

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 2019–21

(Dollars in millions)

Type of R&D, performer, and field	2019	2020	Preliminary	
			2021	% change 2020–21
Outlays for R&D and R&D plant	128,141.5	149,705.6	173,169.3	15.7
R&D	124,854.5	144,919.9	166,468.4	14.9
R&D plant	3,287.0	4,785.8	6,700.9	40.0
Obligations for R&D and R&D plant	146,800.7	173,552.9	185,408.1	6.8
R&D	142,424.2	167,402.8	179,465.2	7.2
Performer				
Intramural ^a	39,312.8	51,471.7	64,209.1	24.7
Industry	44,446.0	51,428.0	52,019.1	1.1
Industry-administered FFRDCs	6,077.6	4,118.7	4,564.1	10.8
Universities and colleges	34,000.5	38,540.9	37,749.6	-2.1
University-administered FFRDCs	5,351.9	5,355.2	5,236.7	-2.2
Other nonprofit institutions	8,450.2	10,698.9	10,469.1	-2.1
Nonprofit-administered FFRDCs	3,261.5	3,676.0	3,792.0	3.2
State and local governments	586.5	720.1	669.5	-7.0
Foreign	937.2	1,393.3	755.9	-45.7
Research	81,117.8	85,304.8	85,155.5	-0.2
Performer				
Intramural ^a	18,298.2	19,572.3	20,768.8	6.1
Industry	10,738.9	10,028.4	9,988.4	-0.4
Industry-administered FFRDCs	3,666.7	3,512.5	3,579.9	1.9
Universities and colleges	32,381.0	35,473.7	34,328.0	-3.2
University-administered FFRDCs	4,882.4	3,863.2	3,908.2	1.2
Other nonprofit institutions	7,891.5	9,190.7	8,871.1	-3.5
Nonprofit-administered FFRDCs	2,270.9	2,516.4	2,602.4	3.4
State and local governments	500.4	644.7	605.9	-6.0
Foreign	487.7	502.9	502.7	*
Field of science and engineering				
Computer sciences and mathematics	4,330.0	5,912.4	6,063.3	2.6
Engineering	15,279.3	13,222.0	14,238.1	7.7
Environmental sciences	5,074.7	5,039.5	4,631.7	-8.1
Life sciences	38,303.7	42,524.8	42,013.9	-1.2
Physical sciences	9,816.1	8,419.9	8,775.4	4.2
Psychology	2,753.6	3,275.8	3,265.0	-0.3
Social sciences	1,155.7	1,137.4	1,266.3	11.3
Other sciences nec	4,404.8	5,772.9	4,901.8	-15.1
Basic research	40,017.3	41,546.6	41,231.3	-0.8
Performer				
Intramural ^a	7,240.4	7,688.1	8,291.8	7.9
Industry	3,636.6	3,146.8	2,714.8	-13.7
Industry-administered FFRDCs	555.7	799.9	780.8	-2.4
Universities and colleges	18,626.5	20,128.2	19,526.2	-3.0
University-administered FFRDCs	4,419.7	3,455.5	3,527.1	2.1
Other nonprofit institutions	3,724.6	4,325.6	4,276.1	-1.1
Nonprofit-administered FFRDCs	1,478.1	1,667.7	1,781.3	6.8
State and local governments	86.0	114.3	113.7	-0.5
Foreign	249.5	220.6	219.5	-0.5
Field of science and engineering				
Computer sciences and mathematics	2,305.9	2,524.5	2,591.1	2.6

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Engineering	3,618.0	2,897.9	2,871.3	-0.9
Environmental sciences	3,251.8	3,166.9	2,743.6	-13.4
Life sciences	18,880.6	20,804.8	20,887.1	0.4
Physical sciences	7,907.0	6,513.0	7,444.4	14.3
Psychology	1,366.1	1,611.7	1,637.9	1.6
Social sciences	451.2	439.5	439.2	-0.1
Other sciences nec	2,236.8	3,588.3	2,616.8	-27.1
Applied research	41,100.5	43,758.1	43,924.2	0.4
Performer				
Intramural ^a	11,057.9	11,884.2	12,477.0	5.0
Industry	7,102.3	6,881.6	7,273.6	5.7
Industry-administered FFRDCs	3,110.9	2,712.6	2,799.1	3.2
Universities and colleges	13,754.5	15,345.5	14,801.8	-3.5
University-administered FFRDCs	462.7	407.8	381.1	-6.5
Other nonprofit institutions	4,166.9	4,865.0	4,595.0	-5.6
Nonprofit-administered FFRDCs	792.8	848.7	821.1	-3.2
State and local governments	414.4	530.4	492.1	-7.2
Foreign	238.2	282.3	283.3	0.4
Field of science and engineering				
Computer sciences and mathematics	2,024.0	3,387.9	3,472.2	2.5
Engineering	11,661.4	10,324.1	11,366.7	10.1
Environmental sciences	1,822.9	1,872.5	1,888.1	0.8
Life sciences	19,423.1	21,720.0	21,126.8	-2.7
Physical sciences	1,909.2	1,906.9	1,331.0	-30.2
Psychology	1,387.5	1,664.2	1,627.1	-2.2
Social sciences	704.5	697.9	827.1	18.5
Other sciences nec	2,168.0	2,184.6	2,285.0	4.6
Experimental development	61,306.4	82,098.0	94,309.8	14.9
Performer				
Intramural ^a	21,014.5	31,899.4	43,440.3	36.2
Industry	33,707.1	41,399.5	42,030.6	1.5
Industry-administered FFRDCs	2,410.9	606.2	984.2	62.3
Universities and colleges	1,619.5	3,067.3	3,421.6	11.6
University-administered FFRDCs	469.5	1,492.0	1,328.6	-11.0
Other nonprofit institutions	558.7	1,508.2	1,598.0	6.0
Nonprofit-administered FFRDCs	990.6	1,159.5	1,189.6	2.6
State and local governments	86.1	75.4	63.6	-15.6
Foreign	449.5	890.5	253.2	-71.6
R&D plant	4,376.4	6,150.1	5,942.9	-3.4
Performer				
Intramural ^a	1,092.7	3,106.0	1,088.4	-65.0
Industry	354.0	677.5	2,720.4	301.5
Industry-administered FFRDCs	428.3	222.1	30.5	-86.3
Universities and colleges	514.0	350.6	343.4	-2.1
University-administered FFRDCs	850.0	867.8	809.8	-6.7
Other nonprofit institutions	169.8	125.3	151.4	20.8
Nonprofit-administered FFRDCs	956.2	793.7	792.6	-0.1
State and local governments	1.2	6.7	6.0	-9.8

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Foreign	10.3	0.4	0.5	20.8

* = amount greater than \$0 but less than \$50,000.

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. FYs 2020 and 2021 data include obligations from supplemental COVID-19 related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

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