Table 7. Total R&D expenditures at federally funded research and development centers, by FFRDC: FYs 2001–24

(Dollars in thousands)

FFRDC	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011[a]	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
All FFRDCs	10,071,307	11,536,424	12,126,880	12,632,207	13,254,522	13,218,497	13,824,987	15,616,390	16,390,111	18,880,609	18,671,245	18,280,943	17,667,184	17,718,556	18,458,257	19,219,702	20,038,307	21,171,529	22,737,500	23,514,241	24,921,476	26,006,971	29,316,897	31,724,628
Aerospace Federally Funded Research and Development Center[b]	17,600	26,306	32,745	32,529	32,500	34,200	36,490	38,940	41,470	880,653	908,458	874,653	835,068	838,708	888,119	909,868	942,704	1,020,827	1,065,989	1,114,741	1,128,241	1,152,833	1,259,428	1,318,429
Ames Laboratory	22,916	23,416	25,213	27,227	29,293	26,460	25,254	27,306	29,012	30,836	32,442	33,853	34,234	41,824	45,845	46,886	53,527	36,858	33,612	32,844	34,214	38,520	40,638	39,563
Argonne National Laboratory	478,391	506,666	500,828	520,881	482,051	472,961	489,684	533,530	543,169	650,504	710,435	679,387	708,501	719,459	719,521	733,377	723,824	777,246	810,693	859,658	856,568	962,973	1,234,635	1,106,000
Arroyo Center	24,317	24,484	27,889	26,101	28,152	24,518	25,195	23,852	27,692	28,647	32,180	31,278	32,789	33,391	40,594	44,616	42,723	39,738	37,956	35,248	38,304	40,856	42,433	37,714
Brookhaven National Laboratory	454,500	454,482	452,728	450,342	483,039	490,686	510,212	480,455	569,240	535,546	526,571	516,921	529,634	573,364	587,194	579,087	556,875	552,640	590,470	595,466	637,658	655,988	691,417	760,512
Center for Advanced Aviation System Development	5,683	6,256	6,633	6,462	6,429	6,601	7,290	126,171	133,869	149,686	165,645	159,311	146,860	149,054	155,696	156,644	168,169	177,530	174,123	180,634	230,484	189,490	186,163	186,463
Center for Communications and Computing	43,100	45,296	45,960	50,238	50,800	51,500	57,400	59,500	66,293	71,927	72,600	62,600	51,477	63,199	56,478	61,625	66,692	68,237	68,371	67,072	65,255	74,759	77,391	85,168
Center for Enterprise Modernization	1,161	2,434	2,834	3,687	4,802	6,342	7,101	166,894	181,958	170,460	187,785	226,539	202,319	158,069	145,442	146,436	154,933	162,690	174,712	190,408	263,661	235,436	258,155	281,401
Center for Naval Analyses	69,102	72,712	75,869	79,087	83,837	87,499	99,993	106,967	109,694	109,068	85,165	91,628	86,132	80,283	80,358	84,232	90,401	95,198	96,697	95,874	96,391	93,567	96,103	100,011
Center for Nuclear Waste Regulatory Analyses	14,977	16,398	17,625	16,847	16,391	16,397	17,007	17,960	16,614	15,346	16,377	13,147	12,331	12,314	12,636	8,600	6,312	5,054	6,987	6,762	5,630	4,323	4,405	5,031
CMS Alliance to Modernize Healthcare	na	na	na	na	na	na	na	na	na	na	na	na	17,521	70,458	168,142	141,860	169,013	175,030	213,369	228,162	348,269	286,693	281,709	248,842
Fermi National Accelerator Laboratory	310,928	313,556	303,340	318,435	323,153	330,980	337,306	340,486	376,791	402,658	420,119	412,438	376,472	334,522	319,700	323,507	320,516	328,419	334,258	300,002	319,051	330,294	402,122	425,393
Frederick National Laboratory for Cancer Research	187,222	260,000	296,000	335,000	334,400	334,500	339,800	509,700	378,200	643,935	431,600	430,100	433,900	448,500	495,300	642,165	704,223	748,500	751,452	745,726	861,605	904,182	929,754	893,491
Green Bank Observatory[c]	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	NA	NA	NA	NA	8,629	10,752	12,326	13,582
Homeland Security Institute	na	na	na	na	NA	20,521	25,370	27,400	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Homeland Security Operational Analysis Center	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	8,622	46,321	54,751	44,736	34,888	52,984	66,264	77,563
Homeland Security Studies and Analysis Institute	na	na	na	na	na	na	na	na	32,173	33,402	36,870	30,213	22,452	20,866	16,965	22,038	na	na	na	na	na	na	na	na
Homeland Security Systems Engineering and Development Institute	na	na	na	na	na	na	na	na	3,387	58,715	85,154	77,159	75,530	94,353	77,176	101,628	104,414	104,689	115,813	136,874	183,588	183,261	217,908	255,498
Idaho National Laboratory[d]	270,636	259,562	330,154	180,306	232,289	163,074	248,322	236,037	388,062	478,356	425,072	536,399	496,818	479,801	476,376	521,618	482,840	395,112	478,324	494,094	516,691	637,579	653,100	1,617,015
Jet Propulsion Laboratory	1,355,463	1,435,039	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	1,519,258	1,664,539	1,749,689	1,852,369	2,324,826	2,733,908	2,709,063	2,638,412	2,388,355	2,417,556	2,671,305	2,647,837
Judiciary Engineering and Modernization Center	na	na	na	na	na	na	na	na	na	na	4,650	5,309	6,399	2,299	4,318	9,289	8,030	6,697	7,331	6,765	5,493	na	na	na
Lawrence Berkeley National Laboratory	408,487	467,461	441,500	482,159	482,672	485,626	503,775	573,917	611,711	759,381	788,386	767,554	768,563	762,601	792,457	797,831	813,267	832,457	872,237	916,082	966,972	1,031,716	1,190,504	1,206,851
Lawrence Livermore National Laboratory	1,090,875	1,227,111	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	1,313,293	1,170,571	1,273,066	1,363,525	1,290,134	1,386,687	1,517,429	1,558,071	1,613,673	1,659,808	2,110,938	2,230,018
Lincoln Laboratory	380,200	451,200	522,851	594,822	627,201	622,993	618,011	641,386	706,555	789,502	822,358	873,104	872,298	830,076	914,071	949,138	969,090	1,013,320	1,103,870	1,115,927	1,136,133	1,142,615	1,265,060	1,377,063
Los Alamos National Laboratory	1,333,194 e	1,994,031	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	1,708,000	1,767,000	1,865,000	1,987,000	1,972,769	2,145,232	2,461,275	2,722,375	2,974,164	3,294,559	3,768,323	3,958,302
National Astronomy and Ionosphere Center	10,986	12,295	11,508	12,285	13,831	14,108	13,591	12,586	14,738	13,203	14,317	na	na	na	na	na	na	na	na	na	na	na	na	na
National Biodefense Analysis and Countermeasures Center	na	na	na	na	na	na	6,320	12,979	19,934	50,058	41,786	31,201	29,849	30,310	30,716	32,902	34,991	37,598	39,003	42,330	44,968	45,870	41,321	50,470
National Center for Atmospheric Research	119,846	157,173	140,756	154,714	135,893	153,343	144,293	161,130	203,627	220,328	198,231	169,743	172,527	162,259	166,385	177,422	171,551	158,260	199,476	188,484	181,010	188,238	210,233	201,507
National Cybersecurity Center of Excellence	na	na	na	na	na	na	na	na	na	na	na	na	na	na	7,843	13,076	13,436	19,556	22,205	23,557	33,671	27,955	23,010	23,557

Table 7. Total R&D expenditures at federally funded research and development centers, by FFRDC: FYs 2001–24

(Dollars in thousands)

FFRDC	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011[a]	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
National Defense Research Institute	25,512	25,317	26,908	26,550	25,747	34,203	38,152	40,051	42,265	51,652	46,330	53,832	59,460	62,073	56,736	62,848	69,013	57,743	67,647	64,134	66,170	61,097	67,157	71,499
National Radio Astronomy Observatory	34,208	43,900	42,842	42,215	52,023	40,771	129,000	146,098	151,396	137,607	81,305	79,168	93,253	85,327	89,689	90,411	91,720	100,691	101,901	100,078	94,202	92,476	102,863	105,183
National Renewable Energy Laboratory	207,230	197,438	221,496	226,460	211,323	196,449	190,874	229,399	273,640	326,652	386,539	398,873	347,368	359,998	378,436	362,087	357,916	388,500	455,016	511,585	559,151	603,356	718,852	898,498
National Security Engineering Center	29,458	31,163	32,696	35,932	37,213	37,073	46,368	936,228	939,312	925,027	941,187	946,737	928,614	885,382	919,441	966,542	1,012,155	1,078,610	1,124,861	1,143,701	1,468,298	1,286,520	1,370,949	1,442,573
National Solar Observatory	na	na	na	na	na	na	na	na	na	11,549	11,724	10,236	10,648	10,039	11,752	12,783	11,841	14,733	15,931	16,892	17,684	33,849	39,856	38,632
NSF's National Optical-Infrared Astronomy Research Laboratory (NSF's NOIRLab)	37,364	41,051	44,409	43,020	52,775	54,616	53,608	55,922	56,972	45,596	36,165	36,321	30,021	25,161	23,660	24,917	25,906	33,874	38,262	72,686	75,251	81,505	94,257	104,871
Oak Ridge National Laboratory	581,135	620,328	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	1,451,684	1,293,722	1,333,332	1,283,729	1,403,204	1,399,445	1,470,372	1,632,684	1,760,578	1,803,543	2,019,259	2,113,418
Pacific Northwest National Laboratory	562,000	608,500	679,000	692,370	779,522	749,365	851,512	885,984	1,064,230	1,116,648	1,095,923	1,033,768	934,491	1,021,912	951,099	914,747	983,962	956,193	1,012,136	1,071,249	1,168,268	1,294,614	1,449,496	1,609,117
Princeton Plasma Physics Laboratory	76,021	73,610	66,764	75,255	81,803	78,151	75,720	78,154	81,113	83,932	84,863	81,389	85,088	97,768	81,348	82,246	81,444	82,435	91,271	107,662	115,505	120,347	131,042	140,958
Project Air Force	29,361	32,439	33,555	33,049	35,742	39,107	39,315	41,794	45,162	43,957	44,171	41,031	36,003	39,351	44,393	49,165	48,521	48,858	48,325	46,936	47,966	46,517	48,729	47,810
Sandia National Laboratories	1,416,796	1,583,348	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	2,412,476	2,507,099	2,621,891	2,781,547	2,878,000	3,009,105	3,373,217	3,395,241	3,542,756	3,811,529	4,275,484	4,634,973
Savannah River National Laboratory	87,164	93,602	94,423	94,326	98,650	102,547	114,895	118,400	130,292	127,160	134,530	132,357	115,857	121,013	121,675	125,881	141,477	154,281	176,379	176,093	191,803	182,654	244,736	253,483
Science and Technology Policy Institute	7,311	8,878	6,710	3,681	5,415	6,800	5,600	6,000	5,100	6,000	8,700	7,547	5,010	10,949	8,724	7,459	8,401	8,086	9,080	9,256	9,784	10,593	9,977	11,952
SLAC National Accelerator Laboratory	145,979	171,343	164,747	206,402	205,690	214,026	231,960	234,316	294,421	354,393	327,716	329,747	327,005	316,646	310,167	313,031	327,453	341,615	368,938	382,264	396,780	432,078	483,193	539,118
Software Engineering Institute	37,052	45,088	45,412	57,920	62,262	75,636	80,566	80,963	89,077	99,334	107,837	113,371	134,973	123,217	131,146	145,981	132,967	142,891	140,954	141,291	120,443	129,316	130,141	147,400
Systems and Analyses Center	92,930	98,236	110,200	126,226	118,600	130,400	141,500	146,500	166,000	156,000	156,200	149,150	142,977	145,211	157,645	169,580	163,125	168,034	177,948	171,335	173,792	201,338	224,574	234,871
Thomas Jefferson National Accelerator Facility	102,202	106,305	106,966	104,659	113,349	96,228	81,242	82,254	88,834	90,456	90,456	94,167	100,031	105,868	128,036	120,009	107,320	118,631	125,796	130,850	139,479	152,832	171,687	182,991

e = estimated by institution. na = not applicable. NA = not available; data were not provided by institution.

FFRDC = federally funded research and development center; NSF = National Science Foundation.

[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] Prior to FY 2014, the Aerospace Corporation reported only internal R&D projects. After discussion with the National Center for Science and Engineering Statistics, the Aerospace Corporation agreed to report all R&D expenditures for FY 2014 and provide revised data to include all R&D expenditures for FYs 2010–13.

[c] Prior to the FY 2021 collection, the National Center for Science and Engineering Statistics discovered that the Green Bank Observatory had split from the National Radio Astronomy Observatory on 1 October 2016; both retained FFRDC status. For FYs 2017–20, R&D expenditures reported for the National Radio Astronomy Observatory included the expenditures for the Green Bank Observatory. The Green Bank Observatory began reporting separately on the FY 2021 survey.

[d] In FY 2024, Idaho National Laboratory (INL) revised reporting methodology to align with reporting practices of other Department of Energy laboratories. INL now categorizes all work as research and development, except for manufacturing and security or protection projects.

Source(s):
National Center for Science and Engineering Statistics, FFRDC Research and Development Survey.