



Majority of Federally Funded R&D Centers Report Declines in R&D Spending in FY 2013

by Ronda Britt¹

The nation's 40 federally funded R&D centers (FFRDCs) spent \$16.9 billion on research and development in FY 2013, according to data from the National Science Foundation's National Center for Science and Engineering Statistics (NCSES).² The majority of the FFRDCs (24 centers) reported declines from FY 2012, and 17 reported two straight years of declines between FY 2011 and FY 2013 (table 1).

FFRDCs are privately operated R&D organizations that are exclusively or substantially financed by the federal government.³ Federal funding has consistently accounted for over 96% of FFRDC's total R&D expenditures since 2001 (figure 1), but these federally funded expenditures have been declining since a high of \$18 billion reported in FY 2010. This high corresponded to the peak of award spending from the one-time American Recovery and Reinvestment Act of 2009 (ARRA), which topped \$1 billion in FY 2010 (table 2). By FY 2013, most of the funding from ARRA had been

spent, leaving only \$170 million in ARRA-funded expenditures, 1% of the federally funded total.

R&D spending within the 40 FFRDCs is highly concentrated, with 5 FFRDCs responsible for half of the total reported (a combined \$8.4 billion in FY 2013): the National Aeronautics and Space Administration sponsored Jet Propulsion Laboratory, and four Department of Energy sponsored National Labs specializing in national security and nuclear science: Sandia, Oak Ridge, Los Alamos, and Lawrence Livermore (table 1).

In FY 2013, basic research activities accounted for 24.8% of total FFRDC R&D expenditures (table 3), representing a significant drop from the previous year's percentage of 35.2%. A major contributor to the decrease was a re-evaluation of the reported distribution of activities by Los Alamos National Laboratory. Another 40.2% was spent on applied research, and the remaining 35.0% on development activities. University-administered FFRDCs spent the largest share on basic research

(41.0%), nonprofit-administered FFRDCs devoted their largest share to development (43.2%), and industry-administered FFRDCs spent the bulk of their total on applied research activities (60.9%).

Data Sources, Limitations, and Availability

The statistics on FFRDC R&D presented in this report come from the FY 2013 NSF FFRDC R&D Survey. This annual survey is completed by FFRDC administrators and collects data from FFRDCs on R&D expenditures by source of funds (federal, state and local, business, nonprofit organizations, or other), character of work (basic research, applied research, or development), and type of cost (salaries, software, equipment, subcontracts, or indirect costs). This survey has been a census of the full population of FFRDCs since FY 2001.

The full set of data tables from this survey are available at <http://ncesdata.nsf.gov/ffrdc/2013/>. For further information, please contact the author.

TABLE 1. Total R&D expenditures at federally funded research and development centers, by FFRDC: FYs 2009–13

(Current \$thousands)

FFRDC	2009	2010	2011 ^a	2012	2013
All FFRDCs	16,390,111	18,044,105	17,808,614	17,446,036	16,866,544
Aerospace FFRDC	41,470	44,149	45,827	39,746	34,428
Ames Lab.	29,012	30,836	32,442	33,853	34,234
Argonne National Lab.	543,169	650,504	710,435	679,387	708,501
Arroyo Ctr.	27,692	28,647	32,180	31,278	32,789
Brookhaven National Lab.	569,240	535,546	526,571	516,921	529,634
Ctr. for Advanced Aviation System Development	133,869	149,686	165,645	159,311	146,860
Ctr. for Communications and Computing	66,293	71,927	72,600	62,600	51,477
Ctr. for Enterprise Modernization	181,958	170,460	187,785	226,539	202,319
Ctr. for Naval Analyses	109,694	109,068	85,165	91,628	86,132
Ctr. for Nuclear Waste Regulatory Analyses	16,614	15,346	16,377	13,147	12,331
Ctrs. for Medicare and Medicaid Services Alliance to Modernize Healthcare	na	na	na	na	17,521
Fermi National Accelerator Lab.	376,791	402,658	420,119	412,438	376,472
Frederick National Lab. for Cancer Research	378,200	643,935	431,600	430,100	433,900
Homeland Security Studies and Analysis Institute	32,173	33,402	36,870	30,213	22,452
Homeland Security Systems Engineering and Development Institute	3,387	58,715	85,154	77,159	75,530
ID National Lab.	388,062	478,356	425,072	536,399	496,818
Jet Propulsion Lab.	1,711,528	1,640,341	1,543,969	1,493,613	1,519,258
Judiciary Engineering and Modernization Ctr.	na	na	4,650	5,309	6,399
Lawrence Berkeley National Lab.	611,711	759,381	788,386	767,554	768,563
Lawrence Livermore National Lab.	1,321,633	1,370,747	1,424,993	1,353,454	1,313,293
Lincoln Lab.	706,555	789,502	822,358	873,104	872,298
Los Alamos National Lab. ^b	2,172,179	2,505,913	2,307,197	2,056,878	1,708,000
National Astronomy and Ionosphere Ctr. ^c	14,738	13,203	14,317	na	na
National Biodefense Analysis and Countermeasures Ctr.	19,934	50,058	41,786	31,201	29,849
National Ctr. for Atmospheric Research	203,627	220,328	198,231	169,743	172,527
National Defense Research Institute	42,265	51,652	46,330	53,832	59,460
National Optical Astronomy Observatory	56,972	57,145	47,889	46,557	40,669
National Radio Astronomy Observatory	151,396	137,607	81,305	79,168	93,253
National Renewable Energy Lab.	273,640	326,652	386,539	398,873	347,368
National Security Engineering Ctr.	939,312	925,027	941,187	946,737	928,614
Oak Ridge National Lab.	1,259,259	1,538,412	1,558,073	1,553,460	1,451,684
Pacific Northwest National Lab.	1,064,230	1,116,648	1,095,923	1,033,768	934,491
Princeton Plasma Physics Lab.	81,113	83,932	84,863	81,389	85,088
Project Air Force	45,162	43,957	44,171	41,031	36,003
SLAC National Accelerator Lab.	294,421	354,393	327,716	329,747	327,005
Sandia National Labs.	2,043,509	2,157,022	2,277,166	2,293,307	2,412,476
Savannah River National Lab.	130,292	127,160	134,530	132,357	115,857
Science and Technology Policy Institute	5,100	6,000	8,700	7,547	5,010
Software Engineering Institute	89,077	99,334	107,837	113,371	134,973
Systems and Analyses Ctr.	166,000	156,000	156,200	149,150	142,977
Thomas Jefferson National Accelerator Facility	88,834	90,456	90,456	94,167	100,031

na = not applicable.

FFRDC = federally funded research and development center.

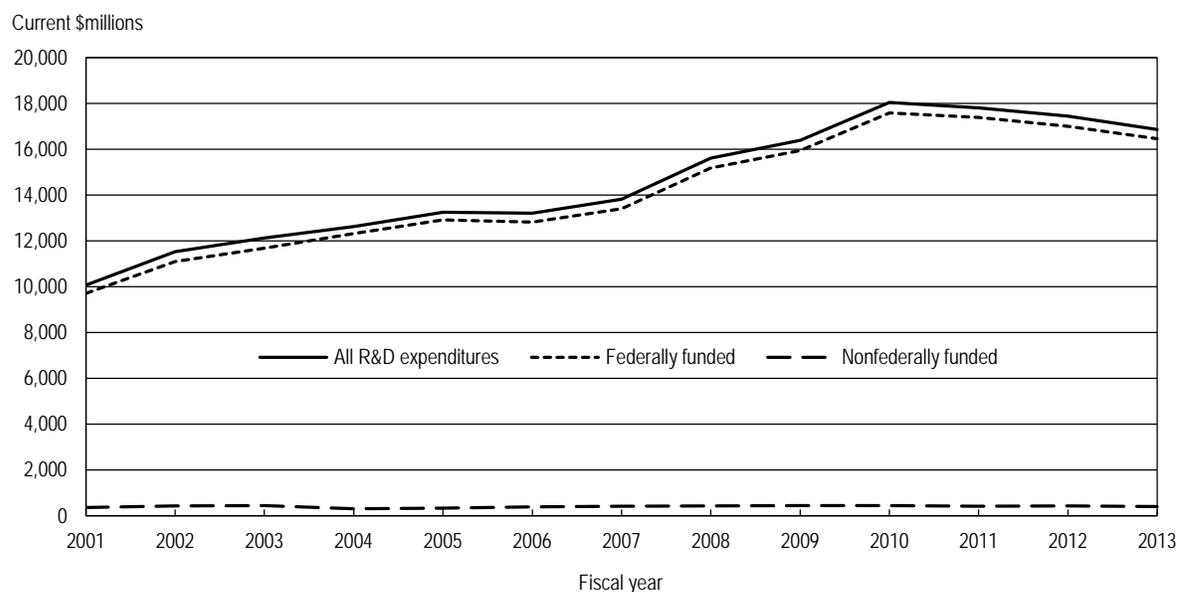
^a R&D expenditures decreased in FY 2011 due to removal of expenditures for capital projects. In this survey, R&D expenditures do not include capital projects. In previous years, some FFRDCs included capital expenditures in their R&D totals. Previous years include an unknown amount of capital expenditures,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

^b R&D expenditures reported by Los Alamos National Laboratory decreased in FY 2013 due to the removal of expenditures that were not for R&D as defined by this survey. Previous years include an unknown amount of expenditures not for R&D.

^c 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.

FIGURE 1. R&D expenditures at federally funded research and development centers, by source of funds: FYs 2001–13



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

TABLE 2. Total and ARRA-funded R&D expenditures at federally funded research and development centers: FYs 2010–13 (Current \$millions)

Fiscal year	All federal R&D expenditures	ARRA-funded R&D expenditures
2010	17,591	1,026
2011	17,385	749
2012	17,006	346
2013	16,455	170

ARRA = American Recovery and Reinvestment Act of 2009.

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

TABLE 3. R&D expenditures at federally funded research and development centers, by character of work and type of FFRDC: FY 2013

FFRDC	All R&D expenditures	Basic research	Applied research	Development	
					Current \$thousands
All FFRDCs	16,866,544	4,184,318	6,779,960	5,902,266	
University administered	5,232,872	2,146,723	1,412,173	1,673,976	
Nonprofit administered	5,146,929	1,502,956	1,418,791	2,225,182	
Industry administered	6,486,743	534,639	3,948,996	2,003,108	
		Percent distribution			
All FFRDCs	100.0	24.8	40.2	35.0	
University administered	100.0	41.0	27.0	32.0	
Nonprofit administered	100.0	29.2	27.6	43.2	
Industry administered	100.0	8.2	60.9	30.9	

FFRDC = federally funded research and development center.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, FFRDC Research and Development Survey, FY 2013.

Notes

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2. The number of FFRDCs increased from 39 to 40 in FY 2013 due to the creation of the Centers for Medicare and Medicaid Services (CMS) Alliance to Modernize Healthcare on 27 September 2012.

3. Several FFRDCs are prohibited from accepting nonfederal R&D

funding. For a description of the federal guidelines and definitions governing FFRDCs, see the “General Notes” section of the NSF’s Master Government List of FFRDCs at <http://www.nsf.gov/statistics/ffrdclist/#gennotes>. The Master Government List of FFRDCs is accessible at <http://www.nsf.gov/statistics/ffrdclist/>.

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