

TABLE 3

U.S. basic research expenditures, by performing sector and source of funds: 1953–2019

(Millions of current and of constant 2012 dollars)

Year	All performers	All federal	Federal intramural <sup>a</sup>	FFRDCs <sup>b</sup>		Nonfederal government <sup>c</sup>	Business <sup>d</sup>						Higher education <sup>e</sup>				NPOs <sup>f</sup>					
	All funding sources	Total	Federal	Total	Federal	Total	Total	Own domestic	Federal	Other domestic business	Foreign business	Other	Total	Federal	Nonfederal government	Business	Higher education	NPO	Total	Federal	Business	NPO
Current \$millions																						
1953	460	138	102	36	36	NA	151	132	19	NA	NA	NA	123	82	7	13	6	16	48	27	9	12
1954	509	141	96	45	45	NA	166	143	23	NA	NA	NA	148	97	10	15	8	18	55	31	11	13
1955	570	160	98	62	62	NA	169	162	7	NA	NA	NA	180	117	14	17	12	21	62	35	13	14
1956	718	203	114	89	89	NA	223	216	7	NA	NA	NA	220	143	19	20	15	24	73	41	15	17
1957	813	234	124	110	110	NA	234	230	4	NA	NA	NA	261	167	25	23	20	27	86	48	15	23
1958	943	264	149	115	115	NA	266	252	14	NA	NA	NA	312	202	31	24	24	31	102	58	16	28
1959	1,087	298	165	134	134	NA	282	248	34	NA	NA	NA	388	263	38	24	28	36	119	71	18	30
1960	1,286	334	184	150	150	NA	333	297	36	NA	NA	NA	485	341	45	25	33	41	135	84	21	30
1961	1,511	407	230	177	177	NA	344	314	30	NA	NA	NA	598	432	54	25	40	48	163	104	22	37
1962	1,824	441	252	189	189	NA	449	345	104	NA	NA	NA	737	546	64	25	48	55	198	128	24	46
1963	2,115	501	285	216	216	NA	484	375	109	NA	NA	NA	909	689	75	25	58	63	222	147	25	50
1964	2,396	584	339	245	245	NA	507	384	123	NA	NA	NA	1,071	824	84	25	70	68	235	163	25	47
1965	2,664	625	375	250	250	NA	563	406	157	NA	NA	NA	1,221	944	94	27	86	70	256	175	29	52
1966	2,930	683	410	273	273	NA	593	451	142	NA	NA	NA	1,380	1,066	104	29	106	75	274	184	32	58
1967	3,168	735	434	301	301	NA	595	427	168	NA	NA	NA	1,554	1,188	114	34	136	83	285	190	34	61
1968	3,376	797	482	315	315	NA	607	462	145	NA	NA	NA	1,681	1,265	131	38	156	91	292	192	37	63
1969	3,491	858	545	313	313	NA	581	458	123	NA	NA	NA	1,754	1,288	153	40	171	103	298	188	43	67
1970	3,594	866	562	304	304	NA	566	444	122	NA	NA	NA	1,855	1,323	179	43	196	115	307	191	44	72
1971	3,720	870	581	289	289	NA	557	456	101	NA	NA	NA	1,968	1,385	194	50	214	127	326	204	45	77
1972	3,850	915	603	313	313	NA	554	463	91	NA	NA	NA	2,038	1,437	195	55	216	134	344	213	47	84
1973	4,099	1,034	652	382	382	NA	595	499	96	NA	NA	NA	2,103	1,489	196	59	223	137	368	229	49	90
1974	4,511	1,182	715	467	467	NA	650	536	114	NA	NA	NA	2,282	1,609	204	66	250	153	397	242	54	102
1975	4,875	1,292	760	533	533	NA	677	573	104	NA	NA	NA	2,480	1,768	212	72	264	164	426	251	59	116
1976	5,373	1,479	850	629	629	NA	750	634	116	NA	NA	NA	2,675	1,924	218	75	283	175	470	274	65	131
1977	6,008	1,689	943	746	746	NA	836	701	135	NA	NA	NA	2,967	2,114	232	89	334	198	517	297	72	148
1978	6,959	2,049	1,044	1,005	1,005	NA	941	785	156	NA	NA	NA	3,376	2,399	260	107	398	213	593	346	79	168
1979	7,836	2,272	1,112	1,160	1,160	NA	1,054	893	161	NA	NA	NA	3,828	2,719	286	128	466	229	683	406	87	190
1980	8,747	2,506	1,212	1,294	1,294	NA	1,205	1,035	170	NA	NA	NA	4,315	3,061	307	156	544	248	721	411	95	215
1981	9,658	2,773	1,343	1,430	1,430	NA	1,477	1,313	164	NA	NA	NA	4,737	3,331	338	183	615	269	671	324	105	243
1982	10,651	3,025	1,522	1,503	1,503	NA	1,776	1,523	253	NA	NA	NA	5,091	3,475	368	215	716	317	759	369	115	275
1983	11,880	3,393	1,733	1,661	1,661	NA	2,106	1,760	346	NA	NA	NA	5,518	3,689	396	260	816	358	863	426	127	311
1984	13,332	3,731	1,877	1,854	1,854	NA	2,472	2,132	340	NA	NA	NA	6,145	4,087	436	313	915	395	984	494	139	351
1985	14,748	3,884	1,947	1,936	1,936	NA	2,731	2,373	358	NA	NA	NA	7,024	4,606	514	389	1,075	440	1,110	560	153	397

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	All funding sources	Total	Federal	Total	Federal	Total	Total	Own domestic	Federal	Other domestic business	Foreign business	Other	Total	Federal	Nonfederal government	Business	Higher education	NPO	Total	Federal	Business	NPO
1986	17,154	4,071	2,026	2,045	2,045	NA	3,930	3,496	434	NA	NA	NA	7,943	5,122	606	466	1,262	488	1,210	594	168	449
1987	18,481	4,290	2,047	2,242	2,242	NA	4,181	3,583	598	NA	NA	NA	8,644	5,527	659	514	1,399	545	1,367	675	185	507
1988	19,787	4,749	2,116	2,633	2,633	NA	4,163	3,507	656	NA	NA	NA	9,344	5,937	705	565	1,530	607	1,531	756	203	573
1989	21,891	5,124	2,309	2,815	2,815	NA	4,818	3,832	986	NA	NA	NA	10,219	6,422	766	637	1,714	680	1,730	860	223	647
1990	23,029	5,352	2,319	3,033	3,033	NA	4,629	3,760	869	NA	NA	NA	11,126	6,889	847	705	1,929	756	1,922	947	245	730
1991	27,140	5,573	2,378	3,195	3,195	NA	7,376	6,125	1,251	NA	NA	NA	12,062	7,423	912	764	2,127	836	2,129	1,036	269	825
1992	27,604	5,826	2,419	3,408	3,408	NA	6,528	5,816	712	NA	NA	NA	12,910	8,058	941	814	2,203	893	2,340	1,114	295	931
1993	28,743	6,138	2,621	3,517	3,517	NA	6,427	5,961	466	NA	NA	NA	13,646	8,638	952	851	2,268	936	2,532	1,157	324	1,051
1994	29,651	6,058	2,547	3,512	3,512	NA	6,514	6,078	436	NA	NA	NA	14,401	9,139	992	890	2,406	974	2,678	1,137	356	1,186
1995	29,610	5,996	2,689	3,307	3,307	NA	5,569	5,379	190	NA	NA	NA	15,146	9,634	1,070	945	2,511	987	2,899	1,170	390	1,338
1996	32,799	6,073	2,680	3,393	3,393	NA	7,498	6,848	650	NA	NA	NA	16,042	10,092	1,149	1,032	2,740	1,028	3,187	1,248	428	1,510
1997	36,717	6,150	2,746	3,404	3,404	NA	9,795	8,766	1,029	NA	NA	NA	17,449	10,758	1,233	1,161	3,150	1,147	3,322	1,317	449	1,557
1998	34,842	6,444	3,003	3,441	3,441	NA	5,853	4,851	1,002	NA	NA	NA	18,891	11,567	1,292	1,278	3,495	1,259	3,654	1,461	477	1,717
1999	38,282	7,066	3,347	3,719	3,719	NA	6,645	5,537	1,108	NA	NA	NA	20,462	12,456	1,386	1,375	3,848	1,396	4,110	1,734	517	1,860
2000	42,033	7,801	3,765	4,037	4,037	NA	7,040	6,115	925	NA	NA	NA	22,290	13,469	1,501	1,453	4,314	1,553	4,902	2,099	566	2,236
2001	46,843	8,832	4,260	4,571	4,404	NA	8,053	7,299	754	NA	NA	NA	24,455	14,919	1,606	1,467	4,759	1,704	5,503	2,464	571	2,467
2002	50,789	9,737	4,511	5,227	5,029	NA	7,547	6,659	888	NA	NA	NA	27,543	17,139	1,745	1,456	5,311	1,891	5,962	2,575	554	2,833
2003	54,823	9,739	4,664	5,075	4,904	NA	8,330	6,944	1,386	NA	NA	NA	30,217	19,220	1,893	1,436	5,692	1,978	6,537	2,714	567	3,256
2004	56,379	9,672	4,697	4,976	4,852	NA	7,835	6,763	1,072	NA	NA	NA	32,246	20,730	2,000	1,483	5,965	2,067	6,626	2,788	578	3,259
2005	59,904	9,907	4,770	5,136	5,000	NA	8,667	7,559	1,108	NA	NA	NA	34,248	21,786	2,068	1,600	6,568	2,226	7,082	2,902	614	3,565
2006	61,568	9,953	4,716	5,238	5,080	46	8,384	6,940	1,444	NA	NA	NA	35,944	22,270	2,191	1,765	7,288	2,431	7,240	2,849	656	3,735
2007	64,603	8,053	4,621	3,432	3,298	58	11,268	8,488	2,780	NA	NA	NA	37,568	22,546	2,400	1,956	7,932	2,733	7,656	2,829	698	4,130
2008	68,542	8,533	4,957	3,576	3,432	73	12,369	9,741	1,475	484	639	30	39,127	22,954	2,573	2,131	8,467	3,002	8,441	3,073	724	4,643
2009	72,861	10,012	5,441	4,571	4,432	90	14,784	11,999	1,340	662	736	47	38,728	22,993	2,456	1,995	8,253	3,031	9,248	3,498	698	5,051
2010	76,344	11,748	5,111	6,637	6,475	103	16,371	13,239	1,406	722	935	68	38,625	23,586	2,276	1,783	8,000	2,981	9,498	3,414	703	5,381
2011	73,510	11,522	5,047	6,475	6,333	103	13,020	10,585	677	745	954	59	39,538	23,970	2,244	1,803	8,487	3,034	9,328	3,081	744	5,503
2012	73,807	11,150	5,489	5,661	5,530	99	13,294	10,955	644	710	946	39	39,773	23,285	2,200	1,865	9,236	3,188	9,492	3,092	764	5,635
2013	79,099	9,519	5,330	4,188	4,085	92	19,508	14,986	1,196	1,446	1,771	109	39,998	22,476	2,206	1,975	9,918	3,423	9,982	3,031	813	6,139
2014	82,733	9,875	5,705	4,170	4,077	99	21,936	15,805	2,044	1,584	2,367	135	40,246	21,967	2,241	2,086	10,341	3,611	10,577	3,090	859	6,628
2015	84,229	10,017	5,890	4,127	4,043	100	21,792	15,933	2,038	1,565	2,123	133	41,317	22,054	2,292	2,202	10,974	3,795	11,003	3,034	891	7,077
2016	89,989	10,315	6,119	4,196	4,112	94	25,053	18,792	2,037	1,535	2,551	137	42,628	22,413	2,344	2,281	11,582	4,009	11,899	3,224	949	7,726
2017	93,469	10,388	6,259	4,128	4,054	104	25,617	18,299	1,853	2,085	3,260	120	44,523	23,168	2,375	2,402	12,241	4,337	12,839	3,434	1,003	8,402
2018	101,123	11,096	6,827	4,269	4,188	120	29,208	21,103	2,536	2,069	3,377	124	46,983	24,288	2,435	2,587	12,961	4,713	13,717	3,675	1,087	8,956
2019 <sup>g</sup>	107,838	11,995	7,414	4,581	4,500	129	31,999	22,832	2,811	2,401	3,811	143	49,293	25,363	2,508	2,760	13,611	5,052	14,421	3,766	1,164	9,492

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	All funding sources	Total	Federal	Total	Federal	Total	Total	Own domestic	Federal	Other domestic business	Foreign business	Other	Total	Federal	Nonfederal government	Business	Higher education	NPO	Total	Federal	Business	NPO
Constant 2012 \$millions																						
1953	3,182	952	703	249	249	NA	1,046	914	132	NA	NA	NA	852	564	45	90	42	111	332	187	62	83
1954	3,490	964	659	305	305	NA	1,139	981	158	NA	NA	NA	1,012	662	66	103	58	124	374	209	75	89
1955	3,846	1,076	658	418	418	NA	1,140	1,093	47	NA	NA	NA	1,211	786	94	115	78	138	418	236	88	94
1956	4,683	1,321	741	581	581	NA	1,453	1,409	44	NA	NA	NA	1,436	930	124	127	101	153	473	264	98	111
1957	5,138	1,475	783	692	692	NA	1,478	1,453	25	NA	NA	NA	1,645	1,052	157	142	125	171	540	300	95	145
1958	5,825	1,631	920	710	710	NA	1,640	1,556	84	NA	NA	NA	1,927	1,248	192	148	148	191	627	355	99	173
1959	6,622	1,815	1,002	813	813	NA	1,718	1,511	207	NA	NA	NA	2,364	1,599	229	146	173	216	725	433	110	183
1960	7,727	2,004	1,103	902	902	NA	1,999	1,785	214	NA	NA	NA	2,912	2,047	271	147	201	246	811	505	126	180
1961	8,986	2,418	1,365	1,053	1,053	NA	2,049	1,867	181	NA	NA	NA	3,553	2,566	319	149	237	282	966	616	131	220
1962	10,719	2,591	1,481	1,111	1,111	NA	2,640	2,027	612	NA	NA	NA	4,328	3,205	374	147	281	320	1,160	749	141	270
1963	12,287	2,907	1,653	1,255	1,255	NA	2,813	2,178	635	NA	NA	NA	5,277	4,002	435	142	334	363	1,289	854	145	290
1964	13,708	3,341	1,940	1,402	1,402	NA	2,901	2,197	704	NA	NA	NA	6,125	4,712	483	143	398	389	1,342	930	143	269
1965	14,968	3,509	2,104	1,405	1,405	NA	3,163	2,281	882	NA	NA	NA	6,858	5,301	531	149	483	393	1,438	983	163	292
1966	16,015	3,733	2,241	1,492	1,492	NA	3,241	2,465	776	NA	NA	NA	7,543	5,827	566	159	582	410	1,498	1,006	175	317
1967	16,824	3,901	2,302	1,599	1,599	NA	3,160	2,268	892	NA	NA	NA	8,251	6,307	605	178	720	441	1,511	1,007	181	324
1968	17,199	4,058	2,455	1,602	1,602	NA	3,092	2,354	739	NA	NA	NA	8,561	6,444	666	191	796	464	1,488	978	188	321
1969	16,953	4,168	2,648	1,520	1,520	NA	2,822	2,224	597	NA	NA	NA	8,516	6,253	742	192	831	498	1,447	913	209	325
1970	16,579	3,995	2,592	1,402	1,402	NA	2,611	2,048	563	NA	NA	NA	8,557	6,101	827	198	903	528	1,416	881	203	332
1971	16,333	3,818	2,552	1,267	1,267	NA	2,445	2,002	443	NA	NA	NA	8,640	6,078	850	217	939	555	1,429	893	198	338
1972	16,203	3,851	2,536	1,315	1,315	NA	2,332	1,949	383	NA	NA	NA	8,575	6,048	822	231	909	564	1,446	894	198	354
1973	16,357	4,126	2,601	1,524	1,524	NA	2,374	1,991	383	NA	NA	NA	8,391	5,939	783	233	890	545	1,466	912	196	359
1974	16,512	4,326	2,616	1,710	1,710	NA	2,379	1,962	417	NA	NA	NA	8,352	5,890	746	242	916	558	1,455	884	197	373
1975	16,331	4,329	2,545	1,784	1,784	NA	2,268	1,920	348	NA	NA	NA	8,307	5,923	712	240	883	549	1,427	841	199	387
1976	17,062	4,697	2,699	1,997	1,997	NA	2,382	2,013	368	NA	NA	NA	8,493	6,110	691	238	900	554	1,491	869	207	415
1977	17,963	5,049	2,819	2,230	2,230	NA	2,499	2,096	404	NA	NA	NA	8,869	6,320	693	266	999	590	1,545	888	214	443
1978	19,438	5,724	2,917	2,807	2,807	NA	2,628	2,193	436	NA	NA	NA	9,430	6,701	726	297	1,112	594	1,655	966	220	468
1979	20,213	5,861	2,869	2,991	2,991	NA	2,719	2,303	415	NA	NA	NA	9,872	7,013	737	329	1,202	591	1,761	1,048	224	489
1980	20,691	5,929	2,868	3,061	3,061	NA	2,851	2,448	402	NA	NA	NA	10,208	7,240	726	369	1,287	587	1,705	971	226	508
1981	20,871	5,992	2,902	3,090	3,090	NA	3,192	2,838	354	NA	NA	NA	10,236	7,199	731	395	1,330	582	1,451	700	226	525
1982	21,678	6,156	3,097	3,059	3,059	NA	3,615	3,100	515	NA	NA	NA	10,362	7,072	749	439	1,458	645	1,545	751	234	559
1983	23,269	6,646	3,394	3,252	3,252	NA	4,125	3,447	678	NA	NA	NA	10,808	7,224	775	509	1,599	701	1,690	834	248	608
1984	25,203	7,053	3,548	3,505	3,505	NA	4,673	4,030	643	NA	NA	NA	11,616	7,725	823	591	1,729	746	1,861	934	263	664
1985	27,026	7,117	3,568	3,548	3,548	NA	5,004	4,348	656	NA	NA	NA	12,871	8,439	943	713	1,971	806	2,033	1,026	280	727

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	All funding sources	Total	Federal	Total	Federal	Total	Total	Own domestic	Federal	Other domestic business	Foreign business	Other	Total	Federal	Nonfederal government	Business	Higher education	NPO	Total	Federal	Business	NPO
1986	30,813	7,313	3,639	3,674	3,674	NA	7,060	6,280	780	NA	NA	NA	14,267	9,200	1,088	837	2,267	876	2,174	1,066	302	806
1987	32,396	7,520	3,589	3,931	3,931	NA	7,329	6,281	1,048	NA	NA	NA	15,152	9,688	1,154	901	2,453	956	2,396	1,184	323	888
1988	33,504	8,041	3,583	4,458	4,458	NA	7,049	5,938	1,111	NA	NA	NA	15,821	10,052	1,194	956	2,590	1,028	2,593	1,280	343	970
1989	35,668	8,349	3,762	4,587	4,587	NA	7,850	6,244	1,607	NA	NA	NA	16,650	10,464	1,248	1,039	2,793	1,108	2,818	1,402	363	1,054
1990	36,169	8,406	3,642	4,764	4,764	NA	7,270	5,905	1,365	NA	NA	NA	17,474	10,819	1,330	1,108	3,030	1,187	3,018	1,487	384	1,147
1991	41,231	8,467	3,613	4,854	4,854	NA	11,206	9,305	1,901	NA	NA	NA	18,324	11,277	1,385	1,160	3,232	1,269	3,235	1,574	408	1,253
1992	41,001	8,654	3,593	5,062	5,062	NA	9,696	8,639	1,058	NA	NA	NA	19,175	11,969	1,398	1,210	3,272	1,327	3,476	1,655	438	1,383
1993	41,704	8,906	3,803	5,103	5,103	NA	9,325	8,649	676	NA	NA	NA	19,800	12,533	1,382	1,235	3,291	1,358	3,673	1,679	470	1,525
1994	42,123	8,607	3,618	4,989	4,989	NA	9,254	8,635	619	NA	NA	NA	20,458	12,982	1,409	1,264	3,419	1,384	3,805	1,615	505	1,685
1995	41,202	8,344	3,742	4,601	4,601	NA	7,749	7,485	264	NA	NA	NA	21,076	13,405	1,488	1,315	3,493	1,374	4,033	1,628	543	1,862
1996	44,818	8,298	3,662	4,636	4,636	NA	10,246	9,357	888	NA	NA	NA	21,920	13,790	1,570	1,410	3,744	1,405	4,355	1,706	585	2,064
1997	49,320	8,261	3,688	4,572	4,572	NA	13,157	11,775	1,382	NA	NA	NA	23,439	14,451	1,657	1,559	4,231	1,541	4,463	1,769	603	2,091
1998	46,281	8,559	3,989	4,571	4,571	NA	7,775	6,444	1,331	NA	NA	NA	25,093	15,365	1,717	1,697	4,642	1,673	4,854	1,940	634	2,280
1999	50,127	9,252	4,382	4,869	4,869	NA	8,701	7,250	1,451	NA	NA	NA	26,793	16,310	1,815	1,801	5,039	1,828	5,382	2,270	677	2,435
2000	53,836	9,992	4,822	5,170	5,170	NA	9,017	7,832	1,185	NA	NA	NA	28,549	17,251	1,923	1,861	5,525	1,990	6,278	2,689	725	2,864
2001	58,707	11,069	5,339	5,729	5,520	NA	10,093	9,148	945	NA	NA	NA	30,649	18,698	2,012	1,839	5,964	2,136	6,896	3,088	716	3,092
2002	62,662	12,014	5,565	6,449	6,205	NA	9,311	8,216	1,096	NA	NA	NA	33,982	21,146	2,153	1,797	6,553	2,333	7,355	3,177	684	3,495
2003	66,407	11,797	5,650	6,147	5,940	NA	10,090	8,411	1,679	NA	NA	NA	36,602	23,280	2,293	1,739	6,894	2,395	7,918	3,288	686	3,944
2004	66,501	11,409	5,540	5,869	5,723	NA	9,242	7,977	1,264	NA	NA	NA	38,035	24,452	2,359	1,750	7,036	2,438	7,815	3,289	682	3,845
2005	68,524	11,332	5,457	5,875	5,719	NA	9,914	8,647	1,267	NA	NA	NA	39,176	24,921	2,365	1,831	7,513	2,546	8,101	3,320	703	4,078
2006	68,359	11,051	5,236	5,815	5,641	51	9,309	7,705	1,603	NA	NA	NA	39,909	24,726	2,432	1,959	8,092	2,699	8,039	3,163	729	4,147
2007	69,852	8,708	4,996	3,711	3,566	62	12,183	9,178	3,006	NA	NA	NA	40,620	24,378	2,595	2,115	8,576	2,955	8,279	3,059	754	4,465
2008	72,697	9,050	5,257	3,793	3,640	77	13,119	10,331	1,564	513	678	32	41,499	24,346	2,729	2,260	8,981	3,184	8,953	3,260	768	4,925
2009	76,693	10,539	5,727	4,812	4,665	95	15,562	12,630	1,410	696	775	50	40,765	24,202	2,585	2,099	8,687	3,191	9,734	3,682	735	5,317
2010	79,434	12,223	5,317	6,906	6,737	107	17,034	13,775	1,463	751	973	71	40,188	24,540	2,368	1,855	8,324	3,101	9,882	3,553	731	5,599
2011	74,920	11,743	5,144	6,599	6,454	105	13,270	10,788	690	759	973	60	40,296	24,429	2,287	1,838	8,650	3,092	9,506	3,140	758	5,608
2012	73,807	11,150	5,489	5,661	5,530	99	13,294	10,955	644	710	946	39	39,773	23,285	2,200	1,865	9,236	3,188	9,492	3,092	764	5,635
2013	77,734	9,355	5,238	4,116	4,015	90	19,172	14,728	1,175	1,421	1,740	107	39,308	22,088	2,168	1,940	9,747	3,364	9,810	2,979	799	6,033
2014	79,829	9,529	5,505	4,024	3,934	95	21,166	15,250	1,972	1,528	2,284	131	38,833	21,196	2,162	2,013	9,978	3,484	10,206	2,982	829	6,395
2015	80,506	9,574	5,630	3,944	3,864	96	20,829	15,229	1,948	1,496	2,029	127	39,490	21,079	2,190	2,105	10,489	3,627	10,517	2,900	852	6,765
2016	85,118	9,757	5,788	3,969	3,889	89	23,697	17,775	1,927	1,452	2,413	130	40,321	21,199	2,217	2,158	10,955	3,792	11,255	3,050	898	7,308
2017	86,778	9,644	5,811	3,833	3,764	96	23,783	16,989	1,720	1,936	3,027	111	41,336	21,510	2,205	2,230	11,365	4,026	11,920	3,188	931	7,800
2018	91,684	10,060	6,189	3,870	3,797	108	26,482	19,133	2,299	1,876	3,062	112	42,597	22,021	2,207	2,345	11,751	4,273	12,437	3,331	985	8,120
2019 <sup>g</sup>	96,057	10,685	6,604	4,081	4,008	115	28,503	20,337	2,504	2,139	3,395	128	43,908	22,592	2,234	2,458	12,124	4,500	12,846	3,354	1,037	8,455

NA = not available.

FFRDC = federally funded research and development center; NPO = nonprofit organization.

<sup>a</sup> See table 2, footnote a.

<sup>b</sup> Type-of-R&D data for FFRDC R&D in 1953–63 reflect the R&D performance of only university-administered FFRDCs. In 1953–63, the R&D performance and funding of industry-administered FFRDCs were not separately reported but are included instead in the business R&D data for these years. Similarly, in 1953–63, the R&D performance and funding for nonprofit-administered FFRDCs were not separately reported but are included instead in the NPO R&D data for these years. The data for 1964–80 reflect the R&D performance of only university-administered FFRDCs and industry-administered FFRDCs; the R&D performance for nonprofit-administered FFRDCs is included in the NPO R&D data for these years. Starting in 2001, type-of-R&D data provide detail on federal and nonfederal sources of funding for FFRDC R&D. (See also table 2, footnote b.)

<sup>c</sup> Type-of-R&D data for state intramural R&D became available in the 2016 Survey of State Government Research and Development. These data prior to 2016 are estimated. (See also table 2, footnote c.)

<sup>d</sup> Type-of-R&D data for business R&D in 1998–2007 were revised in response to data quality review considerations and are not directly comparable with the data for 1997 and earlier years. For 2008 and later years, the type-of-R&D splits for other than total, own-funded, and federally funded R&D are estimated. (See also table 2, footnote d.)

<sup>e</sup> The type-of-R&D estimation procedure for higher education R&D was revised in 1998 and again in 2010; hence, these data are not directly comparable with data reported for earlier years. The pass-through adjusted data on higher education R&D, applied in 1998 and forward, reflect institution-specific detail on the type of R&D performed. Type-of-R&D splits for other than total and federally funded are estimated. (See also table 2, footnote e.)

<sup>f</sup> Type-of-R&D data for R&D by NPOs in 1998 and later years are estimated, except for the R&D that is federally funded. (See also table 2, footnote f.)

<sup>g</sup> The data for 2019 are estimates and will later be revised.

**Note(s):**

Detail may not add to total because of rounding. Constant-dollar estimates are derived from unrounded data. For trend comparisons, use only the historical data reported in this table because some back-year data may have been revised. Except for the nonprofit sector, data are based on annual reports by performers in the National Center for Science and Engineering Statistics' annual R&D expenditure surveys: Business Research and Development Survey, Higher Education Research and Development Survey, Survey of Federal Funds for Research and Development, FFRDC Research and Development Expenditures Survey, and Survey of State Government Research and Development. R&D expenditures by business performers—and, before 2001, also industry-administered FFRDCs—are collected on a calendar year basis. Expenditures for other performers are calendar year approximations based on fiscal year data. For federal performers from 1977 and after, the approximation equals 75% of the amount reported in the same fiscal year plus 25% of the amount reported in the subsequent fiscal year. Prior to 1977, the federal fiscal year began on 1 July, not 1 October, and the approximation is 50% of the amount reported in the same fiscal year plus 50% of the amount reported in the subsequent fiscal year. The fiscal year for higher education performers and state government performers generally begins 1 July, and the calendar year approximation is 50% of the amount reported in the same fiscal year plus 50% of amount reported in the subsequent fiscal year.

**Source(s):**

National Center for Science and Engineering Statistics, National Patterns of R&D Resources (annual series).