	226,539	181,958	170,460	187,785	226,539
Ctr. for Naval Analyses	109,694	109,068	85,165	91,628	95,128	93,310	84,562	91,628
Ctr. for Nuclear Waste Regulatory Analyses	16,614	15,346	16,377	13,147	15,715	14,860	15,871	12,465
Homeland Security Studies and Analysis Institute ^e	32,173	33,402	36,870	30,213	32,173	33,402	36,870	30,213
Homeland Security Systems Engineering and Development Institute ^{c, e}	3,387	58,715	85,154	77,159	3,387	58,715	85,154	77,159
National Biodefense Analysis and Countermeasures Ctr.	19,934	50,058	41,786	31,201	19,934	50,058	41,786	31,201
National Defense Research Institute	42,265	51,652	46,330	53,832	42,265	51,652	46,330	53,832
National Renewable Energy Lab.	273,640	326,652	386,539	398,873	264,828	315,568	370,538	379,950
National Security Engineering Ctr. ^{c, f}	939,312	925,027	941,187	946,737	939,312	925,027	941,187	946,737
Oak Ridge National Lab.	1,259,259	1,538,412	1,558,073	1,553,460	1,217,301	1,494,690	1,513,958	1,511,725
Pacific Northwest National Lab.	1,064,230	1,116,648	1,095,923	1,033,768	1,036,883	1,091,872	1,072,377	1,013,245
Project Air Force	45,162	43,957	44,171	41,031	45,162	43,957	44,171	41,031
Science and Technology Policy Institute Studies and Analyses Ctr.	5,100	6,000	8,700	7,547	5,100	6,000	8,700	7,547
	166,000	156,000	156,200	149,150	166,000	156,000	156,200	149,150
Industry-administered FFRDCs	6,433,875	7,283,133	7,005,208	6,807,804	6,285,545	7,135,806	6,869,552	6,670,542
Frederick National Lab. for Cancer Research ^g	378,200	643,935	431,600	430,100	378,200	643,935	431,600	430,100
ID National Lab.	388,062	478,356	425,072	536,399	372,502	463,843	415,020	525,734
Judiciary Engineering and Modernization Ctr. ^h	na	na	4,650	5,309	na	na	4,650	5,309
Lawrence Livermore National Lab.	1,321,633	1,370,747	1,424,993	1,353,454	1,261,769	1,323,623	1,380,177	1,301,188

TABLE 8. Total and federally financed R&D expenditures at federally funded research and development centers, by FFRDC: FYs 2009–12
(Dollars in thousands)

FFRDC	Total				Federally financed			
	2009	2010	2011 ^a	2012	2009	2010	2011	2012
Los Alamos National Lab.	2,172,179	2,505,913	2,307,197	2,056,878	2,141,950	2,470,421	2,266,539	2,013,692
Sandia National Labs.	2,043,509	2,157,022	2,277,166	2,293,307	2,000,832	2,106,824	2,237,036	2,262,162
Savannah River National Lab.	130,292	127,160	134,530	132,357	130,292	127,160	134,530	132,357

na = not applicable.

FFRDC = federally funded research and development center.

^a R&D expenditures decreased in FY 2011 due to removal of expenditures for capital projects. In this survey, R&D expenditures do not include capital projects. In previous years, some FFRDCs included capital expenditures in their R&D totals. Previous years include an unknown amount of capital expenditures, estimated to be less than \$500 million per year.

^b On 1 October 2011, National Astronomy and Ionosphere Center was decertified as a FFRDC.

^c See "Data Anomalies" in the technical notes for changes in reporting.

^d Prior to FY 2009, Center for Enterprise Modernization was listed as Internal Revenue Service (IRS) FFRDC.

^e On 5 March 2009, Homeland Security Studies and Analysis Institute and Homeland Security Systems Engineering and Development Institute were created. These new FFRDCs replaced Homeland Security Institute.

^f Prior to FY 2011, National Security Engineering Center was listed as C3I FFRDC.

^g Prior to FY 2012, Frederick National Laboratory for Cancer Research was listed as National Cancer Institute at Frederick.

^h On 2 September 2010, the Judiciary Engineering and Modernization Center was created.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, FFRDC Research and Development Survey.

TABLE 9. Federally financed R&D expenditures at federally funded research and development centers funded by the American Recovery and Reinvestment Act of 2009, by source of funds and FFRDC: FY 2012
(Dollars in thousands)

FFRDC	All federal R&D expenditures	ARRA	Non-ARRA
All FFRDCs	17,006,331	352,251	16,654,080
University-administered FFRDCs	5,028,368	130,633	4,897,735
Ames Lab.	32,884	257	32,627
Argonne National Lab.	625,502	27,426	598,076
Fermi National Accelerator Lab.	411,248	23,982	387,266
Jet Propulsion Lab.	1,493,613	3,746	1,489,867
Lawrence Berkeley National Lab.	710,822	55,262	655,560
Lincoln Lab.	871,380	272	871,108
National Ctr. for Atmospheric Research	151,752	132	151,620
National Optical Astronomy Observatories	42,298	2,216	40,082
National Radio Astronomy Observatory	78,562	886	77,676
Princeton Plasma Physics Lab.	79,316	778	78,538
SLAC National Accelerator Lab.	324,698	8,564	316,134
Software Engineering Institute	112,583	65	112,518
Thomas Jefferson National Accelerator Facility	93,710	7,047	86,663
Nonprofit-administered FFRDCs	5,307,421	188,918	5,118,503
Aerospace FFRDC	1,351	0	1,351
Arroyo Ctr.	31,278	0	31,278
Brookhaven National Lab.	489,496	5,656	483,840
Ctr. for Advanced Aviation System Development	150,274	0	150,274
Ctr. for Communications and Computing	62,600	0	62,600
Ctr. for Enterprise Modernization ^a	226,539	928	225,611
Ctr. for Naval Analyses	91,628	0	91,628
Ctr. for Nuclear Waste Regulatory Analyses	12,465	0	12,465
Homeland Security Studies and Analysis Institute	30,213	0	30,213
Homeland Security Systems Engineering and Development Institute	77,159	0	77,159
National Biodefense Analysis and Countermeasures Ctr.	31,201	0	31,201
National Defense Research Institute	53,832	0	53,832
National Renewable Energy Lab.	379,950	26,984	352,966
National Security Engineering Ctr. ^b	946,737	0	946,737
Oak Ridge National Lab.	1,511,725	95,600	1,416,125
Pacific Northwest National Lab.	1,013,245	59,750	953,495
Project Air Force	41,031	0	41,031
Science and Technology Policy Institute	7,547	0	7,547
Studies and Analyses Ctr.	149,150	0	149,150
Industry-administered FFRDCs	6,670,542	32,700	6,637,842
Frederick National Lab. for Cancer Research ^c	430,100	0	430,100
ID National Lab.	525,734	5,653	520,081
Judiciary Engineering and Modernization Ctr.	5,309	0	5,309
Lawrence Livermore National Lab.	1,301,188	6,170	1,295,018
Los Alamos National Lab.	2,013,692	13,663	2,000,029
Sandia National Labs.	2,262,162	5,056	2,257,106
Savannah River National Lab.	132,357	2,158	130,199

ARRA = American Recovery and Reinvestment Act of 2009; FFRDC = federally funded research and development center.

^a Prior to FY 2009, Center for Enterprise Modernization was listed as Internal Revenue Service (IRS) FFRDC.

^b Prior to FY 2011, National Security Engineering Center was listed as C3I FFRDC.

^c Prior to FY 2012, Frederick National Laboratory for Cancer Research was listed as National Cancer Institute at Frederick.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, FFRDC Research and Development Survey, FY 2012.

Appendix A. Technical Notes

The National Science Foundation (NSF) FFRDC Research and Development Survey (FFRDC R&D Survey), previously known as the Survey of Research and Development Expenditures at FFRDCs, is the primary source of information on separately budgeted R&D expenditures within Federally Funded Research and Development Centers (FFRDCs) in the United States. Conducted annually for all FFRDCs since FY 2001, the survey collects information on R&D expenditures.

Scope of the Survey

The FY 2012 FFRDC R&D Survey was sent to each of the nation's 39 FFRDCs. Of the 39 FFRDCs, 13 are administered by academic institutions, 19 are administered by nonprofit organizations, and 7 are administered by industrial organizations.

FFRDCs are engaged in basic research, applied research, development, or management of R&D activities, either upon direct request of the government or under a broad charter from the government, but in either case under the broad monitorship of the government. FFRDCs are operated, managed, and administered as separate organizational units within a parent organization or as separately incorporated organizations. They receive their major financial support (70% or more) from the federal government, usually from one agency, and are expected to have a long-term relationship with their sponsoring agency.

FFRDCs are asked to provide R&D expenditures by source of funding and character of work. In FY 2010, NSF revised the survey to include three new questions requesting expenditures funded by the American Recovery and Reinvestment Act of 2009, expenditures by type of cost, and total operating budget.

FY 2012 Survey Frame Design

The FFRDC R&D Expenditures Survey has been an annual census of the full population of eligible FFRDCs since FY 2001. Prior to FY 2001, only FFRDCs administered by academic institutions were included in this survey. FFRDCs are identified through the NSF Master Government List of FFRDCs. NSF is responsible for maintaining the master list and queries all federal agencies annually to determine changes, additions, or deletions to the list.

Survey Instrument

Question 1 is a request for total current expenditures for separately budgeted R&D expenditures by source of funds.

Question 2 is a request for expenditures funded by the American Recovery and Reinvestment Act (ARRA) of 2009.

Question 3 is a request for federally financed and nonfederally financed expenditures that are considered basic research, applied research, and/or development.

Question 4 is a request for total current expenditures by type of cost. Cost categories include salaries, software, equipment, other direct costs, and indirect costs.

Question 5 is a request for the total operating budget of the FFRDC, excluding capital construction costs.

Data Collection

Most FFRDCs have incorporated the data that are needed to complete questions 1 and 3 into their record-keeping systems, thereby ensuring a consistent format from one year to the next. Such consistency yields

the most useful statistics for time series. As a rule, the information needed to complete the questions added to the survey in FY 2010 (questions 2, 4, and 5) can be found in the FFRDC's year-end accounting records.

The FY 2012 survey questionnaires were sent by e-mail in November 2012. Respondents could choose to submit an Adobe Portable Document Format (PDF) questionnaire downloaded from the Web or use a Web-based data collection system to respond to the survey. Every effort was made to maintain close contact with respondents to preserve both the consistency and continuity of the resulting data. Questionnaires were carefully examined for completeness upon receipt. Computerized facsimiles of the survey data were then prepared for each FFRDC; these compared the current and 2 prior years of data and noted any substantive disparities. Respondents were sent personalized e-mail messages asking them to provide any necessary revisions before the final processing and tabulation of data. These e-mail messages included a link to the FFRDC R&D Survey Web-based data collection system, allowing respondents to view and correct their data online.

Respondents were asked to explain significant differences between current-year reporting and established patterns of reporting verified for prior years. They were encouraged to correct prior-year data if needed. When respondents updated or amended figures from past years, NSF made corresponding changes to trend data in this report and to the underlying microdata database.

Response Rate

All of the 39 FFRDCs on the NSF Master Government List of FFRDCs at the start of the FY 2012 survey cycle returned forms by May of 2013.

Data Anomalies

NSF discovered during the FY 2011 survey cycle that seven FFRDCs were including capital project expenditures in their R&D totals reported on the survey. Corrections were made for the FY 2011 survey cycle that lowered the total expenditures by \$468 million. However, previous years do include an unknown amount of capital expenditures in the total. The amount is estimated to be less than \$500 million per year.

Prior to the FY 2011 survey FFRDCs administered by the MITRE Corporation had only been reporting internally funded R&D expenditures. After discussions with NSF these five FFRDCs agreed to report all FY 2011 operating expenditures for R&D and to revise FY 2008–10 data (see table 7 for specific institutions and revised totals). The revisions contributed \$1,160 million to the total R&D expenditures for FY 2008, \$1,192 million to the expenditures of FY 2009, and \$1,241 million to FY 2010.

Missing data are seldom imputed for the FFRDC R&D Survey. For the FY 2011 survey, the Center for Naval Analysis (CNA) was unable to report expenditures by character of work (question 3). All CNA expenditures, \$85,165 thousand, were imputed as applied research, which was 1.6% of all FFRDC applied research expenditures.

Data Availability

Data for FY 2008 through FY 2012 of the FFRDC R&D Survey are available at <http://www.nsf.gov/statistics/ffrdc/>. Data from FY 2008 and prior years of the FFRDC R&D Survey are included in the Academic R&D Expenditures series of detailed statistical tables, available by fiscal year at <http://www.nsf.gov/statistics/rdexpenditures/>. Information from the survey is also included in the series Science and Engineering Indicators and National Patterns of R&D Resources, both available at <http://www.nsf.gov/statistics/>.

For more information about FFRDCs see NSF's Federally Funded R&D Centers Master Government List. Data on federal obligations to FFRDCs are available in NSF's Survey of Federal Funds for Research and Development. NSF's Survey of Graduate Students and Postdoctorates in Science and Engineering collects information about postdoctorates working in FFRDCs.

Appendix B. Federally Funded Research and Development Centers (FFRDCs): FY 2012

Department of Defense

Administered by universities and colleges

- Lincoln Laboratory
(Massachusetts Institute of Technology)
- Software Engineering Institute
(Carnegie Mellon University)

Administered by other nonprofit institutions

- Aerospace FFRDC
(The Aerospace Corporation)
- Arroyo Center
(RAND Corporation)
- National Security Engineering Center¹
(MITRE Corporation)
- Center for Communications and Computing
(Institute for Defense Analyses)
- Center for Naval Analyses
(The CNA Corporation)
- National Defense Research Institute
(RAND Corporation)
- Project Air Force
(RAND Corporation)
- Studies and Analyses Center
(Institute for Defense Analyses)

Department of Energy

Administered by universities and colleges

- Ames Laboratory
(Iowa State University of Science and Technology)
- Argonne National Laboratory
(University of Chicago)
- Fermi National Accelerator Laboratory
(Fermi Research Alliance, LLC)
- Lawrence Berkeley National Laboratory
(University of California)
- Princeton Plasma Physics Laboratory
(Princeton University)
- SLAC National Accelerator Laboratory
(Leland Stanford, Jr., University)
- Thomas Jefferson National Accelerator Facility
(Jefferson Science Associates, LLC)

Administered by industrial firms

- Idaho National Laboratory
(Battelle Energy Alliance, LLC)
- Lawrence Livermore National Laboratory²
(Lawrence Livermore National Security, LLC)
- Los Alamos National Laboratory³
(Los Alamos National Security, LLC)
- Sandia National Laboratories
(Sandia Corporation, a subsidiary of Lockheed Martin Corporation)
- Savannah River National Laboratory
(Savannah River Nuclear Solutions, LLC)

Administered by other nonprofit institutions

- Brookhaven National Laboratory
(Brookhaven Science Associates, LLC)
- National Renewable Energy Laboratory
(Alliance for Sustainable Energy, LLC)
- Oak Ridge National Laboratory
(UT-Battelle, LLC)
- Pacific Northwest National Laboratory
(Battelle Memorial Institute)

Department of Health and Human Services

Administered by industrial firms

- Frederick National Laboratory for Cancer Research⁴
(SAIC- Frederick, Inc., a subsidiary of the Science Applications International Corp.)

Department of Homeland Security

Administered by nonprofit institutions

- Homeland Security Studies and Analysis Institute⁵
(Analytic Services, Inc.)
- Homeland Security Systems Engineering and Development Institute³
(MITRE Corporation)
- National Biodefense Analysis and Countermeasures Center
(Battelle National Biodefense Institute)

Department of Transportation

Administered by nonprofit institutions

- Center for Advanced Aviation System Development
(MITRE Corporation)

Department of the Treasury and Department of Veterans Affairs

Administered by nonprofit institutions

- Center for Enterprise Modernization⁶
(MITRE Corporation)

National Aeronautics and Space Administration

Administered by universities and colleges

- Jet Propulsion Laboratory
(California Institute of Technology)

National Science Foundation

Administered by universities and colleges

- National Center for Atmospheric Research
(University Corporation for Atmospheric Research)
- National Optical Astronomy Observatories
(Association of Universities for Research in Astronomy, Inc.)
- National Radio Astronomy Observatory
(Associated Universities, Inc.)

Administered by other nonprofit institutions

- Science and Technology Policy Institute
(Institute for Defense Analyses)

Nuclear Regulatory Commission

Administered by nonprofit institutions

- Center for Nuclear Waste Regulatory Analyses
(Southwest Research Institute)

United States Courts

Administered by nonprofit institutions

- Judiciary Engineering and Modernization Center⁷
(MITRE Corporation)

Notes

¹ On 25 April 2011, C3I Federally Funded Research and Development Center changed its name to the National Security Engineering Center.

² On 1 October 2007, Lawrence Livermore National Laboratory acquired a new industrial firm administrator (Lawrence Livermore National Security, LLC). The previous administrator was the University of California.

³ On 1 June 2006, Los Alamos National Laboratory acquired a new industrial firm administrator (Los Alamos National Security, LLC). The previous administrator was the University of California.

⁴ On 28 February 2012, the National Cancer Institute at Frederick (NCI-Frederick) changed its name to the Frederick National Laboratory for Cancer Research.

⁵ On 5 March 2009, the Homeland Security Studies and Analysis Institute and the Homeland Security Systems Engineering and Development Institute were created. Together these new FFRDC's replaced the Homeland Security Institute.

⁶ In August 2001, the Internal Revenue Service (IRS) Federally Funded Research and Development Center was renamed the Center for Enterprise Modernization. On 1 October 2008, the Department of Veterans Affairs was designated a co-sponsor of the Center for Enterprise Modernization.

⁷ On 2 September 2010, the Judiciary Engineering and Modernization Center was created.

Appendix C. Survey Instrument

- FFRDC Research and Development Survey FY 2012



FORM APPROVED
OMB No. 3145-0100
Expiration Date: 10/31/13

NATIONAL SCIENCE FOUNDATION
ARLINGTON, VA 22230
FFRDC RESEARCH AND DEVELOPMENT SURVEY
FY 2012

Please submit your survey data by January 31, 2013.

This survey collects data on research and development (R&D) expenditures at Federally Funded R&D Centers (FFRDCs). Please report R&D activities and expenditures for your organization's **2012** fiscal year.

Your participation in this survey provides important information on the national level of R&D activity. The National Science Foundation (NSF) is authorized to collect this information under the National Science Foundation Act of 1950, as amended. Your organization's response is entirely voluntary.

Questions?

Ronda Britt
National Center for Science and Engineering Statistics
National Science Foundation
rbritt@nsf.gov
(703) 292-7765

Response to this survey is estimated to require 6 hours. Please report your actual completion time at the end of the questionnaire. If you wish to comment on the time required to complete this survey, please contact Suzanne H. Plimpton of NSF at (703) 292-7556, or e-mail splimpto@nsf.gov.

The Web address for submitting your data:

<http://www.ffrdcsurvey.org>

Or mail this form to:

ICF International
7315 Wisconsin Avenue, Suite 400W
Bethesda, MD 20814-3202

Thank you for your participation.

INFORMATION COPY
DO NOT USE TO REPORT

Survey Definitions and Instructions

Fiscal year (FY)

Please report data for your organization's 2012 fiscal year.

Research and development (R&D) expenditures

Please include all current operating expenditures for activities specifically organized to produce R&D outcomes. This includes basic research, applied research, and development funded by external sponsors or separately budgeted and accounted for by your organization using internal funds.

Research is systematic study directed toward fuller knowledge or understanding of the subject studied.

- **Basic research** is undertaken primarily to acquire new knowledge without any particular application or use in mind.
- **Applied research** is conducted to gain the knowledge or understanding to meet a specific, recognized need.

Development is the systematic use of the knowledge or understanding gained from research and practical experience directed toward the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes.

R&D <i>includes</i> :	R&D does <i>not</i> include:
<ul style="list-style-type: none">• Sponsored research (including federal and nonfederal sponsors)• Indirect costs associated with R&D projects• R&D equipment and software• R&D subcontract expenditures• Clinical trials• Research training grants	<ul style="list-style-type: none">• Outreach or training programs• R&D conducted by staff at outside institutions that is not accounted for in your financial records• Capital projects (i.e., construction or renovation of research facilities)

Question 1. How much of your total expenditures for separately budgeted research and development (R&D) came from the following sources in FY 2012? (See definition of R&D on the previous page)

Report the **original source** of funds, when possible. For example, if you received **federal** funds from another organization, report that amount under "U.S. federal government."

Please do not report capital construction costs.

Source of funds	R&D expenditures (Dollars in thousands) (for example, report \$25,342 as \$25)
<p>a. U.S. federal government Any agency of the United States government. Include federal funds passed through from another organization.</p>	\$ _____
<p>b. State and local government Any state, county, municipality, or other local government entity in the United States, including state health agencies.</p>	\$ _____
<p>c. Business Domestic or foreign for-profit organizations. (Report funds from a company's nonprofit foundation in row d.)</p>	\$ _____
<p>d. Nonprofit organizations Domestic or foreign nonprofit foundations and organizations.</p>	\$ _____
<p>e. All other sources Other sources not reported above, such as funds from foreign governments.</p>	\$ _____
<p>f. Total¹</p>	\$ <u>TOTAL</u>

¹ Column totals are automatically generated on the Web survey.

Question 2. How much of the federal R&D expenditures reported in Question 1, row a, was funded by the American Recovery and Reinvestment Act (ARRA)?

	R&D expenditures (Dollars in thousands)
Total R&D expenditures from ARRA funds	\$ _____

Question 3. What amounts of your FY 2012 R&D expenditures were for basic research, applied research, and development?

If possible, these categories defining the character of work should be coded at the individual project level by the principal investigator or project director. Estimates are acceptable if necessary.

See the table below this question for examples.

	R&D expenditures (Dollars in thousands)		
	(1) Federal	(2) Nonfederal	(3) Total ¹
a. Basic research			
Research undertaken primarily to acquire new knowledge without any particular application or use in mind.	\$ _____	\$ _____	\$ <u>TOTAL</u>
b. Applied research			
Research conducted to gain the knowledge or understanding to meet a specific, recognized need.	\$ _____	\$ _____	\$ <u>TOTAL</u>
c. Development			
The systematic use of the knowledge or understanding gained from research and practical experience directed toward the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes.	\$ _____	\$ _____	\$ <u>TOTAL</u>
d. Total¹			
Column 1 total should match Question 1, row a. Column 3 total should match Question 1, row f.	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>

¹ Row and column totals are automatically generated on the Web survey.

Examples		
Basic research	Applied research	Development
A researcher is studying the properties of human blood to determine what affects coagulation.	A researcher is conducting research on how a new chicken pox vaccine affects blood coagulation.	A researcher is conducting clinical trials to test a newly developed chicken pox vaccine for young children.
A researcher is studying the properties of molecules under various heat and cold conditions.	A researcher is investigating the properties of particular substances under various heat and cold conditions with the objective of finding longer-lasting components for highway pavement.	A researcher is working with state transportation officials to conduct tests of a newly developed highway pavement under various types of heat and cold conditions.
A researcher is studying the heart chambers of various fish species.	A researcher is examining various levels of a toxic substance to determine the maximum safe level for fish in a stream.	A researcher has a contract with the U.S. government to design a new stream monitoring system that will incorporate the latest research findings on toxicity levels for fish.

Question 4. Of the total R&D expenditures reported in Question 1, what were the amounts for the following types of costs?

Please report only **direct costs** in rows a–e. **Indirect costs** should be reported in row f.

Direct costs from all sources	R&D expenditures (Dollars in thousands)
a. Salaries, wages, and fringe benefits Include compensation for all R&D personnel whether full-time or part-time, temporary or permanent. Include salaries, wages, and fringe benefits paid from internal funds and from external support.	\$ _____
b. Software purchases All payments for software. Include both purchases of software packages and license fees for systems.	\$ _____
c. Equipment Payments for movable equipment. Include ancillary costs such as delivery and setup.	\$ _____
d. Subcontracts Payments to subcontractors or subrecipients for services on R&D projects.	\$ _____
e. Other direct costs Other costs that do not fit into one of the above categories, including (but not limited to) travel, computer usage fees, and supplies.	\$ _____
Indirect costs	
f. Indirect costs Include all indirect costs (overhead) associated with R&D projects.	\$ _____
g. Total¹ (should match total from Question 1, row f)	\$ <u>TOTAL</u>

¹ Column totals are automatically generated on the Web survey.

Question 5. What was the total executed operating budget of your FFRDC in FY 2012, excluding capital construction costs?

(Dollars in thousands)

Total operating budget	\$ _____
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Question 6.

A. Contact information: Please complete the contact information for the person responsible for the survey and an alternate contact.

	Primary contact	Alternate contact
Name	<input type="text"/>	<input type="text"/>
Title	<input type="text"/>	<input type="text"/>
Organization name	<input type="text"/>	<input type="text"/>
Street address (line 1)	<input type="text"/>	<input type="text"/>
Street address (line 2)	<input type="text"/>	<input type="text"/>
City, state, and ZIP code	<input type="text"/>	<input type="text"/>
Phone number	<input type="text"/>	<input type="text"/>
Fax number	<input type="text"/>	<input type="text"/>
E-mail address	<input type="text"/>	<input type="text"/>

B. Fiscal year: In what month did your organization's 2012 fiscal year end?

C. Survey completion time: Considering all offices involved, approximately how long did it take to complete this survey? hours

D. Additional comments:

Suggested Citation, Acknowledgments

National Science Foundation, National Center for Science and Engineering Statistics. 2036. FFRDC Research and Development Expenditures: Fiscal Year 2012. Detailed Statistical Tables NSF 14-302. Arlington, VA. Available at <http://www.nsf.gov/statistics/nsf14302/>.

ICF International, under NSF contract number DACS1068196, prepared the tables, general and technical notes, and report copy. ICF International staff members Tiffany Choi, Jennifer Greer, and Kathryn Harper worked on this report.

National Center for Science and Engineering Statistics

John R. Gawalt
Director

Jeri Mulrow
Deputy Director (Acting)

Stephen Cohen
Chief Statistician

John E. Jankowski
Program Director, Research and Development Statistics Program



National Center for Science and Engineering Statistics (NCSES)

The National Science Foundation, 4201 Wilson Boulevard, Arlington, Virginia 22230, USA

Tel: (703) 292-8780, FIRS: (800) 877-8339 | TDD: (800) 281-8749