TABLE 6

U.S. R&D expenditures, by source of funds and performing sector: 1953–2023

(Millions of current and of constant 2017 dollars)

Year	All funding sources	Federal							Nonfederal government					Business					Higher education		NPOs				
	All performers	Total	Federal intramural	FFRDC	Nonfederal government	Business	Higher education	NPO	Total	FFRDC	Nonfederal government	Business	Higher education	Total	FFRDC	Business	Higher education	NPO	Total	Higher education	Total	FFRDC	Business	Higher education	NPO
Current $millions																									
1953	5,160	2,783	1,015	131	NA	1,430	149	58	40	NA	NA	NA	40	2,247	NA	2,200	21	26	37	37	55	NA	NA	27	28
1954	5,621	3,102	963	165	NA	1,750	165	61	45	NA	NA	NA	45	2,375	NA	2,320	24	31	40	40	60	NA	NA	29	31
1955	6,185	3,507	973	319	NA	1,960	191	65	50	NA	NA	NA	50	2,522	NA	2,460	27	35	42	42	64	NA	NA	32	32
1956	8,501	4,979	1,131	561	NA	2,995	221	71	57	NA	NA	NA	57	3,346	NA	3,277	32	37	46	46	74	NA	NA	36	38
1957	9,908	6,233	1,297	688	NA	3,928	242	79	64	NA	NA	NA	64	3,470	NA	3,396	37	37	51	51	91	NA	NA	40	51
1958	10,915	6,974	1,507	657	NA	4,436	280	95	72	NA	NA	NA	72	3,707	NA	3,630	39	38	56	56	107	NA	NA	45	62
1959	12,490	8,167	1,681	789	NA	5,217	356	125	81	NA	NA	NA	81	4,065	NA	3,983	40	42	61	61	117	NA	NA	50	67
1960	13,711	8,915	1,801	910	NA	5,604	453	148	90	NA	NA	NA	90	4,516	NA	4,428	40	48	67	67	123	NA	NA	55	68
1961	14,564	9,484	1,987	1,087	NA	5,685	557	169	101	NA	NA	NA	101	4,757	NA	4,668	40	49	75	75	148	NA	NA	62	86
1962	15,636	10,138	2,188	1,056	NA	6,008	687	200	112	NA	NA	NA	112	5,124	NA	5,029	41	54	84	84	179	NA	NA	70	109
1963	17,519	11,646	2,559	1,159	NA	6,856	839	234	125	NA	NA	NA	125	5,456	NA	5,360	41	55	96	96	197	NA	NA	78	119
1964	19,103	12,765	2,966	1,297	NA	7,257	995	250	138	NA	NA	NA	138	5,888	NA	5,792	41	55	114	114	200	NA	NA	88	112
1965	20,253	13,194	3,157	1,218	NA	7,367	1,167	286	150	NA	NA	NA	150	6,549	NA	6,445	42	62	136	136	225	NA	NA	101	124
1966	22,072	14,165	3,308	1,217	NA	7,977	1,335	329	160	NA	NA	NA	160	7,331	NA	7,216	45	70	165	165	252	NA	NA	114	138
1967	23,347	14,564	3,445	1,340	NA	7,946	1,491	342	168	NA	NA	NA	168	8,146	NA	8,020	52	74	200	200	271	NA	NA	126	145
1968	24,667	14,965	3,498	1,372	NA	8,145	1,586	364	185	NA	NA	NA	185	9,008	NA	8,869	58	81	221	221	290	NA	NA	139	151
1969	25,996	15,228	3,790	1,440	NA	7,987	1,624	388	208	NA	NA	NA	208	10,011	NA	9,857	61	93	233	233	316	NA	NA	155	161
1970	26,271	14,984	4,154	1,430	NA	7,306	1,686	410	237	NA	NA	NA	237	10,449	NA	10,288	66	95	259	259	343	NA	NA	171	172
1971	26,952	15,210	4,409	1,441	NA	7,175	1,760	427	262	NA	NA	NA	262	10,824	NA	10,654	72	98	290	290	366	NA	NA	182	184
1972	28,740	16,039	4,676	1,533	NA	7,469	1,890	472	282	NA	NA	NA	282	11,715	NA	11,535	79	101	312	312	393	NA	NA	195	198
1973	30,952	16,587	4,837	1,576	NA	7,600	2,009	566	301	NA	NA	NA	301	13,299	NA	13,104	90	105	344	344	421	NA	NA	210	211
1974	33,359	17,287	5,132	1,784	NA	7,572	2,160	639	320	NA	NA	NA	320	14,886	NA	14,667	105	114	394	394	474	NA	NA	239	235
1975	35,671	18,533	5,561	2,019	NA	7,878	2,400	675	348	NA	NA	NA	348	15,824	NA	15,582	118	124	432	432	534	NA	NA	272	262
1976	39,435	20,292	5,890	2,401	NA	8,671	2,619	711	369	NA	NA	NA	369	17,702	NA	17,436	131	135	480	480	592	NA	NA	300	292
1977	43,338	22,071	6,211	2,704	NA	9,523	2,893	740	394	NA	NA	NA	394	19,642	NA	19,340	155	147	569	569	662	NA	NA	337	326
1978	48,719	24,414	6,962	3,186	NA	10,107	3,329	830	443	NA	NA	NA	443	22,457	NA	22,115	182	160	679	679	727	NA	NA	364	363
1979	55,379	27,225	7,471	3,567	NA	11,354	3,848	985	482	NA	NA	NA	482	26,097	NA	25,708	215	174	785	785	791	NA	NA	386	405
1980	63,224	29,986	7,831	4,052	NA	12,752	4,335	1,017	519	NA	NA	NA	519	30,929	NA	30,476	264	189	920	920	871	NA	NA	419	452
1981	72,292	33,739	8,605	4,393	NA	14,997	4,670	1,075	581	NA	NA	NA	581	35,948	NA	35,428	314	206	1,058	1,058	967	NA	NA	463	504
1982	80,748	37,133	9,501	4,563	NA	17,061	4,879	1,129	621	NA	NA	NA	621	40,692	NA	40,105	363	224	1,207	1,207	1,095	NA	NA	534	561
1983	89,949	41,451	10,830	5,011	NA	19,095	5,210	1,306	658	NA	NA	NA	658	45,264	NA	44,588	432	244	1,357	1,357	1,220	NA	NA	595	626
1984	102,244	46,470	11,916	5,602	NA	21,657	5,748	1,548	721	NA	NA	NA	721	52,187	NA	51,404	518	265	1,514	1,514	1,351	NA	NA	654	698
1985	114,671	52,641	13,093	6,134	NA	25,333	6,388	1,694	834	NA	NA	NA	834	57,962	NA	57,043	630	289	1,743	1,743	1,491	NA	NA	713	778

TABLE 6

U.S. R&D expenditures, by source of funds and performing sector: 1953–2023

(Millions of current and of constant 2017 dollars)

Year	All funding sources	Federal							Nonfederal government					Business					Higher education		NPOs				
	All performers	Total	Federal intramural	FFRDC	Nonfederal government	Business	Higher education	NPO	Total	FFRDC	Nonfederal government	Business	Higher education	Total	FFRDC	Business	Higher education	NPO	Total	Higher education	Total	FFRDC	Business	Higher education	NPO
1986	120,249	54,622	13,505	6,405	NA	26,000	7,028	1,686	969	NA	NA	NA	969	60,991	NA	59,932	745	314	2,019	2,019	1,647	NA	NA	780	867
1987	126,360	58,609	13,588	6,792	NA	28,757	7,768	1,704	1,065	NA	NA	NA	1,065	62,576	NA	61,403	831	342	2,262	2,262	1,849	NA	NA	882	967
1988	133,881	60,131	14,342	7,212	NA	28,221	8,593	1,762	1,165	NA	NA	NA	1,165	67,977	NA	66,672	933	372	2,527	2,527	2,081	NA	NA	1,003	1,078
1989	141,891	60,465	15,231	7,497	NA	26,359	9,317	2,062	1,274	NA	NA	NA	1,274	74,966	NA	73,501	1,061	405	2,852	2,852	2,333	NA	NA	1,131	1,202
1990	151,993	61,610	15,671	7,853	NA	25,802	9,939	2,346	1,399	NA	NA	NA	1,399	83,208	NA	81,602	1,166	440	3,187	3,187	2,589	NA	NA	1,249	1,340
1991	160,876	60,783	15,249	8,093	NA	24,095	10,667	2,679	1,483	NA	NA	NA	1,483	92,300	NA	90,580	1,242	479	3,458	3,458	2,852	NA	NA	1,358	1,494
1992	165,350	60,915	15,853	8,360	NA	22,369	11,528	2,806	1,525	NA	NA	NA	1,525	96,229	NA	94,388	1,320	521	3,569	3,569	3,113	NA	NA	1,448	1,666
1993	165,730	60,528	16,531	8,003	NA	20,844	12,307	2,843	1,557	NA	NA	NA	1,557	96,549	NA	94,591	1,392	567	3,709	3,709	3,388	NA	NA	1,531	1,857
1994	169,207	60,777	16,355	8,254	NA	20,261	12,996	2,911	1,623	NA	NA	NA	1,623	99,204	NA	97,131	1,456	617	3,938	3,938	3,665	NA	NA	1,595	2,071
1995	183,625	62,969	16,904	8,448	NA	21,178	13,592	2,847	1,751	NA	NA	NA	1,751	110,871	NA	108,652	1,548	671	4,110	4,110	3,925	NA	NA	1,617	2,308
1996	197,346	63,394	16,585	8,464	NA	21,356	14,084	2,905	1,861	NA	NA	NA	1,861	123,417	NA	121,015	1,672	730	4,436	4,436	4,239	NA	NA	1,666	2,574
1997	211,894	64,362	16,819	8,413	NA	21,798	14,317	3,014	1,902	NA	NA	NA	1,902	136,208	NA	133,611	1,788	809	4,852	4,852	4,571	NA	NA	1,767	2,804
1998	225,759	65,908	17,362	8,480	NA	22,086	14,699	3,281	1,920	NA	NA	NA	1,920	147,774	NA	145,016	1,898	859	5,193	5,193	4,963	NA	NA	1,871	3,092
1999	244,451	66,817	18,142	8,704	NA	20,496	15,714	3,761	2,036	NA	NA	NA	2,036	164,545	NA	161,594	2,020	931	5,654	5,654	5,399	NA	NA	2,050	3,349
2000	267,950	67,238	19,247	9,269	NA	17,117	17,095	4,510	2,182	NA	NA	NA	2,182	185,975	NA	182,844	2,112	1,020	6,270	6,270	6,285	NA	NA	2,258	4,027
2001	278,539	73,793	22,374	10,056	NA	16,899	18,976	5,488	2,341	22	NA	NA	2,319	188,408	142	185,118	2,120	1,029	6,874	6,874	7,122	218	NA	2,461	4,443
2002	277,911	78,873	23,798	11,242	NA	16,401	21,655	5,778	2,553	32	NA	NA	2,521	180,704	135	177,467	2,103	998	7,673	7,673	8,109	275	NA	2,732	5,102
2003	291,365	85,133	24,982	11,841	NA	17,798	24,567	5,945	2,788	32	NA	NA	2,756	186,171	134	182,926	2,090	1,020	8,286	8,286	8,988	245	NA	2,879	5,864
2004	302,731	90,795	24,898	12,471	NA	20,266	26,624	6,537	2,926	31	NA	NA	2,896	191,346	122	188,035	2,148	1,041	8,637	8,637	9,028	165	NA	2,993	5,870
2005	325,288	95,413	26,322	12,894	NA	21,909	27,743	6,545	2,977	32	NA	NA	2,945	207,775	139	204,250	2,279	1,107	9,353	9,353	9,771	180	NA	3,170	6,420
2006	350,908	99,938	28,240	12,969	105	24,304	28,277	6,044	3,293	31	204	NA	3,059	227,182	171	223,365	2,464	1,182	10,176	10,176	10,320	200	NA	3,394	6,726
2007	377,890	105,128	29,859	13,845	135	26,585	28,725	5,980	3,594	32	253	NA	3,308	246,815	180	242,682	2,697	1,257	10,933	10,933	11,420	216	NA	3,767	7,438
2008	404,777	117,615	29,839	15,369	176	36,360	29,635	6,236	4,221	33	315	306	3,567	258,020	199	253,562	2,954	1,305	11,738	11,738	13,184	209	452	4,161	8,362
2009	402,931	125,765	30,560	16,571	224	39,573	31,740	7,097	4,296	40	381	195	3,680	246,609	184	242,135	3,032	1,258	12,057	12,057	14,205	218	490	4,400	9,097
2010	406,599	126,617	31,970	18,409	264	34,199	34,681	7,093	4,303	46	427	156	3,674	248,126	174	243,734	2,953	1,266	12,262	12,262	15,292	199	888	4,515	9,691
2011	426,214	127,014	34,950	18,176	273	31,309	35,742	6,564	4,386	30	421	321	3,615	266,426	189	261,899	2,999	1,340	13,103	13,103	15,284	179	563	4,629	9,913
2012	433,698	123,837	34,017	17,727	266	30,621	34,967	6,239	4,158	42	398	157	3,561	275,728	185	270,997	3,170	1,376	14,282	14,282	15,694	173	476	4,898	10,147
2013	454,232	120,131	33,406	17,296	257	29,362	33,840	5,970	4,244	45	362	194	3,643	297,188	195	292,154	3,376	1,464	15,341	15,341	17,327	144	818	5,313	11,053
2014	475,938	118,367	34,783	17,523	247	26,554	33,124	6,135	4,214	26	336	138	3,714	318,410	218	313,043	3,602	1,548	16,176	16,176	18,771	137	993	5,702	11,939
2015	494,471	119,532	34,199	18,287	246	26,990	33,563	6,247	4,277	19	348	127	3,782	333,243	205	327,589	3,844	1,605	17,260	17,260	20,160	138	1,115	6,156	12,751
2016	521,686	118,174	31,762	19,059	255	24,154	34,687	8,257	4,995	23	365	195	3,936	360,291	192	354,057	4,050	1,993	18,729	18,398	19,497	150	1,123	6,707	11,517
2017	553,530	122,435	32,231	19,943	258	24,974	36,000	9,030	5,075	33	346	142	4,057	386,533	194	379,820	4,283	2,220	19,878	19,553	19,608	152	856	7,217	11,375
2018	603,844	131,017	36,793	21,163	269	25,192	37,726	9,875	5,251	45	341	120	4,224	426,472	194	419,202	4,581	2,473	20,987	20,667	20,118	162	1,049	7,666	11,234
2019	665,267	135,646	39,870	22,538	290	22,653	39,497	10,799	5,471	49	346	169	4,363	482,199	179	474,442	4,800	2,756	21,882	21,569	20,070	166	911	7,885	11,096

TABLE 6

U.S. R&D expenditures, by source of funds and performing sector: 1953–2023

(Millions of current and of constant 2017 dollars)

Year	All funding sources	Federal							Nonfederal government					Business					Higher education		NPOs				
	All performers	Total	Federal intramural	FFRDC	Nonfederal government	Business	Higher education	NPO	Total	FFRDC	Nonfederal government	Business	Higher education	Total	FFRDC	Business	Higher education	NPO	Total	Higher education	Total	FFRDC	Business	Higher education	NPO
2020	716,479	147,985	41,227	23,478	298	29,772	41,402	11,809	5,672	44	348	241	4,471	520,324	179	512,224	4,831	3,070	22,557	22,251	19,940	166	982	7,820	10,959
2021	788,718	147,258	41,469	24,784	305	24,587	44,633	11,481	5,733	42	349	392	4,622	590,946	199	582,664	5,073	2,994	23,786	23,509	20,996	168	981	7,881	11,953
2022[a]	891,834	164,471	44,699	26,424	321	32,321	49,059	11,648	6,010	38	369	244	4,945	673,127	212	663,717	5,590	3,593	26,560	26,121	21,665	161	974	8,560	11,959
2023[b]	939,561	172,345	44,161	29,021	330	34,363	52,762	11,708	6,382	36	382	260	5,287	709,161	225	699,290	6,019	3,611	29,043	28,601	22,629	178	1,046	9,375	12,020
Constant 2017 $millions																									
1953	38,374	20,693	7,548	974	NA	10,635	1,108	428	294	NA	NA	NA	294	16,707	NA	16,361	152	193	271	271	409	NA	NA	201	208
1954	41,419	22,859	7,093	1,212	NA	12,896	1,212	446	328	NA	NA	NA	328	17,498	NA	17,097	173	228	291	291	442	NA	NA	214	228
1955	44,814	25,410	7,050	2,308	NA	14,201	1,384	467	362	NA	NA	NA	362	18,273	NA	17,824	196	254	304	304	464	NA	NA	232	232
1956	59,560	34,883	7,921	3,931	NA	20,985	1,548	497	396	NA	NA	NA	396	23,441	NA	22,961	221	259	322	322	518	NA	NA	252	266
1957	67,205	42,274	8,797	4,663	NA	26,643	1,638	532	434	NA	NA	NA	434	23,533	NA	23,035	248	251	346	346	617	NA	NA	271	346
1958	72,386	46,250	9,991	4,354	NA	29,418	1,857	630	477	NA	NA	NA	477	24,584	NA	24,073	259	252	368	368	706	NA	NA	295	411
1959	81,693	53,420	10,995	5,161	NA	34,124	2,325	814	527	NA	NA	NA	527	26,586	NA	26,052	258	275	399	399	762	NA	NA	324	438
1960	88,482	57,532	11,619	5,873	NA	36,165	2,920	955	581	NA	NA	NA	581	29,143	NA	28,575	258	310	432	432	794	NA	NA	355	439
1961	93,003	60,563	12,689	6,938	NA	36,303	3,554	1,079	642	NA	NA	NA	642	30,377	NA	29,809	255	313	476	476	945	NA	NA	396	549
1962	98,650	63,962	13,801	6,662	NA	37,905	4,331	1,262	707	NA	NA	NA	707	32,325	NA	31,729	256	341	530	530	1,126	NA	NA	438	688
1963	109,266	72,633	15,957	7,226	NA	42,761	5,230	1,459	780	NA	NA	NA	780	34,026	NA	33,430	253	343	599	599	1,229	NA	NA	486	742
1964	117,361	78,420	18,219	7,968	NA	44,584	6,113	1,536	845	NA	NA	NA	845	36,170	NA	35,584	249	338	697	697	1,229	NA	NA	541	688
1965	122,192	79,605	19,044	7,346	NA	44,448	7,041	1,726	902	NA	NA	NA	902	39,510	NA	38,885	250	374	821	821	1,355	NA	NA	606	748
1966	129,542	83,135	19,415	7,140	NA	46,818	7,835	1,928	939	NA	NA	NA	939	43,026	NA	42,351	264	411	965	965	1,476	NA	NA	666	810
1967	133,157	83,061	19,648	7,643	NA	45,319	8,501	1,951	958	NA	NA	NA	958	46,457	NA	45,741	294	422	1,138	1,138	1,543	NA	NA	716	827
1968	134,933	81,860	19,132	7,505	NA	44,555	8,676	1,991	1,009	NA	NA	NA	1,009	49,274	NA	48,516	315	443	1,206	1,206	1,584	NA	NA	758	826
1969	135,563	79,412	19,765	7,509	NA	41,651	8,466	2,021	1,085	NA	NA	NA	1,085	52,203	NA	51,402	315	485	1,215	1,215	1,648	NA	NA	808	840
1970	130,130	74,222	20,575	7,081	NA	36,189	8,349	2,028	1,174	NA	NA	NA	1,174	51,755	NA	50,960	324	471	1,280	1,280	1,699	NA	NA	847	852
1971	127,052	71,702	20,783	6,791	NA	33,823	8,294	2,011	1,235	NA	NA	NA	1,235	51,025	NA	50,224	339	462	1,365	1,365	1,725	NA	NA	858	867
1972	129,871	72,478	21,128	6,927	NA	33,751	8,541	2,131	1,274	NA	NA	NA	1,274	52,938	NA	52,124	357	456	1,408	1,408	1,774	NA	NA	879	895
1973	132,598	71,059	20,720	6,752	NA	32,558	8,604	2,425	1,289	NA	NA	NA	1,289	56,973	NA	56,137	386	450	1,474	1,474	1,804	NA	NA	900	904
1974	131,119	67,946	20,173	7,012	NA	29,762	8,490	2,510	1,256	NA	NA	NA	1,256	58,508	NA	57,649	411	449	1,547	1,547	1,862	NA	NA	937	925
1975	128,317	66,668	20,005	7,263	NA	28,339	8,633	2,428	1,252	NA	NA	NA	1,252	56,923	NA	56,051	424	447	1,552	1,552	1,922	NA	NA	978	943
1976	134,454	69,185	20,083	8,185	NA	29,564	8,930	2,424	1,258	NA	NA	NA	1,258	60,356	NA	59,448	447	461	1,637	1,637	2,018	NA	NA	1,021	997
1977	139,119	70,851	19,939	8,681	NA	30,570	9,285	2,376	1,265	NA	NA	NA	1,265	63,052	NA	62,083	496	472	1,825	1,825	2,127	NA	NA	1,080	1,046
1978	146,114	73,219	20,880	9,555	NA	30,312	9,983	2,489	1,329	NA	NA	NA	1,329	67,350	NA	66,325	544	480	2,036	2,036	2,180	NA	NA	1,090	1,090
1979	153,365	75,396	20,691	9,878	NA	31,444	10,657	2,728	1,333	NA	NA	NA	1,333	72,272	NA	71,195	594	482	2,174	2,174	2,190	NA	NA	1,068	1,122
1980	160,583	76,162	19,889	10,291	NA	32,389	11,009	2,584	1,317	NA	NA	NA	1,317	78,557	NA	77,406	669	481	2,335	2,335	2,212	NA	NA	1,064	1,147

TABLE 6

U.S. R&D expenditures, by source of funds and performing sector: 1953–2023

(Millions of current and of constant 2017 dollars)

Year	All funding sources	Federal							Nonfederal government					Business					Higher education		NPOs				
	All performers	Total	Federal intramural	FFRDC	Nonfederal government	Business	Higher education	NPO	Total	FFRDC	Nonfederal government	Business	Higher education	Total	FFRDC	Business	Higher education	NPO	Total	Higher education	Total	FFRDC	Business	Higher education	NPO
1981	167,746	78,287	19,966	10,194	NA	34,799	10,835	2,493	1,348	NA	NA	NA	1,348	83,414	NA	82,207	729	478	2,454	2,454	2,243	NA	NA	1,074	1,169
1982	176,461	81,148	20,763	9,972	NA	37,284	10,661	2,467	1,357	NA	NA	NA	1,357	88,926	NA	87,643	793	490	2,637	2,637	2,393	NA	NA	1,166	1,227
1983	189,164	87,170	22,774	10,537	NA	40,157	10,957	2,745	1,384	NA	NA	NA	1,384	95,190	NA	93,769	908	513	2,853	2,853	2,567	NA	NA	1,250	1,316
1984	207,528	94,323	24,186	11,371	NA	43,958	11,666	3,141	1,463	NA	NA	NA	1,463	105,926	NA	104,337	1,050	539	3,073	3,073	2,743	NA	NA	1,326	1,417
1985	225,615	103,572	25,760	12,068	NA	49,843	12,568	3,332	1,640	NA	NA	NA	1,640	114,040	NA	112,232	1,240	568	3,429	3,429	2,934	NA	NA	1,403	1,531
1986	231,921	105,349	26,046	12,353	NA	50,146	13,554	3,251	1,869	NA	NA	NA	1,869	117,633	NA	115,590	1,437	606	3,893	3,893	3,177	NA	NA	1,504	1,673
1987	237,816	110,305	25,574	12,782	NA	54,122	14,620	3,208	2,003	NA	NA	NA	2,003	117,771	NA	115,563	1,564	643	4,257	4,257	3,479	NA	NA	1,659	1,820
1988	243,386	109,314	26,073	13,112	NA	51,304	15,621	3,204	2,118	NA	NA	NA	2,118	123,577	NA	121,205	1,696	676	4,594	4,594	3,784	NA	NA	1,823	1,960
1989	248,213	105,774	26,643	13,115	NA	46,110	16,298	3,607	2,229	NA	NA	NA	2,229	131,140	NA	128,577	1,855	708	4,989	4,989	4,081	NA	NA	1,978	2,103
1990	256,293	103,889	26,425	13,241	NA	43,508	16,759	3,955	2,359	NA	NA	NA	2,359	140,307	NA	137,599	1,965	742	5,373	5,373	4,366	NA	NA	2,106	2,260
1991	262,397	99,140	24,872	13,200	NA	39,300	17,398	4,370	2,418	NA	NA	NA	2,418	150,547	NA	147,741	2,025	781	5,639	5,639	4,652	NA	NA	2,215	2,437
1992	263,686	97,141	25,281	13,331	NA	35,672	18,383	4,474	2,432	NA	NA	NA	2,432	153,457	NA	150,522	2,104	831	5,691	5,691	4,965	NA	NA	2,308	2,656
1993	258,172	94,289	25,751	12,467	NA	32,470	19,172	4,429	2,425	NA	NA	NA	2,425	150,403	NA	147,352	2,168	883	5,777	5,777	5,277	NA	NA	2,384	2,893
1994	258,078	92,699	24,945	12,590	NA	30,903	19,821	4,440	2,475	NA	NA	NA	2,475	151,308	NA	148,146	2,221	941	6,006	6,006	5,590	NA	NA	2,432	3,158
1995	274,319	94,070	25,253	12,620	NA	31,638	20,305	4,254	2,616	NA	NA	NA	2,616	165,630	NA	162,316	2,312	1,003	6,140	6,140	5,863	NA	NA	2,415	3,449
1996	289,516	93,002	24,331	12,417	NA	31,330	20,662	4,262	2,730	NA	NA	NA	2,730	181,058	NA	177,534	2,452	1,071	6,507	6,507	6,219	NA	NA	2,443	3,776
1997	305,586	92,820	24,256	12,133	NA	31,436	20,648	4,347	2,743	NA	NA	NA	2,743	196,434	NA	192,689	2,579	1,166	6,997	6,997	6,592	NA	NA	2,549	4,043
1998	321,966	93,995	24,761	12,094	NA	31,498	20,963	4,679	2,739	NA	NA	NA	2,739	210,747	NA	206,814	2,708	1,225	7,406	7,406	7,078	NA	NA	2,669	4,409
1999	343,757	93,961	25,512	12,240	NA	28,822	22,098	5,288	2,864	NA	NA	NA	2,864	231,390	NA	227,240	2,841	1,309	7,950	7,950	7,593	NA	NA	2,883	4,710
2000	368,454	92,458	26,466	12,746	NA	23,537	23,507	6,202	3,001	NA	NA	NA	3,001	255,732	NA	251,426	2,904	1,402	8,621	8,621	8,642	NA	NA	3,105	5,538
2001	374,584	99,239	30,090	13,523	NA	22,726	25,520	7,380	3,149	30	NA	NA	3,119	253,375	190	248,950	2,851	1,384	9,244	9,244	9,578	293	NA	3,310	5,975
2002	368,020	104,446	31,514	14,887	NA	21,719	28,676	7,651	3,381	42	NA	NA	3,338	239,294	179	235,008	2,785	1,322	10,161	10,161	10,738	364	NA	3,618	6,756
2003	378,364	110,553	32,442	15,377	NA	23,112	31,902	7,720	3,620	42	NA	NA	3,578	241,760	174	237,546	2,715	1,325	10,759	10,759	11,672	319	NA	3,738	7,615
2004	382,831	114,818	31,485	15,770	NA	25,628	33,668	8,266	3,700	39	NA	NA	3,662	241,975	154	237,788	2,716	1,317	10,922	10,922	11,416	208	NA	3,784	7,424
2005	398,852	116,990	32,275	15,810	NA	26,864	34,017	8,025	3,650	39	NA	NA	3,611	254,763	171	250,441	2,794	1,357	11,468	11,468	11,981	221	NA	3,887	7,872
2006	417,391	118,872	33,590	15,426	125	28,909	33,634	7,189	3,917	36	242	NA	3,639	270,224	204	265,684	2,930	1,406	12,103	12,103	12,275	237	NA	4,037	8,001
2007	437,630	121,747	34,579	16,034	156	30,788	33,266	6,925	4,162	37	293	NA	3,832	285,834	209	281,047	3,123	1,455	12,661	12,661	13,225	250	NA	4,362	8,613
2008	459,906	133,633	33,903	17,462	200	41,312	33,671	7,085	4,796	37	358	348	4,053	293,161	226	288,096	3,356	1,483	13,336	13,336	14,980	237	514	4,728	9,501
2009	455,002	142,017	34,509	18,712	253	44,687	35,842	8,014	4,851	45	430	220	4,155	278,478	208	273,426	3,424	1,420	13,615	13,615	16,041	246	553	4,969	10,273
2010	453,633	141,263	35,668	20,539	295	38,155	38,693	7,914	4,800	52	476	174	4,098	276,828	194	271,928	3,294	1,412	13,680	13,680	17,061	222	991	5,037	10,812
2011	465,904	138,842	38,205	19,868	299	34,225	39,070	7,175	4,795	33	460	351	3,952	291,237	206	286,288	3,278	1,465	14,323	14,323	16,707	196	615	5,060	10,836
2012	465,418	132,894	36,504	19,024	286	32,861	37,524	6,695	4,462	45	428	168	3,821	295,894	199	290,817	3,401	1,477	15,326	15,326	16,841	186	511	5,256	10,889
2013	479,297	126,760	35,250	18,251	271	30,982	35,707	6,299	4,478	47	382	205	3,843	313,588	206	308,275	3,562	1,544	16,188	16,188	18,284	151	863	5,606	11,663
2014	493,604	122,760	36,074	18,173	256	27,540	34,354	6,363	4,370	27	348	143	3,852	330,229	226	324,663	3,735	1,605	16,776	16,776	19,468	142	1,030	5,914	12,383

TABLE 6

U.S. R&D expenditures, by source of funds and performing sector: 1953–2023

(Millions of current and of constant 2017 dollars)

Year	All funding sources	Federal							Nonfederal government					Business					Higher education		NPOs				
	All performers	Total	Federal intramural	FFRDC	Nonfederal government	Business	Higher education	NPO	Total	FFRDC	Nonfederal government	Business	Higher education	Total	FFRDC	Business	Higher education	NPO	Total	Higher education	Total	FFRDC	Business	Higher education	NPO
2015	508,109	122,829	35,142	18,791	253	27,734	34,489	6,420	4,394	20	358	131	3,886	342,434	210	336,624	3,950	1,650	17,736	17,736	20,716	142	1,146	6,326	13,103
2016	531,030	120,290	32,331	19,400	259	24,587	35,308	8,405	5,084	24	372	198	4,006	366,744	196	360,398	4,122	2,028	19,064	18,728	19,846	153	1,143	6,827	11,723
2017	553,530	122,435	32,231	19,943	258	24,974	36,000	9,030	5,075	33	346	142	4,057	386,533	194	379,820	4,283	2,220	19,878	19,553	19,608	152	856	7,217	11,375
2018	590,321	128,082	35,969	20,689	263	24,628	36,881	9,653	5,133	44	334	117	4,129	416,921	189	409,814	4,478	2,418	20,517	20,204	19,668	158	1,026	7,494	10,983
2019	639,808	130,455	38,344	21,675	279	21,786	37,985	10,386	5,262	47	333	162	4,196	463,746	172	456,286	4,616	2,650	21,044	20,743	19,302	160	876	7,583	10,671
2020	680,024	140,456	39,129	22,283	283	28,257	39,295	11,209	5,384	42	330	229	4,243	493,850	170	486,162	4,585	2,914	21,409	21,119	18,925	157	932	7,422	10,401
2021	715,899	133,662	37,640	22,495	277	22,317	40,512	10,421	5,204	39	317	356	4,195	536,386	180	528,869	4,605	2,718	21,590	21,338	19,057	152	891	7,153	10,850
2022[a]	755,622	139,351	37,872	22,388	272	27,384	41,566	9,869	5,092	32	312	207	4,190	570,319	179	562,346	4,736	3,044	22,504	22,131	18,356	136	826	7,253	10,133
2023[b]	768,410	140,950	36,116	23,735	270	28,103	43,151	9,575	5,219	29	312	213	4,324	579,981	184	571,907	4,922	2,953	23,753	23,391	18,507	146	856	7,668	9,831

NA = not available.

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

[a] Some data for 2022 are preliminary and may be revised later.

[b] The data for 2023 are estimates and are likely to be revised later.

Note(s):

This table reaggregates the R&D performer data in table 2 according to major categories of R&D funding: federal government, nonfederal government (state and local), business, higher education, and NPOs. Business sources of R&D funding in this table include the own funds of domestic R&D-performing businesses, funds from other domestic businesses, and funds from foreign businesses. For further detail on the R&D performers listed, see table 2, footnotes a–f. For detail on type-of-R&D data, see table 3, footnotes b–f. 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. Data are based on reports by performers in the National Center for Science and Engineering Statistics annual surveys on R&D expenditures: Business Enterprise Research and Development Survey, Annual Business Survey, Higher Education Research and Development Survey, Survey of Federal Funds for Research and Development, FFRDC Research and Development Survey, and Survey of State Government Research and Development. R&D expenditures by business performers—and, before 2001, also industry-administered FFRDCs—were collected on a calendar year basis. Expenditures for other performers are calendar year approximations based on fiscal year data. (See table 2, general notes.)

Source(s):

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