TABLE 61. Companies that introduced new or significantly improved processes, by industry, industry proportions, and company size: 2012-14
(Number and percent)

| Industry and NAICS code |  |  New or significantly <br> improved products or <br> Companies processes |  |  | Companies$\text { (number) }^{6}$ | New or significantly improved processes |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Any processes | Manufacturing or production methods |  | Logistics, delivery, or distribution methods |  | Support activities |  |
|  |  | (number) ${ }^{\text {a }}$ | Yes | No |  | Yes ${ }^{\text {c }}$ | $\mathrm{No}^{\text {d }}$ | Yes | No | Yes | No | Yes | No |
| All industries | 21-23, 31-33, 42-81 | 1,273,330 | 196,623 | 1,076,707 |  | 1,259,264 | 146,910 | 1,112,354 | 58,191 | 1,208,952 | 52,427 | 1,209,842 | 110,692 | 1,154,109 |
| Manufacturing industries | 31-33 | 104,217 | 33,391 | 70,826 | 103,367 | 24,985 | 78,382 | 18,914 | 84,906 | 7,241 | 96,251 | 14,919 | 88,614 |
| Food | 311 | 9,148 | 2,717 | 6,431 | 9,136 | 2,147 | 6,989 | 1,383 | 7,764 | 691 | 8,416 | 1,349 | 7,797 |
| Beverages and tobacco products | 312 | 1,809 | 665 | 1,144 | 1,799 | 476 | 1,323 | 311 | 1,498 | 198 | 1,605 | 346 | 1,459 |
| Textiles, apparel, and leather products | 313-316 | 4,006 | 1,064 | 2,943 | 3,988 | 904 | 3,084 | 546 | 3,457 | 381 | 3,615 | 542 | 3,440 |
| Wood products | 321 | 4,848 | 752 | 4,096 | 4,826 | 691 | 4,134 | 580 | 4,258 | 267 | 4,548 | 361 | 4,443 |
| Paper | 322 | 1,163 | 326 | 836 | 1,150 | 268 | 882 | 193 | 957 | 82 | 1,069 | 171 | 980 |
| Printing and related support activities | 323 | 8,080 | 1,846 | 6,234 | 8,070 | 1,627 | 6,443 | 1,155 | 6,924 | 410 | 7,641 | 940 | 7,132 |
| Petroleum and coal products | 324 | 393 | 144 | 249 | 393 | 81 | 312 | 77 | 316 | 21 | 373 | 38 | 356 |
| Chemicals | 325 | 5,022 | 2,043 | 2,979 | 4,965 | 1,333 | 3,631 | 978 | 4,036 | 391 | 4,608 | 945 | 4,029 |
| Basic chemicals | 3251 | 595 | 270 | 325 | 594 | 221 | 373 | 199 | 396 | 46 | 549 | 151 | 443 |
| Resins, synthetic rubber, and artificial synthetic fibers and filaments | 3252 | 472 | 160 | 312 | 471 | 131 | 340 | 93 | 378 | 30 | 441 | 73 | 398 |
| Pesticides, fertilizers, and other agricultural chemicals | 3253 | 264 | 82 | 183 | 249 | 69 | 180 | 50 | 214 | 13 | 252 | 48 | 201 |
| Pharmaceuticals and medicines | 3254 | 1,336 | 586 | 750 | 1,320 | 366 | 953 | 244 | 1,089 | 155 | 1,164 | 323 | 1,008 |
| Soaps, cleaning compounds, and toilet preparations | 3256 | 851 | 391 | 460 | 848 | 202 | 646 | 159 | 689 | 58 | 789 | 151 | 696 |
| Paints, coatings, adhesives, and other chemicals | 3255, 3259 | 1,504 | 555 | 950 | 1,484 | 345 | 1,139 | 233 | 1,270 | 90 | 1,414 | 200 | 1,283 |
| Plastics and rubber products | 326 | 5,082 | 1,717 | 3,365 | 5,056 | 1,385 | 3,672 | 1,153 | 3,923 | 347 | 4,730 | 777 | 4,284 |
| Nonmetallic mineral products | 327 | 4,476 | 1,057 | 3,420 | 4,431 | 860 | 3,570 | 565 | 3,855 | 174 | 4,252 | 455 | 3,978 |
| Primary metals | 331 | 1,715 | 400 | 1,315 | 1,692 | 331 | 1,362 | 239 | 1,454 | 92 | 1,599 | 217 | 1,476 |
| Fabricated metal products | 332 | 22,080 | 5,942 | 16,139 | 21,761 | 5,137 | 16,624 | 4,158 | 17,821 | 1,291 | 20,633 | 2,905 | 19,003 |
| Machinery | 333 | 10,759 | 4,427 | 6,332 | 10,701 | 2,771 | 7,930 | 2,319 | 8,419 | 563 | 10,076 | 1,463 | 9,178 |
| Agricultural implements | 33311 | 463 | 204 | 258 | 450 | 120 | 330 | 106 | 356 | 29 | 368 | 40 | 369 |
| Semiconductor machinery | 333295 | 96 | 83 | 13 | 96 | 17 | 79 | 16 | 80 | 10 | 86 | 6 | 90 |
| Engines, turbines, and power transmission equipment | 3336 | 346 | 91 | 255 | 345 | 65 | 280 | 57 | 289 | 27 | 317 | 46 | 298 |
| Other machinery | other 333 | 9,854 | 4,049 | 5,805 | 9,810 | 2,569 | 7,241 | 2,141 | 7,693 | 498 | 9,305 | 1,371 | 8,421 |
| Computer and electronic products | 334 | 5,146 | 2,823 | 2,323 | 5,060 | 1,735 | 3,325 | 1,159 | 3,908 | 453 | 4,627 | 1,100 | 4,019 |
| Communications equipment | 3342 | 616 | 367 | 249 | 614 | 190 | 424 | 102 | 512 | 90 | 524 | 104 | 510 |
| Semiconductors and other electronic components | 3344 | 1,707 | 785 | 922 | 1,638 | 595 | 1,042 | 458 | 1,184 | 169 | 1,527 | 328 | 1,370 |
| Navigational, measuring, electromedical, and control instruments | 3345 | 2,021 | 1,125 | 896 | 2,011 | 654 | 1,357 | 435 | 1,578 | 120 | 1,854 | 461 | 1,550 |
| Electromedical, electrotherapeutic, and irradiation apparatus | 334510, 334517 | 434 | 154 | 280 | 431 | 103 | 328 | 89 | 343 | 25 | 401 | 58 | 375 |
| Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments | 334511 | 209 | 59 | 149 | 209 | 39 | 169 | 36 | 172 | 19 | 188 | 22 | 186 |
| Other measuring and controlling devices | other 3345 | 1,378 | 911 | 467 | 1,371 | 511 | 860 | 310 | 1,063 | 75 | 1,264 | 381 | 989 |
| Other computer and electronic products | other 334 | 803 | 546 | 257 | 798 | 297 | 501 | 164 | 634 | 74 | 722 | 207 | 590 |
| Electrical equipment, appliances, and components | 335 | 2,884 | 1,485 | 1,399 | 2,861 | 1,019 | 1,841 | 861 | 2,015 | 417 | 2,456 | 693 | 2,171 |
| Transportation equipment | 336 | 4,018 | 1,637 | 2,380 | 4,001 | 1,259 | 2,741 | 1,069 | 2,939 | 364 | 3,628 | 695 | 3,291 |
| Automobiles, bodies, trailers, and parts | 3361-63 | 2,525 | 1,017 | 1,508 | 2,523 | 802 | 1,721 | 653 | 1,871 | 134 | 2,374 | 391 | 2,118 |
| Aerospace products and parts | 3364 | 739 | 288 | 451 | 726 | 228 | 499 | 220 | 513 | 124 | 608 | 185 | 541 |
| Aircraft, aircraft engines, and aircraft parts | 336411-13 | 714 | 274 | 440 | 701 | 218 | 484 | 213 | 495 | D | D | 180 | 521 |

TABLE 61. Companies that introduced new or significantly improved processes, by industry, industry proportions, and company size: 2012-14
(Number and percent)

| Industry and NAICS code |  | Companies $\left.\begin{array}{c}\text { New or significantly } \\ \text { improved products or } \\ \text { processes }\end{array}\right]$ |  |  | Companies (number) $^{\text {b }}$ | New or significantly improved processes |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Any processes | Manufacturing or production methods |  | Logistics, delivery, or distribution methods |  | Support activities |  |
|  |  | (number) ${ }^{\text {a }}$ | Yes | No |  | Yes ${ }^{\text {c }}$ | No ${ }^{\text {d }}$ | Yes | No | Yes | No | Yes | No |
| Guided missiles, space vehicles, and related parts | 336414-15, 336419 | 25 | 14 | 11 |  | 25 | 10 | 15 | 7 | 18 | D | D | 5 | 20 |
| Military armored vehicles, tanks, and tank components | 336992 | 64 | 11 | 53 | 64 | 8 | 56 | 6 | 58 | D | D | 6 | 58 |
| Other transportation | other 336 | 689 | 321 | 368 | 687 | 221 | 466 | 190 | 497 | D | D | 113 | 574 |
| Furniture and related products | 337 | 5,341 | 1,373 | 3,969 | 5,291 | 1,058 | 4,234 | 763 | 4,546 | 389 | 4,895 | 701 | 4,598 |
| Miscellaneous manufacturing | 339 | 8,247 | 2,974 | 5,272 | 8,186 | 1,901 | 6,285 | 1,405 | 6,818 | 709 | 7,481 | 1,222 | 6,980 |
| Medical equipment and supplies | 3391 | 2,649 | 1,149 | 1,501 | 2,619 | 820 | 1,799 | 607 | 2,018 | 355 | 2,266 | 537 | 2,083 |
| Other miscellaneous manufacturing | 3399 | 5,597 | 1,826 | 3,771 | 5,567 | 1,081 | 4,486 | 798 | 4,800 | 354 | 5,215 | 685 | 4,897 |
| Nonmanufacturing industries | 21-23, 42-81 | 1,169,113 | 163,232 | 1,005,881 | 1,155,897 | 121,925 | 1,033,972 | 39,277 | 1,124,046 | 45,186 | 1,113,591 | 95,772 | 1,065,496 |
| Mining, extraction, and support activities | 21 | 6,884 | 682 | 6,202 | 6,776 | 533 | 6,243 | 351 | 6,530 | 278 | 6,596 | 349 | 6,437 |
| Utilities | 22 | 865 | 129 | 736 | 824 | 121 | 704 | 45 | 780 | 9 | 814 | 118 | 708 |
| Wholesale trade | 42 | 87,724 | 18,365 | 69,358 | 86,800 | 13,354 | 73,446 | 5,735 | 81,528 | 6,411 | 80,724 | 9,817 | 76,980 |
| Electronic shopping and electronic auctions | 454111-12 | 3,182 | 718 | 2,464 | 3,128 | 570 | 2,558 | 326 | 2,796 | 419 | 2,763 | 393 | 2,786 |
| Transportation and warehousing | 48-49 | 36,759 | 4,636 | 32,123 | 36,754 | 4,329 | 32,425 | 268 | 36,238 | 3,266 | 33,242 | 2,328 | 34,179 |
| Information | 51 | 18,082 | 5,974 | 12,108 | 17,955 | 3,786 | 14,169 | 1,505 | 16,507 | 2,106 | 15,864 | 2,391 | 15,651 |
| Publishing | 511 | 6,559 | 2,160 | 4,399 | 6,474 | 1,368 | 5,106 | 737 | 5,755 | 735 | 5,743 | 904 | 5,650 |
| Newspaper, periodical, book, and directory publishers | 5111 | 4,170 | 564 | 3,606 | 4,105 | 367 | 3,738 | 202 | 3,902 | 168 | 3,937 | 153 | 4,017 |
| Software publishers | 5112 | 2,389 | 1,596 | 793 | 2,369 | 1,001 | 1,368 | 535 | 1,853 | 567 | 1,805 | 751 | 1,633 |
| Telecommunications | 517 | 2,980 | 1,058 | 1,922 | 2,979 | 591 | 2,388 | 184 | 2,796 | 446 | 2,532 | 315 | 2,664 |
| Data processing, hosting, and related services | 518 | 2,884 | 1,347 | 1,537 | 2,881 | 893 | 1,988 | 376 | 2,507 | 399 | 2,482 | 724 | 2,158 |
| Other information | other 51 | 5,659 | 1,408 | 4,251 | 5,621 | 933 | 4,687 | 207 | 5,449 | 527 | 5,107 | 447 | 5,179 |
| Finance and insurance | 52 | 40,875 | 6,080 | 34,795 | 40,821 | 5,506 | 35,315 | 1,783 | 39,089 | 2,095 | 38,726 | 4,740 | 36,132 |
| Real estate and rental and leasing | 53 | 37,481 | 3,133 | 34,349 | 37,230 | 2,372 | 34,858 | 494 | 36,738 | 1,251 | 36,230 | 2,103 | 35,376 |
| Lessors of nonfinancial intangible assets (except copyrighted works) | 533 | 296 | 249 | 47 | 295 | 247 | 48 | 237 | 59 | 235 | 61 | 244 | 51 |
| Other real estate and rental and leasing | other 53 | 37,185 | 2,884 | 34,302 | 36,935 | 2,125 | 34,810 | 257 | 36,679 | 1,016 | 36,169 | 1,859 | 35,325 |
| Professional, scientific, and technical services | 54 | 142,038 | 26,143 | 115,895 | 141,000 | 18,214 | 122,786 | 6,492 | 134,906 | 5,070 | 135,701 | 13,858 | 127,563 |
| Architectural, engineering, and related services | 5413 | 23,451 | 4,699 | 18,752 | 23,260 | 3,107 | 20,153 | 1,706 | 21,738 | 938 | 22,305 | 1,999 | 21,324 |
| Computer systems design and related services | 5415 | 19,947 | 7,349 | 12,598 | 19,737 | 4,446 | 15,291 | 1,786 | 18,100 | 1,623 | 18,097 | 3,540 | 16,294 |
| Scientific R\&D services | 5417 | 2,650 | 1,161 | 1,489 | 2,633 | 652 | 1,982 | 491 | 2,150 | 182 | 2,455 | 373 | 2,263 |
| Biotechnology R\&D | 541711 | 612 | 334 | 278 | 610 | 156 | 454 | 124 | 486 | 53 | 557 | 97 | 514 |
| Physical, engineering, and life sciences (except biotechnology) R\&D | 541712 | 1,846 | 782 | 1,064 | 1,833 | 459 | 1,373 | 347 | 1,491 | 112 | 1,723 | 252 | 1,582 |
| Social sciences and humanities R\&D | 541720 | 192 | 46 | 146 | 191 | 37 | 154 | 19 | 173 | 17 | 175 | 24 | 167 |
| Other professional, scientific, and technical services | other 54 | 95,989 | 12,933 | 83,056 | 95,369 | 10,009 | 85,359 | 2,508 | 92,918 | 2,327 | 92,844 | 7,946 | 87,681 |
| Health care services | 621-23 | 158,299 | 27,427 | 130,873 | 155,996 | 21,252 | 134,744 | 5,699 | 151,843 | 7,738 | 148,558 | 18,665 | 138,575 |
| Other nonmanufacturing | $\begin{array}{r} 23,44-45 \text { (excluding } \\ 454111-12), 55-56, \\ 624,71-72,81 \end{array}$ | 636,924 | 69,947 | 566,977 | 628,615 | 51,889 | 576,726 | 16,578 | 617,091 | 16,543 | 614,373 | 41,010 | 591,110 |
| All companies (number of domestic employees) | - | 1,273,330 | 196,623 | 1,076,707 | 1,259,264 | 146,910 | 1,112,354 | 58,191 | 1,208,952 | 52,427 | 1,209,842 | 110,692 | 1,154,109 |
| Small companies ${ }^{\text {e }}$ 5-499 | - | 1,263,029 | 194,201 | 1,068,828 | 1,249,247 | 145,001 | 1,104,246 | 57,138 | 1,199,977 | 51,581 | 1,200,672 | 109,324 | 1,145,466 |

TABLE 61. Companies that introduced new or significantly improved processes, by industry, industry proportions, and company size: 2012-14
(Number and percent)

| Industry and NAICS code |  | Companies (number) $^{a}$ | New or significantly improved products or processes |  | Companies (number) $^{\text {b }}$ | New or significantly improved processes |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Any processes | Manufacturing or production methods |  | Logistics, delivery, or distribution methods |  | Support activities |  |
|  |  |  | Yes | No |  | Yes ${ }^{\text {c }}$ | No ${ }^{\text {d }}$ | Yes | No | Yes | No | Yes | No |
| 5-99 | - | 1,210,710 | 184,337 | 1,026,373 |  | 1,197,394 | 137,875 | 1,059,519 | 53,788 | 1,151,114 | 49,094 | 1,151,228 | 103,907 | 1,098,654 |
| 5-49 | - | 1,133,128 | 169,508 | 963,619 | 1,120,633 | 126,315 | 994,318 | 48,073 | 1,079,530 | 44,200 | 1,079,919 | 95,392 | 1,029,930 |
| 5-9 | - | 495,222 | 66,263 | 428,959 | 489,658 | 50,248 | 439,410 | 17,100 | 475,199 | 17,291 | 473,269 | 38,582 | 453,305 |
| 10-24 | - | 463,289 | 72,785 | 390,503 | 458,372 | 54,520 | 403,852 | 22,605 | 438,587 | 19,725 | 440,475 | 40,348 | 419,525 |
| 25-49 | - | 174,616 | 30,460 | 144,156 | 172,603 | 21,547 | 151,056 | 8,369 | 165,745 | 7,185 | 166,174 | 16,461 | 157,100 |
| 50-99 | - | 77,583 | 14,829 | 62,754 | 76,761 | 11,560 | 65,201 | 5,715 | 71,584 | 4,893 | 71,309 | 8,515 | 68,724 |
| 100-249 | - | 41,903 | 7,412 | 34,491 | 41,482 | 5,541 | 35,941 | 2,489 | 39,347 | 1,990 | 39,576 | 4,267 | 37,590 |
| 250-499 | - | 10,415 | 2,452 | 7,963 | 10,371 | 1,585 | 8,786 | 862 | 9,516 | 498 | 9,868 | 1,150 | 9,222 |
| Medium and large companies |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 500-999 | - | 4,995 | 1,057 | 3,937 | 4,738 | 871 | 3,867 | 429 | 4,311 | 272 | 4,460 | 598 | 4,137 |
| 1,000-4,999 | - | 4,218 | 934 | 3,285 | 4,200 | 726 | 3,474 | 379 | 3,829 | 351 | 3,852 | 513 | 3,685 |
| 5,000-9,999 |  | 380 | 136 | 244 | 378 | 108 | 270 | 82 | 297 | 63 | 316 | 81 | 296 |
| 10,000-24,999 | - | 522 | 226 | 295 | 517 | 145 | 372 | 111 | 406 | 113 | 405 | 126 | 392 |
| 25,000 or more | - | 186 | 68 | 118 | 183 | 58 | 125 | 52 | 132 | 46 | 137 | 49 | 133 |
| Industry and NAICS code |  | Industry proportions |  |  |  |  |  |  |  |  |  |  |  |
|  |  | New or significantly <br> improved products or <br> Companiesprocesses (percent) |  |  | Companies (number) ${ }^{\text {b }}$ | New or significantly improved processes (percent) ${ }^{\text {f }}$ |  |  |  |  |  |  |  |
|  |  | Any processes | Manufacturing or production methods |  |  | Logistics, delivery, or distribution methods |  | Support activities |  |
|  |  | (number) ${ }^{\text {a }}$ | Yes | No |  | Yes | No | Yes | No | Yes | No | Yes | No |
| All industries | 21-23, 31-33, 42-81 |  |  |  | 1,273,330 | 15.4 | 84.6 | 1,259,264 | 11.7 | 88.3 | 4.6 | 96.0 | 4.2 | 96.1 | 8.8 | 91.6 |
| Manufacturing industries | 31-33 | 104,217 | 32.0 | 68 | 103,367 | 24.2 | 75.8 | 18.3 | 82.1 | 7.0 | 93.1 | 14.4 | 85.7 |
| Food | 311 | 9,148 | 29.7 | 70.3 | 9,136 | 23.5 | 76.5 | 15.1 | 85.0 | 7.6 | 92.1 | 14.8 | 85.3 |
| Beverages and tobacco products | 312 | 1,809 | 36.8 | 63.2 | 1,799 | 26.5 | 73.5 | 17.3 | 83.3 | 11.0 | 89.2 | 19.2 | 81.1 |
| Textiles, apparel, and leather products | 313-16 | 4,006 | 26.6 | 73.4 | 3,988 | 22.7 | 77.3 | 13.7 | 86.7 | 9.6 | 90.7 | 13.6 | 86.3 |
| Wood products | 321 | 4,848 | 15.5 | 84.5 | 4,826 | 14.3 | 85.7 | 12.0 | 88.2 | 5.5 | 94.2 | 7.5 | 92.1 |
| Paper | 322 | 1,163 | 28.1 | 71.9 | 1,150 | 23.3 | 76.7 | 16.8 | 83.2 | 7.1 | 92.9 | 14.8 | 85.2 |
| Printing and related support activities | 323 | 8,080 | 22.8 | 77.2 | 8,070 | 20.2 | 79.8 | 14.3 | 85.8 | 5.1 | 94.7 | 11.7 | 88.4 |
| Petroleum and coal products | 324 | 393 | 36.7 | 63.3 | 393 | 20.7 | 79.3 | 19.6 | 80.4 | 5.3 | 94.7 | 9.6 | 90.4 |
| Chemicals | 325 | 5,022 | 40.7 | 59.3 | 4,965 | 26.9 | 73.1 | 19.7 | 81.3 | 7.9 | 92.8 | 19.0 | 81.2 |
| Basic chemicals | 3251 | 595 | 45.4 | 54.6 | 594 | 37.2 | 62.8 | 33.5 | 66.7 | 7.7 | 92.5 | 25.4 | 74.6 |
| Resins, synthetic rubber, and artificial synthetic fibers and filaments | 3252 | 472 | 33.9 | 66.1 | 471 | 27.9 | 72.1 | 19.7 | 80.3 | 6.5 | 93.7 | 15.5 | 84.5 |
| Pesticides, fertilizers, and other agricultural chemicals | 3253 | 264 | 30.9 | 69.1 | 249 | 27.6 | 72.4 | 20.1 | 86.1 | 5.1 | 101.1 | 19.4 | 80.6 |
| Pharmaceuticals and medicines | 3254 | 1,336 | 43.9 | 56.1 | 1,320 | 27.7 | 72.3 | 18.5 | 82.5 | 11.7 | 88.2 | 24.5 | 76.4 |
| Soaps, cleaning compounds, and toilet preparations | 3256 | 851 | 45.9 | 54.1 | 848 | 23.8 | 76.2 | 18.8 | 81.3 | 6.8 | 93.0 | 17.8 | 82.1 |
| Paints, coatings, adhesives, and other chemicals | 3255, 3259 | 1,504 | 36.9 | 63.1 | 1,484 | 23.2 | 76.8 | 15.7 | 85.6 | 6.0 | 95.3 | 13.4 | 86.5 |
| Plastics and rubber products | 326 | 5,082 | 33.8 | 66.2 | 5,056 | 27.4 | 72.6 | 22.8 | 77.6 | 6.9 | 93.5 | 15.4 | 84.7 |
| Nonmetallic mineral products | 327 | 4,476 | 23.6 | 76.4 | 4,431 | 19.4 | 80.6 | 12.8 | 87.0 | 3.9 | 96.0 | 10.3 | 89.8 |
| Primary metals | 331 | 1,715 | 23.3 | 76.7 | 1,692 | 19.6 | 80.4 | 14.1 | 85.9 | 5.4 | 94.5 | 12.8 | 87.2 |
| Fabricated metal products | 332 | 22,080 | 26.9 | 73.1 | 21,761 | 23.6 | 76.4 | 19.1 | 81.9 | 5.9 | 94.8 | 13.4 | 87.3 |
| Machinery | 333 | 10,759 | 41.2 | 58.8 | 10,701 | 25.9 | 74.1 | 21.7 | 78.7 | 5.3 | 94.2 | 13.7 | 85.8 |

TABLE 61. Companies that introduced new or significantly improved processes, by industry, industry proportions, and company size: 2012-14
(Number and percent)

| Industry and NAICS code |  | Industry proportions |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  New or significantly <br> improved products or <br> Companies  <br> processes (percent)  |  |  | Companies (number) ${ }^{\text {b }}$ | New or significantly improved processes (percent) ${ }^{\text {f }}$ |  |  |  |  |  |  |  |
|  |  |  |  |  | Any processes | Manufacturing or production methods |  | Logistics, delivery, or distribution methods |  | Support activities |  |
|  |  | (number) ${ }^{\text {a }}$ | Yes | No |  | Yes | No | Yes | No | Yes | No | Yes | No |
| Agricultural implements | 33311 | 463 | 44.2 | 55.8 |  | 450 | 26.8 | 73.2 | 23.5 | 79.2 | 6.4 | 81.7 | 8.8 | 81.9 |
| Semiconductor machinery | 333295 | 96 | 86.5 | 13.5 | 96 | 17.5 | 82.5 | 16.4 | 83.6 | 10.6 | 89.4 | 6.2 | 93.8 |
| Engines, turbines, and power transmission equipment | 3336 | 346 | 26.2 | 73.8 | 345 | 18.8 | 81.2 | 16.5 | 83.8 | 7.7 | 92.1 | 13.2 | 86.3 |
| Other machinery | other 333 | 9,854 | 41.1 | 58.9 | 9,810 | 26.2 | 73.8 | 21.8 | 78.4 | 5.1 | 94.9 | 14.0 | 85.8 |
| Computer and electronic products | 334 | 5,146 | 54.9 | 45.1 | 5,060 | 34.3 | 65.7 | 22.9 | 77.2 | 9.0 | 91.4 | 21.7 | 79.4 |
| Communications equipment | 3342 | 616 | 59.6 | 40.4 | 614 | 30.9 | 69.1 | 16.6 | 83.4 | 14.6 | 85.4 | 16.9 | 83.1 |
| Semiconductors and other electronic components | 3344 | 1,707 | 46.0 | 54.0 | 1,638 | 36.3 | 63.7 | 28.0 | 72.3 | 10.3 | 93.3 | 20.0 | 83.6 |
| Navigational, measuring, electromedical, and control instruments | 3345 | 2,021 | 55.7 | 44.3 | 2,011 | 32.5 | 67.5 | 21.6 | 78.5 | 6.0 | 92.2 | 22.9 | 77.1 |
| Electromedical, electrotherapeutic, and irradiation apparatus | 334510, 334517 | 434 | 35.6 | 64.4 | 431 | 23.9 | 76.1 | 20.6 | 79.6 | 5.8 | 93.1 | 13.3 | 86.9 |
| Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments | 334511 | 209 | 28.3 | 71.7 | 209 | 18.9 | 81.1 | 17.5 | 82.5 | 9.2 | 90.3 | 10.7 | 89.3 |
| Other measuring and controlling devices | other 3345 | 1,378 | 66.1 | 33.9 | 1,371 | 37.3 | 62.7 | 22.6 | 77.5 | 5.5 | 92.2 | 27.8 | 72.1 |
| Other computer and electronic products | other 334 | 803 | 68.1 | 31.9 | 798 | 37.2 | 62.8 | 20.6 | 79.5 | 9.3 | 90.5 | 25.9 | 74.0 |
| Electrical equipment, appliances, and components | 335 | 2,884 | 51.5 | 48.5 | 2,861 | 35.6 | 64.4 | 30.1 | 70.4 | 14.6 | 85.8 | 24.2 | 75.9 |
| Transportation equipment | 336 | 4,018 | 40.8 | 59.2 | 4,001 | 31.5 | 68.5 | 26.7 | 73.5 | 9.1 | 90.7 | 17.4 | 82.3 |
| Automobiles, bodies, trailers, and parts | 3361-63 | 2,525 | 40.3 | 59.7 | 2,523 | 31.8 | 68.2 | 25.9 | 74.2 | 5.3 | 94.1 | 15.5 | 83.9 |
| Aerospace products and parts | 3364 | 739 | 39.0 | 61.0 | 726 | 31.3 | 68.7 | 30.2 | 70.6 | 17.1 | 83.7 | 25.4 | 74.6 |
| Aircraft, aircraft engines, and aircraft parts | 336411-13 | 714 | 38.4 | 61.6 | 701 | 31.0 | 69.0 | 30.3 | 70.5 | D | D | 25.6 | 74.4 |
| Guided missiles, space vehicles, and related parts | 336414-15, 336419 | 25 | 56.0 | 44.0 | 25 | 40.0 | 60.0 | 28.0 | 72.0 | D | D | 20.0 | 80.0 |
| Military armored vehicles, tanks, and tank components | 336992 | 64 | 17.4 | 82.6 | 64 | 12.7 | 87.3 | 9.6 | 90.4 | D | D | 9.6 | 90.4 |
| Other transportation | other 336 | 689 | 46.6 | 53.4 | 687 | 32.2 | 67.8 | 27.7 | 72.3 | D | D | 16.5 | 83.5 |
| Furniture and related products | 337 | 5,341 | 25.7 | 74.3 | 5,291 | 20.0 | 80.0 | 14.4 | 85.9 | 7.4 | 92.5 | 13.3 | 86.9 |
| Miscellaneous manufacturing | 339 | 8,247 | 36.1 | 63.9 | 8,186 | 23.2 | 76.8 | 17.2 | 83.3 | 8.7 | 91.4 | 14.9 | 85.3 |
| Medical equipment and supplies | 3391 | 2,649 | 43.4 | 56.6 | 2,619 | 31.3 | 68.7 | 23.2 | 77.1 | 13.6 | 86.5 | 20.5 | 79.5 |
| Other miscellaneous manufacturing | 3399 | 5,597 | 32.6 | 67.4 | 5,567 | 19.4 | 80.6 | 14.3 | 86.2 | 6.4 | 93.7 | 12.3 | 88.0 |
| Nonmanufacturing industries | 21-23, 42-81 | 1,169,113 | 14.0 | 86.0 | 1,155,897 | 10.5 | 89.5 | 3.4 | 97.2 | 3.9 | 96.3 | 8.3 | 92.2 |
| Mining, extraction, and support activities | 21 | 6,884 | 9.9 | 90.1 | 6,776 | 7.9 | 92.1 | 5.2 | 96.4 | 4.1 | 97.3 | 5.1 | 95.0 |
| Utilities | 22 | 865 | 14.9 | 85.1 | 824 | 14.6 | 85.4 | 5.5 | 94.7 | 1.1 | 98.8 | 14.3 | 85.9 |
| Wholesale trade | 42 | 87,724 | 20.9 | 79.1 | 86,800 | 15.4 | 84.6 | 6.6 | 93.9 | 7.4 | 93.0 | 11.3 | 88.7 |
| Electronic shopping and electronic auctions | 454111-12 | 3,182 | 22.6 | 77.4 | 3,128 | 18.2 | 81.8 | 10.4 | 89.4 | 13.4 | 88.3 | 12.6 | 89.1 |
| Transportation and warehousing | 48-49 | 36,759 | 12.6 | 87.4 | 36,754 | 11.8 | 88.2 | 0.7 | 98.6 | 8.9 | 90.4 | 6.3 | 93.0 |
| Information | 51 | 18,082 | 33.0 | 67.0 | 17,955 | 21.1 | 78.9 | 8.4 | 91.9 | 11.7 | 88.4 | 13.3 | 87.2 |
| Publishing | 511 | 6,559 | 32.9 | 67.1 | 6,474 | 21.1 | 78.9 | 11.4 | 88.9 | 11.4 | 88.7 | 14.0 | 87.3 |
| Newspaper, periodical, book, and directory publishers | 5111 | 4,170 | 13.5 | 86.5 | 4,105 | 8.9 | 91.1 | 4.9 | 95.1 | 4.1 | 95.9 | 3.7 | 97.9 |
| Software publishers | 5112 | 2,389 | 66.8 | 33.2 | 2,369 | 42.3 | 57.7 | 22.6 | 78.2 | 24.0 | 76.2 | 31.7 | 68.9 |
| Telecommunications | 517 | 2,980 | 35.5 | 64.5 | 2,979 | 19.8 | 80.2 | 6.2 | 93.8 | 15.0 | 85.0 | 10.6 | 89.4 |
| Data processing, hosting, and related services | 518 | 2,884 | 46.7 | 53.3 | 2,881 | 31.0 | 69.0 | 13.1 | 87.0 | 13.8 | 86.2 | 25.1 | 74.9 |
| Other information | other 51 | 5,659 | 24.9 | 75.1 | 5,621 | 16.6 | 83.4 | 3.7 | 96.9 | 9.4 | 90.9 | 8.0 | 92.1 |
| Finance and insurance | 52 | 40,875 | 14.9 | 85.1 | 40,821 | 13.5 | 86.5 | 4.4 | 95.8 | 5.1 | 94.9 | 11.6 | 88.5 |

TABLE 61. Companies that introduced new or significantly improved processes, by industry, industry proportions, and company size: 2012-14
(Number and percent)

| Industry and NAICS code |  | Industry proportions |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Companies(number) $^{\text {a }}$ | New or significantly improved products or processes (percent) |  | Companies (number) $^{b}$ | New or significantly improved processes (percent) ${ }^{\dagger}$ |  |  |  |  |  |  |  |
|  |  |  |  |  | Any processes | Manufacturing or production methods |  | Logistics, delivery, or distribution methods |  | Support activities |  |
|  |  |  | Yes | No |  | Yes | No | Yes | No | Yes | No | Yes | No |
| Real estate and rental and leasing | 53 | 37,481 | 8.4 | 91.6 |  | 37,230 | 6.4 | 93.6 | 1.3 | 98.7 | 3.4 | 97.3 | 5.6 | 95.0 |
| Lessors of nonfinancial intangible assets (except copyrighted works) | 533 | 296 | 84.1 | 15.9 | 295 | 83.7 | 16.3 | 80.3 | 20.0 | 79.7 | 20.7 | 82.7 | 17.3 |
| Other real estate and rental and leasing | other 53 | 37,185 | 7.8 | 92.2 | 36,935 | 5.8 | 94.2 | 0.7 | 99.3 | 2.8 | 97.9 | 5.0 | 95.6 |
| Professional, scientific, and technical services | 54 | 142,038 | 18.4 | 81.6 | 141,000 | 12.9 | 87.1 | 4.6 | 95.7 | 3.6 | 96.2 | 9.8 | 90.5 |
| Architectural, engineering, and related services | 5413 | 23,451 | 20.0 | 80.0 | 23,260 | 13.4 | 86.6 | 7.3 | 93.5 | 4.0 | 95.9 | 8.6 | 91.7 |
| Computer systems design and related services | 5415 | 19,947 | 36.8 | 63.2 | 19,737 | 22.5 | 77.5 | 9.1 | 91.7 | 8.2 | 91.7 | 17.9 | 82.6 |
| Scientific R\&D services | 5417 | 2,650 | 43.8 | 56.2 | 2,633 | 24.7 | 75.3 | 18.6 | 81.7 | 6.9 | 93.2 | 14.2 | 85.9 |
| Biotechnology R\&D | 541711 | 612 | 54.5 | 45.5 | 610 | 25.5 | 74.5 | 20.4 | 79.8 | 8.7 | 91.3 | 15.9 | 84.3 |
| Physical, engineering, and life sciences (except biotechnology) R\&D | 541712 | 1,846 | 42.4 | 57.6 | 1,833 | 25.1 | 74.9 | 19.0 | 81.4 | 6.1 | 94.0 | 13.8 | 86.3 |
| Social sciences and humanities R\&D | 541720 | 192 | 23.8 | 76.2 | 191 | 19.2 | 80.8 | 10.1 | 90.4 | 8.9 | 91.6 | 12.5 | 87.5 |
| Other professional, scientific, and technical services | other 54 | 95,989 | 13.5 | 86.5 | 95,369 | 10.5 | 89.5 | 2.6 | 97.4 | 2.4 | 97.4 | 8.3 | 91.9 |
| Health care services | 621-23 | 158,299 | 17.3 | 82.7 | 155,996 | 13.6 | 86.4 | 3.7 | 97.3 | 5.0 | 95.2 | 12.0 | 88.8 |
| Other nonmanufacturing | 23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81 | 636,924 | 11.0 | 89.0 | 628,615 | 8.3 | 91.7 | 2.6 | 98.2 | 2.6 | 97.7 | 6.5 | 94.0 |
| All companies (number of domestic employees) | - | 1,273,330 | 15.4 | 84.6 | 1,259,264 | 11.7 | 88.3 | 4.6 | 96.0 | 4.2 | 96.1 | 8.8 | 91.6 |
| Small companies ${ }^{\text {e }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5-499 | - | 1,263,029 | 15.4 | 84.6 | 1,249,247 | 11.6 | 88.4 | 4.6 | 96.1 | 4.1 | 96.1 | 8.8 | 91.7 |
| 5-99 | - | 1,210,710 | 15.2 | 84.8 | 1,197,394 | 11.5 | 88.5 | 4.5 | 96.1 | 4.1 | 96.1 | 8.7 | 91.8 |
| 5-49 | - | 1,133,128 | 15.0 | 85.0 | 1,120,633 | 11.3 | 88.7 | 4.3 | 96.3 | 3.9 | 96.4 | 8.5 | 91.9 |
| 5-9 | - | 495,222 | 13.4 | 86.6 | 489,658 | 10.3 | 89.7 | 3.5 | 97.0 | 3.5 | 96.7 | 7.9 | 92.6 |
| 10-24 | - | 463,289 | 15.7 | 84.3 | 458,372 | 11.9 | 88.1 | 4.9 | 95.7 | 4.3 | 96.1 | 8.8 | 91.5 |
| 25-49 | - | 174,616 | 17.4 | 82.6 | 172,603 | 12.5 | 87.5 | 4.8 | 96.0 | 4.2 | 96.3 | 9.5 | 91.0 |
| 50-99 | - | 77,583 | 19.1 | 80.9 | 76,761 | 15.1 | 84.9 | 7.4 | 93.3 | 6.4 | 92.9 | 11.1 | 89.5 |
| 100-249 | - | 41,903 | 17.7 | 82.3 | 41,482 | 13.4 | 86.6 | 6.0 | 94.9 | 4.8 | 95.4 | 10.3 | 90.6 |
| 250-499 | - | 10,415 | 23.5 | 76.5 | 10,371 | 15.3 | 84.7 | 8.3 | 91.8 | 4.8 | 95.2 | 11.1 | 88.9 |
| Medium and large companies |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 500-999 | - | 4,995 | 21.2 | 78.8 | 4,738 | 18.4 | 81.6 | 9.1 | 91.0 | 5.7 | 94.1 | 12.6 | 87.3 |
| 1,000-4,999 | - | 4,218 | 22.1 | 77.9 | 4,200 | 17.3 | 82.7 | 9.0 | 91.2 | 8.3 | 91.7 | 12.2 | 87.7 |

TABLE 61. Companies that introduced new or significantly improved processes, by industry, industry proportions, and company size: 2012-14
(Number and percent)

| Industry and NAICS code | Industry proportions |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | CompaniesNew or significantly <br> improved products or <br> processes (percent) |  |  |  | Companies (number) $^{\text {b }}$ | New or significantly improved processes (percent) ${ }^{\text {f }}$ |  |  |  |  |  |  |  |
|  |  |  |  |  | Any processes | Manufacturing or production methods |  | Logistics, delivery, or distribution methods |  | Support activities |  |
|  |  | (number) ${ }^{\text {a }}$ | Yes | No |  | Yes | No | Yes | No | Yes | No | Yes | No |
| 5,000-9,999 | - | 380 | 35.9 | 64.1 |  | 378 | 28.6 | 71.4 | 21.7 | 78.6 | 16.8 | 83.5 | 21.4 | 78.3 |
| 10,000-24,999 | - | 522 | 43.4 | 56.6 | 517 | 28.1 | 71.9 | 21.4 | 78.6 | 21.9 | 78.3 | 24.4 | 75.8 |
| 25,000 or more | - | 186 | 36.6 | 63.4 | 183 | 31.8 | 68.2 | 28.5 | 72.0 | 25.1 | 74.9 | 26.8 | 72.7 |

$\mathrm{D}=$ data withheld to avoid disclosing operations of individual companies.
NAICS $=2012$ North American Industry Classification System.
${ }^{\text {a }}$ Statistics for the number of companies are based only on companies in the United States that reported data for at least one of the items on the survey relating to new or significantly improved products or processes, regardless of whether the company performed or funded R\&D. These statistics do not include an adjustment to the weight to account for unit nonresponse.
${ }^{\text {b }}$ Statistics for the number of companies are based only on companies in the United States responding either "Yes" to at least one of the items or "No" to all of the items on the survey relating to new or significantly improved processes, regardless of whether the company performed or funded $R \& D$. These statistics do not include an adjustment to the weight to account for unit nonresponse.
${ }^{\text {c }}$ Includes companies responding "Yes" to at least one of the items on the survey relating to new or significantly improved processes.
${ }^{\text {d }}$ Includes companies responding "No" to all of the items on the survey relating to new or significantly improved processes.
${ }^{e}$ Upper bound is based on the U.S. Small Business Administration's definition of a small business; the Business R\&D and Innovation Survey does not include companies with fewer than five domestic employees.
${ }^{\text {f }}$ Statistics used for the denominator in the calculation of these percentages include companies in the United States responding either "Yes" to at least one of the items or "No" to all of the items on the survey relating to new or significantly improved processes, regardless of whether the company performed or funded R\&D. These statistics do not include an adjustment to the weight to account for unit nonresponse.

NOTES: 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 classiication used for sampling was assigned. The sum of "Yes" and "No" responses may not add to the total number of companies or, for the percentages, to $100 \%$ due to item nonresponse to some items relating to new or significantly improved products or processes.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, and U.S. Census Bureau, Business R\&D and Innovation Survey, 2014.

