

TABLE 2
Summary of federal obligations and outlays for research, experimental development, and R&D plant, by type of R&D, performer, and field of R&D: FYs 2022–24

(Dollars in millions)

Type of R&D, performer, and field	2022	2023	2024 (preliminary)	% change FY 2022–23	% change FY 2023–24 (preliminary)
Outlays for R&D and R&D plant	183,103	173,848	184,813	-5.1	6.3
R&D	178,919	169,086	180,014	-5.5	6.5
R&D plant	4,185	4,762	4,799	13.8	0.8
Obligations for R&D and R&D plant	196,634	192,081	200,928	-2.3	4.6
R&D	190,461	186,417	195,656	-2.1	5.0
Performer					
Federal agencies ^a	70,801	43,697	45,549	-38.3	4.2
FFRDCs	15,383	16,389	16,709	6.5	2.0
Businesses	50,221	67,990	75,330	35.4	10.8
Higher education ^b	42,179	45,018	44,929	6.7	-0.2
Nonprofit organizations	10,136	11,861	11,346	17.0	-4.3
State and local governments	925	683	487	-26.1	-28.6
Non-U.S. performers	818	778	1,306	-4.9	67.9
Research	93,830	101,608	98,619	8.3	-2.9
Performer					
Federal agencies ^a	20,672	20,399	20,873	-1.3	2.3
FFRDCs	11,133	11,575	12,205	4.0	5.4
Businesses	12,681	17,149	13,950	35.2	-18.7
Higher education ^b	39,069	41,780	41,664	6.9	-0.3
Nonprofit organizations	8,797	9,574	9,007	8.8	-5.9
State and local governments	862	584	432	-32.3	-26.1
Non-U.S. performers	615	548	490	-11.0	-10.6
Field of R&D					
Computer and information sciences	4,854	5,136	5,326	5.8	3.7
Geosciences, atmospheric sciences, and ocean sciences	5,566	5,884	5,909	5.7	0.4
Life sciences	41,610	43,750	40,242	5.1	-8.0
Mathematics and statistics	904	997	987	10.2	-1.0
Physical sciences	12,099	12,703	12,940	5.0	1.9
Psychology	4,588	4,947	4,973	7.8	0.5
Social sciences	1,917	2,679	2,715	39.7	1.3
Engineering	15,497	16,024	15,430	3.4	-3.7
Other fields	6,796	9,490	10,099	39.6	6.4
Basic research	45,414	47,335	47,473	4.2	0.3
Performer					
Federal agencies ^a	7,841	7,914	8,121	0.9	2.6
FFRDCs	6,731	6,858	7,760	1.9	13.1

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Businesses	3,858	4,163	3,983	7.9	-4.3
Higher education ^b	22,260	23,778	23,091	6.8	-2.9
Nonprofit organizations	3,982	4,267	4,169	7.2	-2.3
State and local governments	544	117	118	-78.5	1.1
Non-U.S. performers	199	238	231	19.5	-2.9
Field of R&D					
Computer and information sciences	2,319	2,342	2,307	1.0	-1.5
Geosciences, atmospheric sciences, and ocean sciences	3,441	3,661	3,719	6.4	1.6
Life sciences	19,052	18,353	18,351	-3.7	0.0
Mathematics and statistics	608	671	650	10.3	-3.1
Physical sciences	9,449	9,532	9,991	0.9	4.8
Psychology	2,288	2,513	2,503	9.8	-0.4
Social sciences	766	1,166	1,150	52.2	-1.4
Engineering	3,739	4,345	4,178	16.2	-3.8
Other fields	3,752	4,753	4,625	26.7	-2.7
Applied research	48,416	54,273	51,147	12.1	-5.8
Performer					
Federal agencies ^a	12,831	12,485	12,752	-2.7	2.1
FFRDCs	4,402	4,717	4,445	7.2	-5.8
Businesses	8,824	12,985	9,967	47.2	-23.2
Higher education ^b	16,809	18,002	18,573	7.1	3.2
Nonprofit organizations	4,816	5,306	4,838	10.2	-8.8
State and local governments	319	467	313	46.5	-32.9
Non-U.S. performers	416	310	259	-25.5	-16.6
Field of R&D					
Computer and information sciences	2,535	2,793	3,020	10.2	8.1
Geosciences, atmospheric sciences, and ocean sciences	2,125	2,223	2,190	4.6	-1.5
Life sciences	22,558	25,397	21,891	12.6	-13.8
Mathematics and statistics	296	326	337	10.1	3.4
Physical sciences	2,650	3,171	2,949	19.7	-7.0
Psychology	2,300	2,434	2,470	5.8	1.5
Social sciences	1,151	1,513	1,565	31.4	3.5
Engineering	11,758	11,679	11,251	-0.7	-3.7
Other fields	3,045	4,736	5,474	55.6	15.6
Experimental development	96,631	84,809	97,037	-12.2	14.4
Performer					

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Type of R&D, performer, and field	2022	2023	2024 (preliminary)	% change FY 2022–23	% change FY 2023–24 (preliminary)
Federal agencies ^a	50,129	23,299	24,676	-53.5	5.9
FFRDCs	4,250	4,814	4,504	13.3	-6.4
Businesses	37,540	50,841	61,380	35.4	20.7
Higher education ^b	3,110	3,238	3,265	4.1	0.8
Nonprofit organizations	1,338	2,288	2,339	71.0	2.2
State and local governments	62	99	56	59.2	-43.7
Non-U.S. performers	202	230	817	13.8	255.0
Field of R&D					
Computer and information sciences	2,458	3,632	3,659	47.8	0.8
Geosciences, atmospheric sciences, and ocean sciences	724	960	655	32.6	-31.8
Life sciences	30,408	5,688	6,008	-81.3	5.6
Mathematics and statistics	226	282	303	24.8	7.6
Physical sciences	3,415	3,958	3,891	15.9	-1.7
Psychology	383	448	491	16.9	9.7
Social sciences	149	178	237	19.0	33.4
Engineering	44,427	51,424	61,705	15.7	20.0
Other fields	14,440	18,240	20,087	26.3	10.1
R&D plant	6,173	5,664	5,273	-8.3	-6.9
Performer					
Federal agencies ^a	1,096	1,420	1,486	29.6	4.6
FFRDCs	3,437	2,570	2,517	-25.2	-2.1
Businesses	1,020	1,088	709	6.6	-34.8
Higher education ^b	463	458	398	-1.0	-13.2
Nonprofit organizations	149	114	159	-23.4	39.9
State and local governments	8	13	3	71.3	-77.3
Non-U.S. performers	1	*	*	-86.0	-6.5

* = amount greater than \$0 but less than \$500,000.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.**Note(s):**

Because of rounding, detail may not add to total. Percentages are computed using actual dollars reported. FY 2022 data include obligations from supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See technical table A-3 for additional notes associated with the taxonomy changes to the fields listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.