

Table 3**Companies funding or performing critical and emerging technologies, by industry: 2021**

(Percent)

Industry	NAICS code	Companies (number)	Advanced computing	Advanced sensing	Artificial intelligence	Autonomous systems and robotics	Additive manufacturing	Biotechnology	Human machine interfaces	Communication and networking	Advanced financial technologies	Advanced semiconductors and microelectronics	Advanced engineering materials	Renewable energy generation and storage	Advanced gas turbine engine technologies	Advanced nuclear energy technologies
All industries	11, 21-23, 31-33, 42-81	4,874,928	2.5	0.8	1.0	0.5	0.8	0.3	0.4	1.1	0.5	0.2	0.4	0.6	0.2	0.1
Manufacturing industries	31-33	209,282	2.1	2.1	1.2	2.4	4.5	0.5	0.6	1.8	0.4	0.8	1.6	1.1	0.4	0.2
Food	311	19,326	1.1	0.7	0.4	1.1	0.4	0.6	0.2	0.7	0.6	0.0	0.1	0.3	0.0	0.0
Beverage and tobacco products	312	9,354	0.7	0.5	0.4	0.2	0.7	0.2	0.1	0.3	0.3	0.0	0.1	1.9	0.3	0.0
Textile, apparel, and leather products	313-16	9,443	1.5	0.8	0.5	0.4	2.7	0.1	0.2	0.7	0.1	0.2	0.7	0.4	0.1	0.1
Wood products	321	9,546	1.4	1.8	0.4	1.9	2.6	0.2	0.2	0.9	0.1	0.1	0.5	0.3	0.1	0.0
Paper	322	1,500	2.8	1.6	0.6	1.6	2.3	2.8	0.1	0.4	0.1	0.1	1.6	1.0	0.3	0.1
Printing and related support activities	323	20,212	2.3	0.5	0.4	0.2	1.6	0.0	0.0	1.1	0.2	0.1	0.1	0.2	0.2	0.1
Petroleum and coal products	324	546	1.4	1.8	1.2	1.4	1.4	0.2	0.4	0.8	0.4	0.2	0.8	1.2	0.2	0.0
Chemicals	325	7,961	2.3	2.3	1.3	2.4	4.0	4.0	0.4	1.0	1.2	0.6	3.4	1.4	0.4	0.3
Pesticide, fertilizer, and other agricultural chemicals	3253	580	0.0	0.5	1.6	1.2	1.7	2.1	0.5	2.1	0.5	0.5	1.0	0.7	0.5	0.5
Pharmaceuticals and medicines	3254	1,536	3.4	1.3	2.3	1.0	2.7	13.8	0.5	0.7	0.7	0.3	1.9	1.0	0.3	0.3
Soap, cleaning compound, and toilet preparation	3256	1,652	2.5	1.8	1.6	3.1	2.5	1.1	0.3	0.6	0.4	0.1	2.3	2.0	0.2	0.2
Other chemicals	other 325	4,194	2.1	3.1	0.7	2.8	5.5	1.8	0.3	1.1	1.8	0.9	4.6	1.4	0.6	0.3
Plastics and rubber products	326	7,060	2.1	3.0	1.2	4.9	8.3	0.3	0.4	1.5	0.6	0.7	2.4	1.0	0.3	0.3
Nonmetallic mineral products	327	7,290	1.3	1.2	0.3	1.2	2.2	0.3	0.3	0.9	0.3	0.4	1.3	0.4	0.7	0.2
Primary metals	331	2,079	1.9	1.9	1.5	6.8	6.6	0.1	0.5	0.8	0.3	0.2	4.6	0.7	0.8	0.5
Fabricated metal products	332	46,128	2.0	2.2	1.4	3.0	5.1	0.0	0.3	1.3	0.2	0.5	1.7	0.9	0.7	0.1
Machinery	333	16,440	1.9	3.8	2.2	6.3	7.1	0.2	2.0	2.1	0.5	2.9	3.3	1.7	0.5	0.1
Computer and electronic products	334	8,527	7.4	10.9	6.2	5.7	8.7	1.9	2.9	14.5	1.2	5.3	3.8	3.2	1.3	0.7
Communications equipment	3342	850	7.6	10.5	5.3	8.4	8.6	0.0	4.5	43.9	0.4	4.4	2.3	3.8	0.0	0.1
Semiconductor and other electronic components	3344	2,711	5.8	8.8	4.7	6.6	8.0	0.5	2.9	11.6	2.1	9.4	4.5	5.3	1.2	1.0

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Navigational, measuring, electromedical, and control instruments	3345	3,737	7.4	14.1	7.1	5.4	10.4	3.7	2.5	11.7	0.6	3.5	4.1	2.0	2.2	0.7
Other computer and electronic products	other 334	1,230	10.7	6.6	7.5	3.0	5.5	1.0	2.9	9.1	1.7	2.6	2.7	1.4	0.0	0.2
Electrical equipment, appliances, and components	335	3,925	4.3	5.3	2.3	3.6	8.0	0.6	2.0	6.8	0.5	5.4	3.8	5.4	1.3	1.0
Transportation equipment	336	7,325	3.4	3.0	1.3	4.8	7.4	0.4	1.3	2.3	0.7	1.3	3.6	3.0	1.1	0.4
Automobiles, bodies, trailers, and parts	3361-63	4,494	3.8	3.6	1.4	5.2	6.2	0.4	1.0	2.2	0.8	1.5	3.4	3.5	0.7	0.4
Aerospace products and parts	3364	1,044	2.7	4.1	2.0	6.0	13.6	0.1	1.7	2.7	0.4	1.0	4.6	1.2	3.9	0.6
Other transportation	other 336	1,787	2.7	0.6	0.7	3.2	6.6	0.3	1.8	2.3	0.4	1.2	3.5	2.9	0.5	0.3
Furniture and related products	337	12,060	1.6	0.1	0.8	0.6	3.4	0.0	0.1	0.4	0.1	0.1	0.5	0.4	0.3	0.1
Miscellaneous	339	20,536	2.2	1.6	0.7	1.4	7.9	0.8	1.1	0.8	0.6	0.4	1.5	0.7	0.1	0.1
Medical equipment and supplies	3391	7,602	2.3	2.6	0.7	1.6	13.4	1.6	1.8	0.6	0.9	0.3	1.7	0.1	0.0	0.0
Other miscellaneous manufacturing	3399	12,933	2.1	0.9	0.7	1.4	4.7	0.3	0.6	0.8	0.5	0.4	1.4	1.1	0.2	0.2
Nonmanufacturing industries	11, 21-23, 42-81	4,665,645	2.5	0.7	1.0	0.4	0.6	0.3	0.4	1.1	0.5	0.2	0.3	0.5	0.2	0.1
Agriculture, forestry, fishing, and hunting	11	19,567	0.8	0.7	0.7	0.5	0.0	0.6	0.0	0.5	0.0	0.0	0.0	0.3	0.1	0.0
Mining, extraction, and support activities	21	14,004	0.5	0.5	0.4	0.1	0.2	0.0	0.3	0.3	0.1	0.1	0.2	0.3	0.1	0.1
Utilities	22	2,994	3.4	0.7	1.0	0.3	0.1	0.1	0.3	1.3	0.2	0.1	0.1	4.0	1.4	0.6
Construction	23	635,568	1.2	0.3	0.4	0.2	0.3	0.1	0.2	0.7	0.2	0.1	0.2	0.9	0.2	0.1
Wholesale trade	42	241,440	2.4	0.9	0.9	0.7	1.2	0.3	0.4	1.6	0.4	0.4	0.6	0.5	0.2	0.1
Retail trade	44-45	546,067	1.9	0.6	0.7	0.4	0.7	0.3	0.2	0.7	0.4	0.2	0.3	0.6	0.2	0.2
Transportation and warehousing	48-49	165,454	1.9	0.6	0.6	0.3	0.3	0.2	0.2	1.0	0.5	0.1	0.2	0.4	0.2	0.1
Information	51	65,445	9.1	2.1	6.1	0.7	0.7	0.4	1.8	3.5	1.5	0.4	0.5	0.3	0.1	0.2
Publishing	511	17,755	14.8	3.4	10.7	0.8	0.7	0.6	2.2	3.4	2.0	0.3	0.5	0.2	0.1	0.2
Newspaper, periodical, book, and directory publishers	5111	9,162	2.5	0.1	1.2	0.1	0.5	0.3	0.1	1.0	0.5	0.4	0.0	0.1	0.0	0.0
Software publishers	5112	8,589	28.0	7.0	20.9	1.5	0.9	0.9	4.5	6.0	3.7	0.2	1.0	0.4	0.1	0.5

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Telecommunications	517	7,319	6.2	2.0	1.8	1.2	1.1	0.8	1.2	9.8	1.0	0.8	1.4	1.0	0.8	0.8
Data processing, hosting, and related services	518	8,346	17.5	4.3	12.9	1.8	1.4	0.9	2.8	5.2	3.0	0.9	0.2	0.9	0.2	0.2
Other information	other 51	32,027	4.4	0.7	2.8	0.2	0.4	0.0	1.4	1.7	0.9	0.2	0.3	0.1	0.0	0.0
Finance and insurance	52	198,128	3.3	0.6	1.2	0.3	0.2	0.2	0.2	1.2	1.1	0.1	0.1	0.3	0.1	0.1
Real estate and rental and leasing	53	283,276	1.7	0.2	0.6	0.2	0.3	0.1	0.3	0.6	0.4	0.1	0.1	0.3	0.1	0.1
Lessors of nonfinancial intangible assets (except copyrighted works)	533	1,956	4.6	2.4	2.4	0.0	0.0	0.0	2.4	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Other real estate and rental and leasing	other 53	281,321	1.7	0.2	0.6	0.2	0.3	0.1	0.3	0.6	0.4	0.1	0.1	0.3	0.1	0.1
Professional, scientific, and technical services	54	717,229	5.1	1.5	2.5	1.0	0.9	0.7	0.9	2.0	0.8	0.3	0.5	0.8	0.2	0.1
Legal services	5411	152,543	2.6	0.2	0.5	0.2	0.2	0.1	0.3	0.7	0.3	0.1	0.1	0.1	0.1	0.1
Accounting, tax preparation, bookkeeping, and payroll services	5412	109,075	3.8	0.3	0.6	0.2	0.1	0.1	0.3	0.7	0.9	0.1	0.1	0.2	0.1	0.1
Architectural, engineering, and related services	5413	87,994	3.8	3.4	1.8	2.4	2.4	0.3	1.6	3.1	0.3	0.7	1.7	2.6	0.3	0.3
Specialized design services	5414	29,258	2.5	0.5	0.9	0.0	1.3	0.0	1.1	0.9	0.0	0.2	0.0	0.4	0.0	0.0
Computer systems design and related services	5415	100,282	15.3	3.6	8.9	2.1	1.3	0.7	2.5	6.0	2.4	0.4	0.3	0.7	0.3	0.2
Management, scientific, and technical consulting services	5416	144,421	3.9	1.3	2.5	1.0	0.7	0.5	0.7	1.6	1.1	0.3	0.5	1.0	0.2	0.2
Scientific research and development services	5417	11,149	9.0	9.0	9.4	4.7	5.4	25.7	2.6	4.2	0.7	3.6	7.7	3.1	1.0	0.8
Advertising, public relations, and related services	5418	28,236	3.3	0.4	1.8	0.4	0.6	0.0	0.6	1.5	0.4	0.1	0.1	0.4	0.2	0.0
Other professional, scientific, and technical services	5419	54,270	3.3	1.0	1.5	0.2	0.3	0.5	0.3	1.1	0.4	0.2	0.1	0.3	0.0	0.0

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Management of companies and enterprises	55	3,153	3.3	0.0	2.3	2.3	2.3	0.0	2.3	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Administrative and support and waste management and remediation services	56	293,539	2.1	0.4	0.6	0.3	0.2	0.2	0.3	0.9	0.3	0.1	0.2	0.5	0.1	0.1
Educational services	61	57,078	1.7	0.4	1.1	0.3	0.4	0.0	0.6	1.5	0.6	0.0	0.0	0.2	0.0	0.0
Health care and social assistance	62	536,276	2.6	0.9	0.9	0.4	0.9	0.4	0.4	1.0	0.4	0.2	0.4	0.3	0.2	0.1
Health care services	621-23	469,939	2.7	0.9	0.8	0.4	1.0	0.5	0.4	0.9	0.4	0.2	0.4	0.3	0.1	0.1
Social assistance	624	66,336	2.2	0.8	1.0	0.4	0.4	0.2	0.4	1.1	0.6	0.2	0.3	0.4	0.3	0.2
Arts, entertainment, and recreation	71	89,491	1.5	0.1	0.3	0.1	0.3	0.0	0.2	0.6	0.1	0.0	0.1	0.3	0.0	0.0
Accommodation and food services	72	455,071	1.7	0.7	0.6	0.4	0.5	0.4	0.4	0.8	0.6	0.3	0.3	0.5	0.3	0.3
Other services	81	341,869	1.5	0.5	0.5	0.4	0.5	0.1	0.3	0.7	0.3	0.2	0.2	0.4	0.2	0.1

NAICS = 2017 North American Industry Classification System.

Note(s):

Detail across rows may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Detail across columns have been adjusted to add to total. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2022 Annual Business Survey: Data Year 2021.