

TABLE 3

Total R&D cost, by selected industry and employment size, for companies with 1–9 employees: 2018, 2019, and 2020

(Thousands of U.S. dollars)

Industry	NAICS code	2018			2019			2020		
		All companies	1–4 employees	5–9 employees	All companies	1–4 employees	5–9 employees	All companies	1–4 employees	5–9 employees
All selected industries	31–33, 42, 51, 5413, 5415, 5417	6,467,338	2,644,204	3,823,134	7,245,649	3,215,024	4,030,625	7,522,839	3,623,592	3,899,247
Manufacturing industries	31–33	702,414	283,315	419,098	888,998	413,607	475,391	822,687	359,533	463,154
Food, beverage, and tobacco products	311–12	D	D	0	6,315	4,218 r	2,096 r	20,378 r	16,061 r	4,317 r
Textile, apparel, and leather products	313–16	1,147	D	D	236 r	236 r	0	472 r	472 r	0
Wood products	321	0	0	0	4,065 r	0	4,065 r	0	0	0
Paper	322	0	0	0	0	0	0	0	0	0
Printing and related support activities	323	D	D	0	555	141 r	414	0	0	0
Petroleum and coal products	324	D	0	D	0	0	0	0	0	0
Chemicals	325	149,323	59,785	89,538	345,503	163,854	181,649	201,214	96,869	104,345
Pharmaceuticals and medicines	3254	116,392	34,982	81,410	259,782	110,653	149,129	104,539	64,689	39,850
Chemicals, excluding pharmaceuticals	other 325	32,931	24,803 r	8,128	85,721	53,201	32,520	96,675	32,181	64,495
Plastics and rubber products	326	0	0	0	6,397	3,340	3,057 r	23,004	18,051	4,953
Nonmetallic mineral products	327	5,500 r	D	D	12,945 r	216	12,729 r	133	133	0
Primary metals	331	0	0	0	2,568 r	2,568 r	0	9,299 r	9,299 r	0
Fabricated metal products	332	2,929	D	D	20,594 r	9,950 r	10,644 r	59,474 r	387	59,087 r
Machinery	333	51,732	21,535 r	30,197 r	33,020	23,556	9,464	94,664	37,612 r	57,052
Computer and electronic products	334	349,148	101,257	247,891	279,725	146,657	133,068	237,090	101,714	135,376
Semiconductor and other electronic components	3344	71,181	19,253	51,928	44,841	26,337	18,504	40,558	24,002	16,556
Navigational, measuring, electromedical, and control instruments	3345	226,247	63,345	162,902	205,358	115,084	90,274	175,504	67,481	108,022
Other computer and electronic products	other 334	51,720	18,660	33,060	29,526	5,235	24,291	21,029	10,231	10,798
Electrical equipment, appliances, and components	335	32,218	13,087	19,131 r	11,053	6,214 r	4,839	32,026 r	27,642 r	4,383
Transportation equipment	336	14,537	6,596	7,940	31,730	24,976	6,754	40,780	12,035	28,745
Aerospace products and parts	3364	11,210	4,183	7,027	15,341	10,107	5,234	21,446	11,007	10,439
Other transportation equipment	other 336	D	D	D	16,389 r	14,869 r	1,520	19,333 r	1,028	18,305 r
Furniture and related products	337	0	0	0	0	0	0	124	0	124
Miscellaneous manufacturing	339	91,811	74,866	16,944	134,291	27,680	106,611 r	104,028	39,257	64,770 r
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	5,764,924	2,360,889	3,404,035	6,356,651	2,801,417	3,555,234	6,700,152	3,264,059	3,436,093

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Wholesale trade	42	232,405	91,329	141,077	407,798	r	105,771	302,027	r	517,963	188,633	329,331	r
Information	51	660,724	249,646	411,078	708,356		314,081	394,274		829,283	373,836	455,448	
Software publishers	5112	497,414	193,662	303,751	396,626		204,864	191,763		571,286	242,501	328,785	
Information, excluding software publishers	51 less 5112	163,311	55,983	107,327	311,729		109,218	202,512		257,998	131,335	126,663	
Architectural, engineering, and related services	5413	488,940	270,447	218,493	507,138		303,242	203,896		628,231	286,122	342,109	
Computer systems design and related services	5415	1,311,905	566,128	745,776	1,848,169		910,750	937,419		1,473,927	879,174	594,753	
Scientific research and development services	5417	3,070,951	1,183,340	1,887,611	2,885,189		1,167,572	1,717,617		3,250,748	1,536,295	1,714,453	
Research and development in nanotechnology	541713	351,183	150,936	200,247	208,661		96,558	112,103		196,107	91,949	104,158	
Research and development in biotechnology (except nanobiotechnology)	541714	1,481,240	512,808	968,432	1,174,781		496,750	678,031		1,548,115	757,706	790,409	
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	1,201,469	513,868	687,601	1,462,437		560,499	901,937		1,479,130	677,617	801,514	
Social sciences and humanities research and development	541720	14,839	2,864	11,976	37,089		11,543	25,546		27,396	9,023	18,373	

D = suppressed to ensure confidentiality of individual companies; r = relative standard error > 50%.

NAICS = 2017 North American Industry Classification System.

Note(s):

Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2021 Annual Business Survey: Data Year 2020.