

TABLE 22
Companies with domestic R&D paid for by the company and others and performed by the company in the artificial intelligence technology focus area, by industry and company size: 2020

(Millions of U.S. dollars and number of companies)

Industry and company size	NAICS code	Domestic R&D		Artificial intelligence R&D											
		Companies ^a (number)	Amount	Total		Paid for by the company		Paid for by others							
				Companies ^a (number)	Amount	Companies ^a (number)	Amount	Companies ^a (number)	Amount						
All industries	21-23, 31-33, 42-81	30,360	537,619	3,580	i	20,644	i	3,270	i	18,613	i	490	i	2,030	i
Manufacturing industries	31-33	15,920	308,445	1,100	i	6,636		1,060	i	6,345		80		291	
Food	311	970	5,239	20		9		20		8		10		1	
Beverage and tobacco products	312	240	1,177	i	10	1		10		1		0		0	
Textile, apparel, and leather products	313-16	230	822		20	i	8		20	i	8		0		0
Wood products	321	130	187		0		0		0		0		0		0
Paper	322	100	928		10	*		10		*		0		0	
Printing and related support activities	323	220	283		10	i	2	i	10	i	2	i	0		0
Petroleum and coal products	324	100	1,311 - 1,324		10		1		10		1		0		0
Chemicals	325	2,550	101,079		50		450		50		444		10		6
Basic chemicals	3251	300	2,694		10		20		10		16		10		5
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	150	1,234		10		*		10		*		0		0
Pesticide, fertilizer, and other agricultural chemicals	3253	130	1,060 - 1,066		10		1		10		1		0		0
Pharmaceuticals and medicines	3254	1,230	91,776		30		417		30		417		0		0
Soap, cleaning compound, and toilet preparation	3256	370	2,665		0		0		0		0		0		0
Paint, coating, adhesive, and other chemicals	3255, 3259	400	1,643 - 1,649		10		11		10		10		10		1
Plastics and rubber products	326	1,040	2,634		20		12	i	20		12	i	0		0
Nonmetallic mineral products	327	240	1,717	i	20	i	28	i	20	i	28	i	0		0
Primary metals	331	270	815		10	i	*	i	10	i	*		10	i	* i
Fabricated metal products	332	2,270	3,396		30		23	i	30		23	i	0		0
Machinery	333	2,120	16,223		210	i	374	i	200	i	371	i	10		3 i
Agricultural implement	33311	160	1,769 - 1,811		20	i	58	i	20	i	58	i	0		0
Semiconductor machinery	333242	60	4,807		10		1		10		*		10		1
Engine, turbine, and power transmission equipment	3336	90	1,645		10	i	3	i	0		0		10	i	3 i
Other machinery	other 333	1,830	7,959 - 8,001		180	i	312		180	i	312		10		*
Computer and electronic products	334	2,220	99,535		340	i	3,497	i	320	i	3,384		40	i	113 i
Communications equipment	3342	400	12,103		50	i	80		50	i	80		10		*

TABLE 22
Companies with domestic R&D paid for by the company and others and performed by the company in the artificial intelligence technology focus area, by industry and company size: 2020

(Millions of U.S. dollars and number of companies)

Industry and company size	NAICS code	Domestic R&D		Artificial intelligence R&D											
		Companies ^a (number)	Amount	Total		Paid for by the company		Paid for by others							
				Companies ^a (number)	Amount	Companies ^a (number)	Amount	Companies ^a (number)	Amount						
Software publishers	5112	1,650	34,965	350	i	1,641	340	i	1,631	10	i	10			
Telecommunications	517	140	3,425 - 3,437	20		137	20		93 - 138	10		0 - 44			
Data processing, hosting, and related services	518	1,660	41,551	410		2,355	410		2,348	10	i	8			
Other information	other 51	350	49,449 - 49,463	40	i	1,655	40	i	1,611 - 1,656	10		0 - 44			
Finance and insurance	52	220	12,296	30		407	30		407	0		0			
Real estate and rental and leasing	53	60	3,249	10		0 - 1,263	10		0 - 1,263	0		0			
Lessors of nonfinancial intangible assets (except copyrighted works)	533	20	7	0		0	0		0	0		0			
Other real estate and rental and leasing	other 53	40	3,242	10		0 - 1,263	10		0 - 1,263	0		0			
Professional, scientific, and technical services	54	6,980	54,367	1,580	i	6,471	1,320	i	4,797	390	i	1,675			
Architectural, engineering, and related services	5413	1,390	4,214	170	i	150	90	i	60	100	i	91			
Computer systems design and related services	5415	2,780	17,935	880	i	1,635	830	i	1,291	110	i	344			
Scientific research and development services	5417	1,710	25,600	310	i	3,736	190	i	2,546	170	i	1,190			
Research and development in nanotechnology	541713	110	i	179	i	10	i	9	i	10	i	9	i	0	
Research and development in biotechnology (except nanobiotechnology)	541714	350	6,191	30	i	10 - 1,202	20	i	11	10	i	1,191			
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	1,250	18,539	280	i	2,525 - 3,717	170	i	2,526	160	i	1,191			
Research and development in the social sciences and humanities	541720	20	691	10		0 - 654	0		0	10		0 - 654			
Other professional, scientific, and technical services	other 54	1,110	6,618	230	i	950	220	i	900	20		50			
Health care services	621-23	620	1,477	20	i	37	20	i	37	0		0			
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	1,160	1,491 - 17,041	30		26	30		26	0		0			
All companies (number of domestic employees)	-	30,360	537,619	3,580	i	20,644	3,270	i	18,613	490	i	2,030			
Small companies															
10-19 ^b	-	5,110	5,047	830	i	462	710	i	414	180	i	48			
20-49	-	9,510	12,994	1,230	i	778	1,170	i	672	130	i	106			

TABLE 22
Companies with domestic R&D paid for by the company and others and performed by the company in the artificial intelligence technology focus area, by industry and company size: 2020

(Millions of U.S. dollars and number of companies)

Industry and company size	NAICS code	Domestic R&D		Artificial intelligence R&D									
				Total		Paid for by the company		Paid for by others					
		Companies ^a (number)	Amount	Companies ^a (number)	Amount	Companies ^a (number)	Amount	Companies ^a (number)	Amount				
Medium companies													
50–99	–	5,530	12,993	520	i 707	480	i 611	70	i 96				
100–249	–	4,950	25,411	470	i 3,272	430	i 3,070	60	i 202				
Large companies													
250–499	–	2,100	20,878	180	1,222	170	781	30	441				
500–999	–	1,280	21,264	110	849	100	784	20	65	i			
1,000–4,999	–	1,320	88,238	150	2,424	i 150	2,367	i 20	56				
5,000–9,999	–	260	48,397	50	1,437	i 50	1,214	20	223	i			
10,000–24,999	–	220	88,567	40	1,941	i 40	1,357	i 10	i 583	i			
25,000 or more	–	130	213,829	40	7,552	40	7,342	10	210				

* = amount < \$500,000; i = more than 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2017 North American Industry Classification System.

^a Beginning in survey year 2018, these statistics include an adjustment to the weight to account for unit nonresponse.

^b The Business Enterprise Research and Development Survey does not include companies with fewer than 10 domestic employees.

Note(s):

Detail may not add to total because of rounding. Industry classification is based on the dominant business code for domestic R&D performance, where available. For companies that did not report business codes, the classification used for sampling was assigned. Statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D and are not comparable with estimates published for years prior to 2018. Companies could report R&D in one, more than one, or no application area. An estimate range may be displayed in place of a single estimate to avoid disclosing operations of individual companies.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2020.