

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 science and engineering: FYs 2018–20

(Dollars in millions)

Type of R&D, performer, and field	2018	2019	Preliminary	
			2020	% change 2019–20
Outlays for R&D and R&D plant	120,916.2	129,870.4	142,166.9	9.5
R&D	117,072.2	124,854.5	136,453.3	9.3
R&D plant	3,844.0	5,015.9	5,713.6	13.9
Obligations for R&D and R&D plant	133,277.5	146,800.7	155,643.7	6.0
R&D	129,424.8	142,424.2	150,884.7	5.9
Performer				
Intramural ^a	35,953.4	39,312.8	42,404.9	7.9
Industry	39,753.7	44,446.0	46,497.8	4.6
Industry-administered FFRDCs	4,062.4	6,077.6	6,483.8	6.7
Universities and colleges	31,534.1	34,000.5	36,091.9	6.2
University-administered FFRDCs	4,895.8	5,351.9	5,240.7	-2.1
Other nonprofit institutions	8,450.8	8,450.2	8,951.4	5.9
Nonprofit-administered FFRDCs	3,497.3	3,261.5	3,629.7	11.3
State and local governments	561.9	586.5	564.2	-3.8
Foreign	715.4	937.2	1,020.4	8.9
Research	74,587.6	81,117.8	85,262.4	5.1
Performer				
Intramural ^a	17,817.5	18,298.2	19,465.2	6.4
Industry	8,768.1	10,738.9	10,832.7	0.9
Industry-administered FFRDCs	3,453.6	3,666.7	4,214.5	14.9
Universities and colleges	30,088.6	32,381.0	34,389.6	6.2
University-administered FFRDCs	3,704.6	4,882.4	4,730.0	-3.1
Other nonprofit institutions	7,614.5	7,891.5	8,177.8	3.6
Nonprofit-administered FFRDCs	2,299.8	2,270.9	2,436.2	7.3
State and local governments	430.2	500.4	503.7	0.7
Foreign	410.7	487.7	512.8	5.1
Field of science and engineering				
Computer sciences and mathematics	4,206.9	4,330.0	4,740.3	9.5
Engineering	13,758.6	15,279.3	16,417.4	7.4
Environmental sciences	4,567.6	5,074.7	4,778.3	-5.8
Life sciences	36,994.4	38,303.7	40,665.4	6.2
Physical sciences	7,881.4	9,816.1	9,607.6	-2.1
Psychology	2,326.9	2,753.6	2,932.9	6.5
Social sciences	1,039.4	1,155.7	1,018.3	-11.9
Other sciences nec	3,812.4	4,404.8	5,102.2	15.8
Basic research	36,195.1	40,017.3	41,755.3	4.3
Performer				
Intramural ^a	6,688.7	7,240.4	7,935.4	9.6
Industry	2,786.8	3,636.6	3,542.3	-2.6
Industry-administered FFRDCs	584.4	555.7	553.4	-0.4
Universities and colleges	17,503.5	18,626.5	19,635.3	5.4
University-administered FFRDCs	3,283.4	4,419.7	4,261.6	-3.6
Other nonprofit institutions	3,657.8	3,724.6	3,889.0	4.4
Nonprofit-administered FFRDCs	1,401.0	1,478.1	1,576.5	6.7
State and local governments	87.0	86.0	117.9	37.0
Foreign	202.5	249.5	243.9	-2.2
Field of science and engineering				
Computer sciences and mathematics	2,084.6	2,305.9	2,474.2	7.3

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Engineering	3,585.7	3,618.0	3,811.5	5.4
Environmental sciences	2,996.4	3,251.8	2,922.3	-10.1
Life sciences	18,176.1	18,880.6	20,206.5	7.0
Physical sciences	5,930.8	7,907.0	7,716.1	-2.4
Psychology	1,147.3	1,366.1	1,471.7	7.7
Social sciences	374.1	451.2	428.9	-5.0
Other sciences nec	1,900.0	2,236.8	2,724.1	21.8
Applied research	38,392.4	41,100.5	43,507.2	5.9
Performer				
Intramural ^a	11,128.8	11,057.9	11,529.8	4.3
Industry	5,981.3	7,102.3	7,290.4	2.6
Industry-administered FFRDCs	2,869.2	3,110.9	3,661.1	17.7
Universities and colleges	12,585.1	13,754.5	14,754.3	7.3
University-administered FFRDCs	421.2	462.7	468.4	1.2
Other nonprofit institutions	3,956.7	4,166.9	4,288.8	2.9
Nonprofit-administered FFRDCs	898.8	792.8	859.7	8.4
State and local governments	343.2	414.4	385.8	-6.9
Foreign	208.1	238.2	268.8	12.9
Field of science and engineering				
Computer sciences and mathematics	2,122.3	2,024.0	2,266.1	12.0
Engineering	10,172.8	11,661.4	12,605.9	8.1
Environmental sciences	1,571.1	1,822.9	1,856.0	1.8
Life sciences	18,818.3	19,423.1	20,458.9	5.3
Physical sciences	1,950.7	1,909.2	1,891.6	-0.9
Psychology	1,179.6	1,387.5	1,461.3	5.3
Social sciences	665.3	704.5	589.4	-16.3
Other sciences nec	1,912.4	2,168.0	2,378.1	9.7
Experimental development	54,837.2	61,306.4	65,622.2	7.0
Performer				
Intramural ^a	18,135.9	21,014.5	22,939.6	9.2
Industry	30,985.5	33,707.1	35,665.1	5.8
Industry-administered FFRDCs	608.8	2,410.9	2,269.3	-5.9
Universities and colleges	1,445.5	1,619.5	1,702.4	5.1
University-administered FFRDCs	1,191.2	469.5	510.7	8.8
Other nonprofit institutions	836.3	558.7	773.5	38.4
Nonprofit-administered FFRDCs	1,197.6	990.6	1,193.5	20.5
State and local governments	131.7	86.1	60.5	-29.7
Foreign	304.7	449.5	507.6	12.9
R&D plant	3,852.7	4,376.4	4,759.0	8.7
Performer				
Intramural ^a	1,252.1	1,092.7	1,652.0	51.2
Industry	310.9	354.0	207.5	-41.4
Industry-administered FFRDCs	214.2	428.3	350.3	-18.2
Universities and colleges	410.4	514.0	427.1	-16.9
University-administered FFRDCs	761.5	850.0	799.3	-6.0
Other nonprofit institutions	180.2	169.8	241.9	42.4
Nonprofit-administered FFRDCs	709.4	956.2	1,076.3	12.6
State and local governments	0.0	1.2	1.0	-15.0

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Foreign	14.1	10.3	3.5	-65.8

FFRDC = federally funded research and development center; nec = not elsewhere classified.

^a Intramural activities cover costs associated with the administration of intramural R&D programs and extramural R&D procurements by federal personnel as well as actual intramural performance.

Note(s):

Because of rounding, detail may not add to total. Percentages are computed using actual dollars reported. FY 2020 preliminary data do not include obligations from supplemental COVID-19 related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See technical table A-2 for additional notes associated with agencies listed in this table.

Source(s):

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