



# NATIONAL SCIENCE BOARD SCIENCE & ENGINEERING INDICATORS 2022



## Industry Activities

### Production and Trade of Knowledge- and Technology-Intensive Industries

#### Supplemental Tables

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This publication is part of the *Science and Engineering Indicators* suite of reports. *Indicators* is a congressionally mandated report on the state of the U.S. science and engineering enterprise. It is policy relevant and policy neutral. *Indicators* is prepared under the guidance of the National Science Board by the National Center for Science and Engineering Statistics, a federal statistical agency within the National Science Foundation. With the 2020 edition, *Indicators* is changing from a single report to a set of disaggregated and streamlined reports published on a rolling basis. Detailed data tables will continue to be available online.



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U.S. KTI industry value added: 2002–20

(Billions of dollars and percent share)

| Industry                                       | ISIC, Rev.4,<br>industry code | 2002     | 2003     | 2004     | 2005     | 2006     | 2007     | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | 2014     | 2015     | 2016     | 2017     | 2018     | 2019     | 2020     |
|------------------------------------------------|-------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Billions of dollars                            |                               |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
| Gross domestic product                         |                               | 10,929.1 | 11,456.5 | 12,217.2 | 13,039.2 | 13,815.6 | 14,474.2 | 14,769.9 | 14,478.1 | 15,049.0 | 15,599.7 | 16,254.0 | 16,843.2 | 17,550.7 | 18,206.0 | 18,695.1 | 19,479.6 | 20,527.2 | 21,372.6 | 20,893.7 |
| All KTI industries                             |                               | 1,052.6  | 1,096.6  | 1,152.8  | 1,202.6  | 1,294.7  | 1,350.3  | 1,376.2  | 1,356.6  | 1,484.1  | 1,570.1  | 1,622.6  | 1,709.1  | 1,782.2  | 1,883.5  | 1,960.0  | 2,058.0  | 2,209.2  | 2,336.2  | 2,387.0  |
| Manufacturing                                  |                               | 752.3    | 784.4    | 812.5    | 842.0    | 909.8    | 944.7    | 925.1    | 891.4    | 975.7    | 1,007.7  | 1,033.5  | 1,076.6  | 1,107.0  | 1,149.3  | 1,170.2  | 1,210.8  | 1,268.3  | 1,301.7  | 1,272.8  |
| Chemicals and chemical products                | 20                            | 110.4    | 110.1    | 121.1    | 119.2    | 135.9    | 144.8    | 141.6    | 144.2    | 172.1    | 175.5    | 181.0    | 188.4    | 190.1    | 185.6    | 198.6    | 200.8    | 210.3    | 208.6    | 199.5    |
| Pharmaceuticals                                | 21                            | 97.4     | 100.6    | 105.7    | 103.8    | 117.9    | 123.1    | 124.1    | 143.8    | 131.2    | 130.5    | 124.0    | 133.1    | 140.0    | 147.6    | 158.4    | 162.1    | 165.5    | 182.4    | 195.1    |
| Computer, electronic, and optical products     | 26                            | 174.1    | 194.7    | 202.8    | 212.5    | 225.6    | 230.1    | 234.1    | 225.5    | 242.1    | 239.8    | 243.4    | 246.8    | 253.4    | 269.5    | 270.2    | 282.0    | 307.0    | 310.1    | 319.6    |
| Electrical equipment                           | 27                            | 43.7     | 45.5     | 42.1     | 43.2     | 51.4     | 50.3     | 55.5     | 50.6     | 50.8     | 48.3     | 52.2     | 58.1     | 54.4     | 63.7     | 58.5     | 60.8     | 65.1     | 65.0     | 63.6     |
| Machinery and equipment nec                    | 28                            | 99.3     | 98.0     | 105.0    | 115.2    | 122.7    | 130.3    | 132.9    | 119.2    | 127.8    | 145.3    | 152.6    | 157.9    | 161.0    | 152.5    | 143.8    | 153.4    | 161.4    | 167.0    | 156.9    |
| Motor vehicles, trailers, and semi-trailers    | 29                            | 126.7    | 134.3    | 130.4    | 127.5    | 125.9    | 116.4    | 83.6     | 44.2     | 83.4     | 98.0     | 108.7    | 115.4    | 124.6    | 137.6    | 146.2    | 149.1    | 148.2    | 149.4    | 145.9    |
| Air and spacecraft and related machinery       | 303                           | 57.7     | 56.7     | 58.9     | 71.2     | 77.2     | 92.4     | 90.5     | 95.4     | 99.5     | 103.6    | 102.8    | 107.8    | 114.9    | 124.4    | 121.6    | 129.2    | 134.9    | 142.3    | 108.1    |
| Railroad, military vehicles, and transport nec | 302, 304, and 309             | 7.9      | 8.3      | 8.9      | 10.0     | 10.5     | 12.6     | 14.7     | 12.4     | 12.0     | 13.3     | 13.2     | 14.3     | 13.7     | 13.4     | 14.3     | 11.9     | 11.7     | 11.3     | 11.6     |
| Medical and dental instruments                 | 325                           | 34.9     | 36.2     | 37.6     | 39.5     | 42.7     | 44.7     | 48.1     | 56.1     | 57.0     | 53.5     | 55.7     | 54.8     | 54.9     | 55.0     | 58.8     | 61.6     | 64.3     | 65.7     | 72.4     |
| Services                                       |                               | 300.3    | 312.1    | 340.3    | 360.6    | 384.8    | 405.5    | 451.1    | 465.2    | 508.3    | 562.4    | 589.1    | 632.6    | 675.3    | 734.2    | 789.8    | 847.1    | 940.9    | 1,034.5  | 1,114.2  |
| IT and other information services              | 62 - 63                       | 171.4    | 178.9    | 197.1    | 206.8    | 230.9    | 232.3    | 264.2    | 275.1    | 304.0    | 339.6    | 358.1    | 386.9    | 415.5    | 454.7    | 500.1    | 535.3    | 596.5    | 655.8    | 684.9    |
| Software publishing                            | 582                           | 57.5     | 61.9     | 70.7     | 79.2     | 79.0     | 98.8     | 103.3    | 105.0    | 115.2    | 128.0    | 135.4    | 147.9    | 156.6    | 164.1    | 176.2    | 195.1    | 215.9    | 239.3    | 273.0    |
| Scientific research and development            | 72                            | 71.5     | 71.3     | 72.5     | 74.6     | 75.0     | 74.4     | 83.5     | 85.0     | 89.2     | 94.7     | 95.6     | 97.8     | 103.1    | 115.4    | 113.5    | 116.7    | 128.6    | 139.3    | 156.3    |
| Industry share of total KTI value added        |                               |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
| All KTI industries                             |                               | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    |
| Manufacturing                                  |                               | 71.5     | 71.5     | 70.5     | 70.0     | 70.3     | 70.0     | 67.2     | 65.7     | 65.7     | 64.2     | 63.7     | 63.0     | 62.1     | 61.0     | 59.7     | 58.8     | 57.4     | 55.7     | 53.3     |
| Chemicals and chemical products                | 20                            | 10.5     | 10.0     | 10.5     | 9.9      | 10.5     | 10.7     | 10.3     | 10.6     | 11.6     | 11.2     | 11.2     | 11.0     | 10.7     | 9.9      | 10.1     | 9.8      | 9.5      | 8.9      | 8.4      |
| Pharmaceuticals                                | 21                            | 9.3      | 9.2      | 9.2      | 8.6      | 9.1      | 9.1      | 9.0      | 10.6     | 8.8      | 8.3      | 7.6      | 7.8      | 7.9      | 7.8      | 8.1      | 7.9      | 7.5      | 7.8      | 8.2      |
| Computer, electronic, and optical products     | 26                            | 16.5     | 17.8     | 17.6     | 17.7     | 17.4     | 17.0     | 17.0     | 16.6     | 16.3     | 15.3     | 15.0     | 14.4     | 14.2     | 14.3     | 13.8     | 13.7     | 13.9     | 13.3     | 13.4     |
| Electrical equipment                           | 27                            | 4.2      | 4.2      | 3.6      | 3.6      | 4.0      | 3.7      | 4.0      | 3.7      | 3.4      | 3.1      | 3.2      | 3.4      | 3.1      | 3.4      | 3.0      | 3.0      | 2.9      | 2.8      | 2.7      |
| Machinery and equipment nec                    | 28                            | 9.4      | 8.9      | 9.1      | 9.6      | 9.5      | 9.7      | 9.7      | 8.8      | 8.6      | 9.3      | 9.4      | 9.2      | 9.0      | 8.1      | 7.3      | 7.5      | 7.3      | 7.1      | 6.6      |

Table SKTI-1

U.S. KTI industry value added: 2002–20

(Billions of dollars and percent share)

| Industry                                       | ISIC, Rev.4,<br>industry code | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|------------------------------------------------|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Motor vehicles, trailers, and semi-trailers    | 29                            | 12.0 | 12.2 | 11.3 | 10.6 | 9.7  | 8.6  | 6.1  | 3.3  | 5.6  | 6.2  | 6.7  | 6.8  | 7.0  | 7.3  | 7.5  | 7.2  | 6.7  | 6.4  | 6.1  |
| Air and spacecraft and related machinery       | 303                           | 5.5  | 5.2  | 5.1  | 5.9  | 6.0  | 6.8  | 6.6  | 7.0  | 6.7  | 6.6  | 6.3  | 6.3  | 6.4  | 6.6  | 6.2  | 6.3  | 6.1  | 6.1  | 4.5  |
| Railroad, military vehicles, and transport nec | 302, 304, and 309             | 0.7  | 0.8  | 0.8  | 0.8  | 0.8  | 0.9  | 1.1  | 0.9  | 0.8  | 0.8  | 0.8  | 0.8  | 0.8  | 0.7  | 0.7  | 0.6  | 0.5  | 0.5  | 0.5  |
| Medical and dental instruments                 | 325                           | 3.3  | 3.3  | 3.3  | 3.3  | 3.3  | 3.3  | 3.5  | 4.1  | 3.8  | 3.4  | 3.4  | 3.2  | 3.1  | 2.9  | 3.0  | 3.0  | 2.9  | 2.8  | 3.0  |
| Services                                       |                               | 28.5 | 28.5 | 29.5 | 30.0 | 29.7 | 30.0 | 32.8 | 34.3 | 34.3 | 35.8 | 36.3 | 37.0 | 37.9 | 39.0 | 40.3 | 41.2 | 42.6 | 44.3 | 46.7 |
| IT and other information services              | 62 - 63                       | 16.3 | 16.3 | 17.1 | 17.2 | 17.8 | 17.2 | 19.2 | 20.3 | 20.5 | 21.6 | 22.1 | 22.6 | 23.3 | 24.1 | 25.5 | 26.0 | 27.0 | 28.1 | 28.7 |
| Software publishing                            | 582                           | 5.5  | 5.6  | 6.1  | 6.6  | 6.1  | 7.3  | 7.5  | 7.7  | 7.8  | 8.2  | 8.3  | 8.7  | 8.8  | 8.7  | 9.0  | 9.5  | 9.8  | 10.2 | 11.4 |
| Scientific research and development            | 72                            | 6.8  | 6.5  | 6.3  | 6.2  | 5.8  | 5.5  | 6.1  | 6.3  | 6.0  | 6.0  | 5.9  | 5.7  | 5.8  | 6.1  | 5.8  | 5.7  | 5.8  | 6.0  | 6.5  |

ISIC, Rev.4 = International Standard Industry Classification, Revision 4; IT = information technology; KTI = knowledge and technology intensive; nec = not elsewhere classified.

**Note(s):**  
*Value added* is a net measure of output; it is the difference between the value of goods and services produced by an industry (gross output) and the total cost of intermediate inputs that were used in production including energy, materials, and services purchased from other businesses. *Industry value added* is a measure of an industry's contribution to overall gross domestic product. KTI industries include high R&D intensive and medium-high R&D intensive industries based on a classification by the Organisation for Economic Co-operation and Development. The data have been crosswalked to the ISIC, Rev.4, classification. See the [Technical Appendix](#) for the crosswalking method.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021.

Table SKTI-2

## Employment in KTI industries, by workforce and education: 2019

(Thousands)

| Industry                                       | ISIC, Rev.4, industry code | Total   | STEM without bachelor's degree (STW) | STEM with bachelor's degree or above | Non-STEM |
|------------------------------------------------|----------------------------|---------|--------------------------------------|--------------------------------------|----------|
| All industries (including KTI industries)      |                            | 155,423 | 19,853                               | 16,241                               | 119,329  |
| All KTI industries                             |                            | 11,667  | 2,243                                | 3,427                                | 5,997    |
| Manufacturing                                  |                            | 7,062   | 1,568                                | 1,432                                | 4,062    |
| Chemicals and chemical products                | 20                         | 852     | 266                                  | 136                                  | 451      |
| Pharmaceuticals                                | 21                         | 536     | 85                                   | 167                                  | 284      |
| Computer, electronic, and optical products     | 26                         | 1,169   | 214                                  | 357                                  | 598      |
| Electrical equipment                           | 27                         | 435     | 89                                   | 60                                   | 286      |
| Machinery and equipment nec                    | 28                         | 1,122   | 289                                  | 146                                  | 686      |
| Motor vehicles, trailers, and semi-trailers    | 29                         | 1,428   | 314                                  | 185                                  | 929      |
| Air and spacecraft and related machinery       | 303                        | 820     | 190                                  | 250                                  | 380      |
| Railroad, military vehicles, and transport nec | 302, 304, and 309          | 66      | 12                                   | 8                                    | 45       |
| Medical and dental instruments                 | 325                        | 634     | 109                                  | 122                                  | 402      |
| Services                                       |                            | 4,605   | 675                                  | 1,995                                | 1,935    |
| IT and other information services              | 62 - 63                    | 3,767   | 593                                  | 1,586                                | 1,588    |
| Software publishing                            | 582                        | 131     | 11                                   | 54                                   | 65       |
| Scientific research and development            | 72                         | 708     | 71                                   | 355                                  | 282      |

ISIC, Rev.4 = International Standard Industry Classification, Revision 4; IT = information technology; KTI = knowledge and technology intensive; nec = not elsewhere classified; STEM = science, technology, engineering, and mathematics; STW = skilled technical workforce.

**Note(s):**

KTI industries include high R&D intensive and medium-high R&D intensive industries based on a classification by the Organisation for Economic Co-operation and Development. Data include workers ages 16–75 and exclude those in military occupations or currently enrolled in primary or secondary school. Values are rounded to the nearest thousand.

**Source(s):**

U.S. Census Bureau, American Community Survey (ACS), 2019, Public Use Microdata Sample (PUMS), accessed 12 December 2020.

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Table SKTI-3  
Employment in each workforce and KTI industry, by sex, race or ethnicity, and nativity and citizenship: 2019

(Thousands)

| Workforce and industry                         | ISIC, Rev.4, industry code | Total  | Sex   |        | Race or ethnicity             |                           | Nativity  |              |                   |               |
|------------------------------------------------|----------------------------|--------|-------|--------|-------------------------------|---------------------------|-----------|--------------|-------------------|---------------|
|                                                |                            |        | Male  | Female | Not underrepresented minority | Underrepresented minority | U.S.-born | Foreign-born |                   |               |
|                                                |                            |        |       |        |                               |                           |           | Total        | Non-U.S. citizens | U.S. citizens |
| All KTI workers                                |                            | 11,667 | 7,918 | 3,749  | 9,413                         | 2,254                     | 9,190     | 2,477        | 1,140             | 1,337         |
| Chemicals and chemical products                | 20                         | 852    | 601   | 251    | 633                           | 219                       | 718       | 134          | 62                | 72            |
| Pharmaceuticals                                | 21                         | 536    | 286   | 250    | 417                           | 119                       | 398       | 138          | 46                | 93            |
| Computer, electronic, and optical products     | 26                         | 1,169  | 814   | 355    | 971                           | 198                       | 820       | 349          | 140               | 209           |
| Electrical equipment                           | 27                         | 435    | 302   | 133    | 330                           | 105                       | 357       | 78           | 34                | 44            |
| Machinery and equipment nec                    | 28                         | 1,122  | 861   | 261    | 886                           | 236                       | 970       | 152          | 68                | 85            |
| Motor vehicles, trailers, and semi-trailers    | 29                         | 1,428  | 1,035 | 393    | 1,044                         | 384                       | 1,245     | 183          | 99                | 84            |
| Air and spacecraft and related machinery       | 303                        | 820    | 622   | 198    | 645                           | 175                       | 681       | 139          | 38                | 102           |
| Railroad, military vehicles, and transport nec | 302, 304, and 309          | 66     | 51    | 15     | 53                            | 13                        | 60        | 6            | 3                 | 3             |
| Medical and dental instruments                 | 325                        | 634    | 367   | 267    | 500                           | 133                       | 486       | 148          | 52                | 96            |
| IT and other information services              | 62 - 63                    | 3,767  | 2,524 | 1,242  | 3,211                         | 556                       | 2,812     | 954          | 515               | 439           |
| Software publishing                            | 582                        | 131    | 87    | 44     | 117                           | 13                        | 98        | 32           | 16                | 16            |
| Scientific research and development            | 72                         | 708    | 368   | 340    | 605                           | 103                       | 545       | 163          | 68                | 94            |
| STEM workers                                   |                            | 5,670  | 4,435 | 1,236  | 4,748                         | 923                       | 4,224     | 1,446        | 710               | 736           |
| Chemicals and chemical products                | 20                         | 401    | 314   | 88     | 301                           | 101                       | 334       | 67           | 30                | 37            |
| Pharmaceuticals                                | 21                         | 252    | 153   | 99     | 196                           | 56                        | 177       | 74           | 24                | 50            |
| Computer, electronic, and optical products     | 26                         | 571    | 472   | 99     | 490                           | 81                        | 383       | 189          | 78                | 110           |
| Electrical equipment                           | 27                         | 149    | 126   | 23     | 121                           | 29                        | 119       | 30           | 14                | 16            |
| Machinery and equipment nec                    | 28                         | 436    | 386   | 49     | 361                           | 74                        | 377       | 58           | 25                | 34            |
| Motor vehicles, trailers, and semi-trailers    | 29                         | 499    | 413   | 86     | 407                           | 92                        | 427       | 72           | 37                | 34            |
| Air and spacecraft and related machinery       | 303                        | 440    | 372   | 68     | 358                           | 82                        | 367       | 73           | 20                | 53            |
| Railroad, military vehicles, and transport nec | 302, 304, and 309          | 21     | 19    | 2      | 18                            | 3                         | 19        | 2            | 1                 | 1             |
| Medical and dental instruments                 | 325                        | 232    | 162   | 69     | 189                           | 43                        | 174       | 58           | 19                | 39            |
| IT and other information services              | 62 - 63                    | 2,179  | 1,716 | 463    | 1,876                         | 303                       | 1,493     | 686          | 399               | 287           |
| Software publishing                            | 582                        | 65     | 50    | 15     | 60                            | 5                         | 44        | 21           | 12                | 9             |
| Scientific research and development            | 72                         | 426    | 251   | 175    | 372                           | 54                        | 311       | 115          | 50                | 65            |
| Non-STEM workers                               |                            | 5,997  | 3,484 | 2,513  | 4,665                         | 1,331                     | 4,966     | 1,031        | 430               | 601           |
| Chemicals and chemical products                | 20                         | 451    | 287   | 164    | 333                           | 118                       | 384       | 66           | 31                | 35            |
| Pharmaceuticals                                | 21                         | 284    | 133   | 151    | 221                           | 63                        | 220       | 64           | 22                | 42            |
| Computer, electronic and optical products      | 26                         | 598    | 342   | 256    | 480                           | 117                       | 437       | 160          | 62                | 99            |
| Electrical equipment                           | 27                         | 286    | 176   | 110    | 209                           | 77                        | 238       | 48           | 20                | 28            |
| Machinery and equipment nec                    | 28                         | 686    | 475   | 212    | 525                           | 161                       | 593       | 94           | 43                | 51            |
| Motor vehicles, trailers, and semi-trailers    | 29                         | 929    | 622   | 307    | 638                           | 292                       | 818       | 111          | 62                | 49            |



Table SKTI-3  
Employment in each workforce and KTI industry, by sex, race or ethnicity, and nativity and citizenship: 2019

(Thousands)

| Workforce and industry                         | ISIC, Rev.4, industry code | Total | Sex  |        | Race or ethnicity             |                           | Nativity  |              |                   |               |
|------------------------------------------------|----------------------------|-------|------|--------|-------------------------------|---------------------------|-----------|--------------|-------------------|---------------|
|                                                |                            |       | Male | Female | Not underrepresented minority | Underrepresented minority | U.S.-born | Foreign-born |                   |               |
|                                                |                            |       |      |        |                               |                           |           | Total        | Non-U.S. citizens | U.S. citizens |
| Air and spacecraft and related machinery       | 303                        | 380   | 250  | 130    | 287                           | 94                        | 314       | 66           | 18                | 48            |
| Railroad, military vehicles, and transport nec | 302, 304, and 309          | 45    | 32   | 13     | 36                            | 9                         | 41        | 4            | 3                 | 2             |
| Medical and dental instruments                 | 325                        | 402   | 204  | 197    | 311                           | 90                        | 312       | 90           | 33                | 57            |
| IT and other information services              | 62 - 63                    | 1,588 | 808  | 780    | 1,335                         | 253                       | 1,319     | 268          | 116               | 153           |
| Software publishing                            | 582                        | 65    | 36   | 29     | 57                            | 8                         | 54        | 11           | 4                 | 7             |
| Scientific research and development            | 72                         | 282   | 117  | 165    | 233                           | 49                        | 234       | 48           | 18                | 29            |

ISIC, Rev.4 = International Standard Industry Classification, Revision 4; IT = information technology; KTI = knowledge and technology intensive; nec = not elsewhere classified; STEM = science, technology, engineering, and mathematics.

**Note(s):**  
KTI industries include high R&D intensive and medium-high R&D intensive industries based on a classification by the Organisation for Economic Co-operation and Development. Data include workers ages 16–75 and exclude those in military occupations or currently enrolled in primary or secondary school. Values are rounded to the nearest thousand. Underrepresented minorities are Blacks or African Americans, Hispanics or Latinos, and American Indians or Alaska Natives.

**Source(s):**  
U.S. Census Bureau, American Community Survey (ACS), 2019, Public Use Microdata Sample (PUMS), accessed 12 December 2020.

Table SKTI-4

## Regions, countries, or economies in world industry data

(Regions, countries, or economies)

| North America | Central and South America | Europe         | Middle East          | Africa       | Asia        | Oceania     |
|---------------|---------------------------|----------------|----------------------|--------------|-------------|-------------|
| Canada        | Argentina                 | EU             | Bahrain              | Cameroon     | Bangladesh  | Australia   |
| Mexico        | Bolivia                   | Austria        | Iran                 | Egypt        | China       | New Zealand |
| United States | Brazil                    | Belgium        | Israel               | Ghana        | India       |             |
|               | Chile                     | Bulgaria       | Jordan               | Kenya        | Indonesia   |             |
|               | Colombia                  | Czechia        | Kuwait               | Morocco      | Japan       |             |
|               | Costa Rica                | Denmark        | Oman                 | Nigeria      | Malaysia    |             |
|               | Ecuador                   | Finland        | Qatar                | Senegal      | Pakistan    |             |
|               | Honduras                  | France         | Saudi Arabia         | South Africa | Philippines |             |
|               | Jamaica                   | Germany        | United Arab Emirates | Tunisia      | Singapore   |             |
|               | Panama                    | Greece         |                      | Zimbabwe     | South Korea |             |
|               | Peru                      | Hungary        |                      |              | Sri Lanka   |             |
|               | Uruguay                   | Ireland        |                      |              | Taiwan      |             |
|               | Venezuela                 | Italy          |                      |              | Thailand    |             |
|               |                           | Netherlands    |                      |              | Vietnam     |             |
|               |                           | Poland         |                      |              |             |             |
|               |                           | Portugal       |                      |              |             |             |
|               |                           | Romania        |                      |              |             |             |
|               |                           | Slovakia       |                      |              |             |             |
|               |                           | Spain          |                      |              |             |             |
|               |                           | Sweden         |                      |              |             |             |
|               |                           | Other Europe   |                      |              |             |             |
|               |                           | United Kingdom |                      |              |             |             |
|               |                           | Norway         |                      |              |             |             |
|               |                           | Russia         |                      |              |             |             |
|               |                           | Switzerland    |                      |              |             |             |
|               |                           | Turkey         |                      |              |             |             |
|               |                           | Ukraine        |                      |              |             |             |

EU = European Union.

**Note(s):**

The United Kingdom withdrew from the EU on 1 February 2020.

**Source(s):**

IHS Markit, Comparative Industry Service.

Science and Engineering Indicators

Table SKTI-5  
Value added of KTI industries, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002      | 2003      | 2004      | 2005      | 2006      | 2007      | 2008      | 2009      | 2010      | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| World                           | 3,406,829 | 3,808,291 | 4,238,871 | 4,495,366 | 4,863,257 | 5,476,675 | 5,923,813 | 5,515,989 | 6,281,367 | 7,007,796 | 7,132,815 | 7,382,920 | 7,719,493 | 7,577,690 | 7,836,128 | 8,443,668 | 9,142,475 | 9,220,040 |
| North America                   | 1,176,378 | 1,220,952 | 1,283,585 | 1,343,229 | 1,450,805 | 1,515,863 | 1,540,119 | 1,492,324 | 1,648,153 | 1,752,332 | 1,817,755 | 1,907,556 | 1,982,823 | 2,075,154 | 2,145,937 | 2,255,915 | 2,416,098 | 2,548,477 |
| Canada                          | 61,696    | 69,031    | 73,846    | 79,299    | 85,502    | 92,073    | 88,842    | 79,476    | 93,719    | 105,631   | 109,030   | 108,638   | 106,558   | 96,457    | 95,704    | 101,256   | 105,579   | 106,698   |
| Mexico                          | 62,089    | 55,365    | 56,930    | 61,333    | 70,649    | 73,515    | 75,045    | 56,251    | 70,341    | 76,568    | 86,124    | 89,773    | 94,050    | 95,152    | 90,220    | 96,697    | 101,316   | 105,611   |
| United States                   | 1,052,593 | 1,096,557 | 1,152,809 | 1,202,597 | 1,294,654 | 1,350,275 | 1,376,232 | 1,356,596 | 1,484,094 | 1,570,133 | 1,622,602 | 1,709,144 | 1,782,215 | 1,883,545 | 1,960,012 | 2,057,962 | 2,209,203 | 2,336,168 |
| Central and South America       | 67,788    | 72,766    | 90,967    | 111,403   | 133,005   | 169,657   | 211,527   | 194,792   | 243,337   | 280,463   | 265,521   | 267,392   | 243,270   | 197,445   | 176,494   | 208,738   | 195,417   | 184,303   |
| Argentina                       | 6,267     | 7,835     | 10,004    | 12,410    | 15,021    | 19,113    | 24,593    | 23,805    | 28,101    | 31,891    | 32,433    | 32,643    | 25,079    | 26,010    | 24,401    | 28,542    | 24,428    | 21,210    |
| Brazil                          | 42,151    | 45,782    | 58,509    | 72,081    | 87,687    | 114,204   | 143,195   | 124,659   | 169,438   | 196,121   | 173,052   | 173,671   | 160,541   | 111,958   | 107,586   | 130,061   | 115,770   | 113,737   |
| Chile                           | 2,624     | 3,124     | 3,819     | 4,894     | 5,249     | 5,685     | 6,151     | 5,918     | 6,919     | 8,628     | 9,574     | 9,692     | 8,345     | 7,843     | 8,086     | 8,361     | 8,780     | 7,902     |
| Colombia                        | 5,057     | 4,944     | 6,077     | 7,515     | 8,489     | 10,771    | 12,304    | 11,938    | 14,483    | 15,904    | 17,635    | 17,970    | 17,925    | 14,429    | 13,705    | 14,432    | 15,283    | 14,471    |
| Peru                            | 2,385     | 2,485     | 2,686     | 3,017     | 3,428     | 4,060     | 4,979     | 5,065     | 5,805     | 6,489     | 7,489     | 7,916     | 7,744     | 7,105     | 7,168     | 7,701     | 8,011     | 7,949     |
| Other Central and South America | 9,304     | 8,595     | 9,873     | 11,486    | 13,131    | 15,825    | 20,304    | 23,407    | 18,592    | 21,430    | 25,338    | 25,500    | 23,635    | 30,100    | 15,549    | 19,640    | 23,145    | 19,034    |
| Europe                          | 1,031,376 | 1,230,526 | 1,412,474 | 1,471,475 | 1,588,999 | 1,861,509 | 2,009,293 | 1,681,827 | 1,796,918 | 2,020,187 | 1,921,252 | 2,030,357 | 2,108,709 | 1,900,432 | 1,947,506 | 2,066,614 | 2,246,564 | 2,175,012 |
| EU                              | 795,126   | 957,997   | 1,091,518 | 1,123,828 | 1,209,369 | 1,416,654 | 1,528,153 | 1,303,882 | 1,373,141 | 1,529,246 | 1,426,234 | 1,513,895 | 1,585,450 | 1,448,503 | 1,512,169 | 1,611,839 | 1,757,716 | 1,673,822 |
| France                          | 140,823   | 166,137   | 185,411   | 187,047   | 195,849   | 222,046   | 240,014   | 216,099   | 212,048   | 227,227   | 215,292   | 228,178   | 235,149   | 204,963   | 209,763   | 221,126   | 236,747   | 230,245   |
| Germany                         | 284,268   | 346,736   | 394,449   | 402,153   | 435,122   | 513,637   | 543,749   | 444,945   | 499,686   | 576,710   | 544,391   | 578,676   | 619,645   | 540,298   | 570,154   | 606,793   | 655,962   | 593,723   |
| Italy                           | 107,478   | 128,425   | 145,619   | 147,259   | 156,962   | 181,523   | 195,654   | 168,429   | 172,258   | 183,486   | 166,539   | 173,836   | 174,481   | 155,024   | 163,615   | 173,925   | 184,823   | 174,193   |
| Spain                           | 47,718    | 59,205    | 67,360    | 69,360    | 75,374    | 86,138    | 95,392    | 84,698    | 77,083    | 81,772    | 72,983    | 79,093    | 82,442    | 70,541    | 72,398    | 78,106    | 85,808    | 82,379    |
| Other EU                        | 214,838   | 257,494   | 298,678   | 318,009   | 346,061   | 413,310   | 453,343   | 389,711   | 412,065   | 460,052   | 427,029   | 454,113   | 473,732   | 477,677   | 496,239   | 531,889   | 594,376   | 593,283   |
| Non-EU                          | 236,250   | 272,529   | 320,957   | 347,648   | 379,631   | 444,855   | 481,140   | 377,945   | 423,778   | 490,942   | 495,018   | 516,462   | 523,259   | 451,928   | 435,337   | 454,775   | 488,848   | 501,189   |
| United Kingdom                  | 149,557   | 170,057   | 195,096   | 201,833   | 212,062   | 238,354   | 227,070   | 180,149   | 195,329   | 211,897   | 210,363   | 214,607   | 236,796   | 228,401   | 211,633   | 216,078   | 238,649   | 240,755   |
| Russia                          | 22,362    | 26,002    | 37,228    | 47,419    | 59,821    | 79,587    | 104,859   | 66,800    | 83,694    | 108,645   | 118,015   | 124,589   | 111,060   | 61,512    | 60,373    | 69,912    | 73,316    | 78,565    |
| Switzerland                     | 43,510    | 50,142    | 56,715    | 60,187    | 64,846    | 72,693    | 84,338    | 79,455    | 85,919    | 103,207   | 98,315    | 103,229   | 106,178   | 101,153   | 102,612   | 104,171   | 111,687   | 112,912   |
| Other non-EU                    | 20,822    | 26,327    | 31,918    | 38,209    | 42,902    | 54,221    | 64,873    | 51,541    | 58,837    | 67,192    | 68,325    | 74,037    | 69,224    | 60,863    | 60,719    | 64,615    | 65,195    | 68,958    |
| Middle East                     | 40,131    | 44,571    | 51,211    | 57,606    | 68,628    | 88,976    | 104,987   | 106,156   | 117,257   | 140,161   | 131,830   | 133,104   | 147,468   | 144,504   | 148,260   | 161,613   | 164,096   | 162,812   |
| Iran                            | 8,873     | 10,807    | 13,117    | 14,477    | 18,976    | 24,660    | 28,358    | 33,460    | 36,063    | 47,567    | 25,438    | 22,537    | 29,348    | 29,226    | 34,133    | 37,725    | 29,395    | 26,949    |
| Israel                          | 15,057    | 15,726    | 16,432    | 17,869    | 19,773    | 22,870    | 26,757    | 27,146    | 29,172    | 31,804    | 35,455    | 37,794    | 41,209    | 42,078    | 42,212    | 46,361    | 49,474    | 53,419    |
| Saudi Arabia                    | 7,183     | 7,742     | 8,866     | 10,044    | 11,516    | 15,970    | 18,568    | 19,291    | 22,952    | 25,206    | 28,893    | 31,459    | 34,009    | 36,583    | 36,607    | 39,765    | 46,553    | 41,197    |
| United Arab Emirates            | 5,485     | 6,195     | 7,359     | 8,813     | 11,270    | 13,768    | 16,017    | 12,853    | 13,763    | 14,829    | 16,530    | 17,459    | 18,521    | 18,174    | 18,215    | 19,501    | 19,136    | 21,971    |
| Other Middle East               | 3,533     | 4,101     | 5,437     | 6,403     | 7,092     | 11,708    | 15,287    | 13,405    | 15,308    | 20,755    | 25,514    | 23,855    | 24,380    | 18,443    | 17,093    | 18,262    | 19,537    | 19,275    |
| Africa                          | 18,605    | 23,840    | 29,815    | 35,024    | 36,035    | 40,729    | 47,046    | 46,171    | 52,796    | 55,526    | 58,705    | 59,666    | 60,691    | 56,881    | 54,745    | 54,585    | 60,138    | 66,674    |
| Egypt                           | 2,402     | 1,965     | 2,439     | 2,919     | 3,279     | 4,047     | 5,068     | 5,659     | 6,448     | 8,289     | 9,759     | 9,106     | 8,860     | 9,839     | 9,560     | 8,848     | 10,463    | 13,213    |
| Nigeria                         | 1,451     | 1,637     | 2,965     | 4,949     | 6,056     | 7,580     | 12,249    | 11,336    | 12,518    | 12,205    | 14,337    | 16,526    | 17,980    | 16,391    | 13,465    | 11,637    | 12,882    | 15,525    |
| South Africa                    | 8,820     | 13,167    | 16,534    | 18,128    | 16,705    | 17,507    | 16,670    | 16,618    | 20,052    | 20,299    | 20,178    | 18,621    | 18,027    | 16,669    | 16,133    | 17,252    | 18,266    | 18,448    |
| Other Africa                    | 5,932     | 7,072     | 7,877     | 9,028     | 9,995     | 11,595    | 13,060    | 12,558    | 13,777    | 14,733    | 14,430    | 15,413    | 15,823    | 13,982    | 15,586    | 16,848    | 18,527    | 19,489    |

Table SKTI-5  
Value added of KTI industries, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002      | 2003      | 2004      | 2005      | 2006      | 2007      | 2008      | 2009      | 2010      | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      |
|-----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Asia                        | 1,042,899 | 1,177,461 | 1,325,451 | 1,427,346 | 1,533,261 | 1,735,204 | 1,942,578 | 1,928,440 | 2,340,753 | 2,661,731 | 2,837,379 | 2,890,590 | 3,085,565 | 3,126,217 | 3,282,924 | 3,607,296 | 3,973,771 | 4,000,860 |
| China                       | 223,183   | 264,874   | 298,430   | 353,666   | 429,605   | 548,489   | 710,399   | 767,923   | 947,452   | 1,156,069 | 1,298,708 | 1,458,553 | 1,602,356 | 1,676,009 | 1,730,058 | 1,946,541 | 2,225,535 | 2,267,431 |
| India                       | 30,006    | 35,578    | 43,825    | 52,621    | 59,993    | 76,369    | 82,877    | 90,285    | 111,275   | 133,794   | 125,525   | 127,899   | 142,357   | 159,926   | 169,292   | 193,747   | 209,861   | 220,838   |
| Indonesia                   | 14,879    | 18,488    | 19,879    | 19,735    | 21,849    | 27,647    | 34,867    | 34,533    | 43,455    | 50,621    | 52,241    | 57,098    | 56,146    | 56,654    | 59,310    | 63,526    | 61,371    | 64,395    |
| Japan                       | 566,695   | 625,109   | 683,130   | 688,609   | 665,739   | 683,719   | 736,620   | 680,676   | 788,281   | 819,298   | 838,763   | 690,239   | 669,474   | 637,889   | 707,981   | 706,840   | 720,063   | 730,292   |
| Malaysia                    | 14,306    | 16,222    | 18,937    | 18,012    | 20,839    | 22,419    | 23,682    | 18,897    | 24,936    | 28,244    | 31,314    | 32,381    | 33,418    | 32,280    | 32,912    | 33,741    | 37,659    | 39,059    |
| Philippines                 | 5,661     | 5,266     | 5,923     | 6,329     | 7,280     | 9,449     | 8,914     | 9,681     | 10,421    | 11,518    | 12,763    | 11,158    | 12,569    | 12,422    | 13,647    | 14,316    | 15,235    | 15,138    |
| Singapore                   | 16,329    | 17,245    | 22,393    | 24,153    | 29,101    | 32,222    | 28,726    | 29,114    | 38,495    | 43,674    | 44,804    | 43,988    | 46,179    | 44,940    | 46,079    | 53,186    | 71,408    | 66,172    |
| South Korea                 | 102,269   | 114,248   | 139,708   | 161,398   | 184,571   | 209,277   | 184,571   | 174,568   | 227,534   | 260,083   | 268,372   | 291,021   | 317,216   | 297,340   | 304,320   | 350,462   | 376,836   | 341,172   |
| Taiwan                      | 49,260    | 56,284    | 64,532    | 70,039    | 74,816    | 80,484    | 81,207    | 74,737    | 93,921    | 100,798   | 104,146   | 112,462   | 128,137   | 130,135   | 134,784   | 149,555   | 152,402   | 148,262   |
| Thailand                    | 13,494    | 16,172    | 18,802    | 20,983    | 24,518    | 29,247    | 32,899    | 28,914    | 33,301    | 32,914    | 34,066    | 35,489    | 36,265    | 37,220    | 38,431    | 40,932    | 44,279    | 45,722    |
| Vietnam                     | 1,563     | 1,774     | 2,170     | 2,659     | 3,426     | 4,511     | 5,581     | 7,057     | 7,721     | 8,521     | 10,281    | 13,038    | 22,209    | 20,694    | 23,765    | 29,333    | 33,624    | 37,056    |
| Other Asia                  | 5,253     | 6,203     | 7,720     | 9,140     | 11,525    | 11,372    | 12,234    | 12,054    | 13,961    | 16,196    | 16,394    | 17,263    | 19,240    | 20,708    | 22,345    | 25,118    | 25,499    | 25,325    |
| Oceania                     | 29,652    | 38,174    | 45,368    | 49,282    | 52,523    | 64,738    | 68,265    | 66,280    | 82,152    | 97,396    | 100,373   | 94,254    | 90,968    | 77,058    | 80,262    | 88,907    | 86,390    | 81,902    |
| Australia                   | 26,877    | 34,672    | 41,197    | 44,685    | 48,312    | 59,291    | 63,454    | 61,671    | 76,733    | 91,262    | 93,945    | 87,368    | 83,762    | 70,660    | 73,494    | 81,588    | 79,113    | 74,797    |
| New Zealand                 | 2,775     | 3,502     | 4,170     | 4,597     | 4,212     | 5,446     | 4,810     | 4,609     | 5,419     | 6,135     | 6,427     | 6,886     | 7,206     | 6,397     | 6,767     | 7,320     | 7,277     | 7,105     |

EU = European Union; KTI = knowledge and technology intensive; nec = not elsewhere classified.

**Note(s):**  
*Value added* is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. KTI industries include high R&D intensive and medium-high R&D intensive industries based on a classification by the Organisation for Economic Co-operation and Development. High R&D intensive industries include air and spacecraft and related machinery; pharmaceuticals; computer, electronic, and optical products; scientific research and development; and software publishing. Medium-high R&D intensive industries include motor vehicles, trailers, and semi-trailers; medical and dental instruments; machinery and equipment nec; chemicals and chemical products; electrical equipment; railroad, military vehicles, and transport nec; and information technology and other information services. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See [Table SKTI-4](#) for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK's withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.

Table SKTI-6  
Value added of KTI manufacturing industries, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002      | 2003      | 2004      | 2005      | 2006      | 2007      | 2008      | 2009      | 2010      | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| World                           | 2,576,987 | 2,883,573 | 3,197,869 | 3,374,917 | 3,651,713 | 4,095,900 | 4,384,975 | 3,989,644 | 4,623,515 | 5,134,356 | 5,199,948 | 5,339,575 | 5,548,016 | 5,450,753 | 5,603,086 | 6,018,099 | 6,479,750 | 6,407,464 |
| North America                   | 860,992   | 891,025   | 923,070   | 959,644   | 1,039,434 | 1,080,127 | 1,057,101 | 996,021   | 1,104,433 | 1,149,907 | 1,187,451 | 1,232,625 | 1,264,602 | 1,302,114 | 1,316,560 | 1,365,358 | 1,428,716 | 1,464,965 |
| Canada                          | 49,044    | 53,665    | 56,206    | 59,256    | 61,963    | 65,161    | 60,421    | 51,445    | 61,895    | 69,312    | 71,482    | 69,693    | 67,273    | 61,016    | 59,339    | 61,291    | 62,610    | 61,329    |
| Mexico                          | 59,688    | 52,914    | 54,373    | 58,410    | 67,661    | 70,236    | 71,546    | 53,189    | 66,793    | 72,847    | 82,426    | 86,358    | 90,365    | 91,757    | 87,003    | 93,222    | 97,810    | 101,924   |
| United States                   | 752,260   | 784,446   | 812,491   | 841,978   | 909,809   | 944,729   | 925,134   | 891,386   | 975,745   | 1,007,748 | 1,033,543 | 1,076,574 | 1,106,964 | 1,149,341 | 1,170,217 | 1,210,846 | 1,268,296 | 1,301,712 |
| Central and South America       | 53,195    | 57,756    | 72,306    | 87,610    | 104,713   | 133,470   | 167,411   | 148,421   | 188,045   | 214,069   | 197,728   | 196,293   | 173,337   | 132,244   | 117,826   | 141,439   | 130,640   | 122,855   |
| Argentina                       | 3,489     | 4,710     | 6,086     | 7,707     | 9,511     | 12,137    | 15,900    | 15,127    | 17,831    | 19,555    | 19,028    | 18,353    | 12,183    | 10,850    | 11,057    | 12,570    | 11,615    | 10,445    |
| Brazil                          | 37,406    | 40,544    | 51,384    | 62,162    | 75,407    | 97,703    | 123,231   | 103,346   | 142,654   | 163,612   | 143,317   | 143,019   | 129,582   | 88,135    | 83,624    | 103,143   | 90,420    | 88,025    |
| Chile                           | 1,874     | 2,408     | 2,895     | 3,764     | 3,875     | 4,072     | 4,081     | 3,967     | 4,459     | 5,474     | 6,164     | 6,096     | 5,049     | 4,630     | 4,547     | 4,402     | 5,010     | 4,364     |
| Colombia                        | 3,226     | 3,204     | 3,931     | 4,507     | 5,088     | 6,344     | 7,055     | 6,802     | 7,992     | 8,460     | 9,187     | 9,189     | 8,791     | 7,590     | 7,297     | 7,390     | 7,756     | 7,241     |
| Peru                            | 1,400     | 1,474     | 1,584     | 1,812     | 2,058     | 2,522     | 3,121     | 3,193     | 3,589     | 3,973     | 4,657     | 4,872     | 4,730     | 4,278     | 4,339     | 4,551     | 4,695     | 4,445     |
| Other Central and South America | 5,801     | 5,415     | 6,426     | 7,658     | 8,774     | 10,691    | 14,022    | 15,986    | 11,521    | 12,995    | 15,375    | 14,764    | 13,002    | 16,761    | 6,963     | 9,383     | 11,144    | 8,335     |
| Europe                          | 754,601   | 896,723   | 1,023,781 | 1,058,247 | 1,143,913 | 1,325,372 | 1,421,186 | 1,142,668 | 1,242,687 | 1,400,885 | 1,311,908 | 1,372,896 | 1,421,611 | 1,289,669 | 1,317,500 | 1,374,737 | 1,476,363 | 1,364,890 |
| EU                              | 594,150   | 715,158   | 811,992   | 830,383   | 893,604   | 1,039,901 | 1,104,365 | 905,102   | 976,403   | 1,087,174 | 1,001,347 | 1,048,341 | 1,097,573 | 1,012,566 | 1,050,504 | 1,100,169 | 1,183,914 | 1,075,269 |
| France                          | 84,058    | 98,076    | 108,076   | 108,162   | 110,635   | 123,839   | 130,780   | 113,157   | 110,363   | 116,801   | 109,902   | 116,260   | 117,929   | 103,901   | 103,660   | 104,941   | 108,053   | 98,758    |
| Germany                         | 233,823   | 287,257   | 326,331   | 330,578   | 359,581   | 421,331   | 441,522   | 348,978   | 405,511   | 464,516   | 434,105   | 454,270   | 488,403   | 426,611   | 451,821   | 478,735   | 515,441   | 448,517   |
| Italy                           | 74,413    | 88,214    | 101,182   | 101,347   | 108,612   | 125,988   | 134,670   | 109,634   | 114,957   | 123,018   | 111,185   | 115,973   | 115,650   | 104,291   | 110,645   | 117,112   | 125,224   | 113,710   |
| Spain                           | 35,674    | 43,900    | 49,909    | 50,656    | 55,145    | 62,617    | 68,374    | 58,310    | 52,659    | 55,194    | 48,206    | 52,713    | 55,313    | 47,169    | 48,450    | 51,665    | 56,318    | 52,266    |
| Other EU                        | 166,183   | 197,710   | 226,494   | 239,640   | 259,631   | 306,127   | 329,020   | 275,022   | 292,913   | 327,645   | 297,949   | 309,126   | 320,278   | 330,595   | 335,929   | 347,715   | 378,878   | 362,017   |
| Non-EU                          | 160,451   | 181,565   | 211,790   | 227,864   | 250,308   | 285,471   | 316,821   | 237,566   | 266,284   | 313,711   | 310,561   | 324,554   | 324,038   | 277,104   | 266,996   | 274,568   | 292,448   | 289,621   |
| United Kingdom                  | 95,564    | 104,303   | 116,639   | 117,044   | 123,245   | 129,123   | 124,822   | 96,909    | 105,779   | 116,691   | 114,403   | 120,982   | 130,468   | 125,868   | 112,978   | 112,663   | 121,584   | 112,978   |
| Russia                          | 16,887    | 19,107    | 28,249    | 36,481    | 45,159    | 60,663    | 79,283    | 45,567    | 55,334    | 71,280    | 76,025    | 76,058    | 67,048    | 34,429    | 35,756    | 40,291    | 42,542    | 45,893    |
| Switzerland                     | 33,650    | 39,466    | 44,594    | 47,681    | 52,044    | 59,067    | 68,692    | 62,855    | 68,015    | 82,081    | 77,278    | 81,140    | 83,190    | 78,622    | 80,232    | 81,364    | 88,000    | 88,950    |
| Other non-EU                    | 14,350    | 18,689    | 22,307    | 26,658    | 29,860    | 36,618    | 44,024    | 32,235    | 37,157    | 43,658    | 42,856    | 46,374    | 43,332    | 38,185    | 38,030    | 40,251    | 40,322    | 41,800    |
| Middle East                     | 25,899    | 29,317    | 33,947    | 38,137    | 45,697    | 60,021    | 70,518    | 70,293    | 78,742    | 96,883    | 92,394    | 89,363    | 96,239    | 91,667    | 91,175    | 100,638   | 104,670   | 101,335   |
| Iran                            | 5,566     | 6,839     | 8,328     | 8,758     | 11,704    | 14,676    | 16,315    | 20,333    | 21,319    | 31,279    | 16,568    | 14,244    | 18,689    | 17,987    | 21,907    | 24,784    | 21,406    | 20,685    |
| Israel                          | 8,890     | 9,625     | 10,027    | 10,884    | 12,125    | 14,091    | 16,152    | 16,152    | 17,877    | 18,551    | 20,746    | 20,307    | 20,430    | 21,294    | 18,799    | 20,515    | 21,030    | 22,337    |
| Saudi Arabia                    | 5,447     | 5,948     | 6,885     | 7,904     | 9,180     | 13,379    | 15,560    | 15,731    | 18,948    | 20,804    | 23,343    | 24,874    | 26,802    | 29,101    | 28,957    | 31,787    | 38,110    | 32,024    |
| United Arab Emirates            | 3,225     | 3,603     | 4,207     | 5,210     | 7,031     | 8,020     | 9,360     | 6,915     | 7,624     | 8,317     | 9,365     | 9,611     | 9,827     | 8,938     | 8,631     | 9,374     | 8,807     | 11,292    |
| Other Middle East               | 2,771     | 3,302     | 4,500     | 5,381     | 5,657     | 9,855     | 13,131    | 11,163    | 12,973    | 17,932    | 22,371    | 20,328    | 20,492    | 14,347    | 12,881    | 14,177    | 15,317    | 14,996    |
| Africa                          | 13,492    | 17,316    | 21,019    | 23,459    | 22,746    | 24,912    | 26,350    | 25,294    | 29,128    | 29,523    | 30,662    | 30,225    | 29,954    | 28,402    | 29,108    | 30,591    | 33,761    | 37,739    |
| Egypt                           | 1,929     | 1,583     | 2,073     | 2,410     | 2,653     | 3,294     | 4,170     | 4,588     | 5,230     | 5,266     | 5,755     | 5,111     | 4,537     | 5,309     | 5,549     | 5,981     | 6,917     | 8,788     |
| Nigeria                         | 231       | 250       | 276       | 319       | 372       | 440       | 547       | 514       | 566       | 804       | 1,160     | 1,684     | 2,246     | 2,022     | 1,448     | 1,316     | 1,705     | 2,834     |
| South Africa                    | 7,343     | 10,808    | 13,510    | 14,678    | 13,067    | 13,525    | 12,949    | 12,210    | 14,222    | 13,856    | 14,480    | 13,398    | 12,885    | 12,055    | 11,857    | 12,127    | 12,766    | 13,082    |
| Other Africa                    | 3,989     | 4,676     | 5,160     | 6,053     | 6,654     | 7,652     | 8,685     | 7,982     | 9,110     | 9,597     | 9,267     | 10,031    | 10,286    | 9,016     | 10,253    | 11,167    | 12,373    | 13,034    |

Table SKTI-6  
Value added of KTI manufacturing industries, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002    | 2003    | 2004      | 2005      | 2006      | 2007      | 2008      | 2009      | 2010      | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      |
|-----------------------------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Asia                        | 854,943 | 973,610 | 1,102,593 | 1,185,418 | 1,273,002 | 1,445,544 | 1,614,967 | 1,581,832 | 1,950,353 | 2,208,549 | 2,346,199 | 2,386,839 | 2,532,557 | 2,581,783 | 2,706,127 | 2,978,980 | 3,280,359 | 3,293,519 |
| China                       | 203,326 | 244,588 | 275,052   | 323,745   | 391,773   | 497,876   | 643,951   | 688,103   | 852,641   | 1,033,982 | 1,148,147 | 1,283,720 | 1,397,329 | 1,460,433 | 1,514,143 | 1,702,829 | 1,937,445 | 1,981,928 |
| India                       | 19,769  | 23,472  | 28,886    | 34,487    | 38,898    | 48,746    | 50,596    | 54,385    | 65,498    | 80,343    | 71,012    | 64,854    | 70,716    | 81,048    | 81,256    | 92,316    | 104,875   | 109,996   |
| Indonesia                   | 13,261  | 16,456  | 17,570    | 17,137    | 18,554    | 23,982    | 30,653    | 29,770    | 36,983    | 43,055    | 44,511    | 49,397    | 48,755    | 49,395    | 51,205    | 54,235    | 51,615    | 53,154    |
| Japan                       | 447,221 | 496,681 | 547,592   | 553,668   | 535,823   | 553,535   | 587,807   | 526,229   | 629,487   | 645,267   | 661,727   | 541,774   | 528,358   | 510,998   | 565,484   | 568,002   | 576,597   | 582,386   |
| Malaysia                    | 13,310  | 15,136  | 17,762    | 16,499    | 19,085    | 20,397    | 21,347    | 16,456    | 21,704    | 24,513    | 27,327    | 28,132    | 28,909    | 28,071    | 28,584    | 29,099    | 32,169    | 33,587    |
| Philippines                 | 4,419   | 4,003   | 4,548     | 4,757     | 5,371     | 7,079     | 6,093     | 6,766     | 7,007     | 7,600     | 8,200     | 6,864     | 8,195     | 7,838     | 8,097     | 8,557     | 9,019     | 8,156     |
| Singapore                   | 15,123  | 15,991  | 21,085    | 22,344    | 26,940    | 29,615    | 25,476    | 25,662    | 34,215    | 38,082    | 38,604    | 37,175    | 39,035    | 38,342    | 39,090    | 45,695    | 63,235    | 57,708    |
| South Korea                 | 77,453  | 86,202  | 107,424   | 121,747   | 136,729   | 154,969   | 134,890   | 129,039   | 173,601   | 199,375   | 205,702   | 222,434   | 233,132   | 225,767   | 229,577   | 267,474   | 285,296   | 248,095   |
| Taiwan                      | 44,333  | 50,991  | 58,695    | 63,530    | 67,538    | 72,414    | 72,441    | 66,210    | 84,464    | 90,427    | 93,368    | 100,889   | 115,619   | 117,244   | 121,131   | 134,341   | 136,167   | 131,340   |
| Thailand                    | 11,918  | 14,314  | 16,505    | 18,483    | 21,629    | 25,815    | 29,113    | 25,574    | 29,223    | 28,177    | 28,616    | 29,686    | 30,690    | 31,760    | 33,099    | 34,967    | 38,156    | 38,234    |
| Vietnam                     | 1,287   | 1,473   | 1,831     | 2,294     | 3,021     | 4,038     | 4,990     | 6,408     | 6,975     | 7,711     | 9,375     | 12,007    | 21,105    | 19,566    | 22,565    | 28,060    | 32,249    | 35,594    |
| Other Asia                  | 3,522   | 4,304   | 5,644     | 6,728     | 7,640     | 7,081     | 7,610     | 7,229     | 8,556     | 10,016    | 9,612     | 9,906     | 10,714    | 11,321    | 11,897    | 13,406    | 13,536    | 13,341    |
| Oceania                     | 13,864  | 17,826  | 21,154    | 22,404    | 22,209    | 26,455    | 27,442    | 25,115    | 30,127    | 34,540    | 33,606    | 31,334    | 29,716    | 24,874    | 24,790    | 26,355    | 25,241    | 22,161    |
| Australia                   | 12,079  | 15,615  | 18,502    | 19,486    | 19,597    | 23,188    | 24,668    | 22,434    | 26,870    | 31,024    | 29,882    | 27,302    | 25,462    | 20,978    | 20,630    | 21,904    | 20,713    | 17,944    |
| New Zealand                 | 1,785   | 2,212   | 2,651     | 2,918     | 2,612     | 3,267     | 2,774     | 2,681     | 3,257     | 3,516     | 3,724     | 4,033     | 4,254     | 3,897     | 4,160     | 4,452     | 4,528     | 4,217     |

EU = European Union; KTI = knowledge and technology intensive; nec = not elsewhere classified.

**Note(s):**  
*Value added* is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. KTI industries include high R&D intensive and medium-high R&D intensive industries based on a classification by the Organisation for Economic Co-operation and Development. KTI manufacturing industries include chemicals and chemical products; pharmaceuticals; computer, electronic, and optical products; electrical equipment; machinery and equipment nec; motor vehicles, trailers, and semi-trailers; air and spacecraft and related machinery; railroad, military vehicles, and transport nec; and medical and dental instruments. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See [Table SKTI-4](#) for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK's withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.

Table SKTI-7  
Value added of KTI services industries, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002    | 2003    | 2004      | 2005      | 2006      | 2007      | 2008      | 2009      | 2010      | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      |
|---------------------------------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| World                           | 829,842 | 924,719 | 1,041,002 | 1,120,448 | 1,211,543 | 1,380,775 | 1,538,839 | 1,526,345 | 1,657,852 | 1,873,441 | 1,932,867 | 2,043,345 | 2,171,477 | 2,126,937 | 2,233,041 | 2,425,569 | 2,662,725 | 2,812,576 |
| North America                   | 315,386 | 329,928 | 360,516   | 383,586   | 411,372   | 435,736   | 483,018   | 496,303   | 543,720   | 602,425   | 630,304   | 674,930   | 718,221   | 773,040   | 829,378   | 890,557   | 987,383   | 1,083,512 |
| Canada                          | 12,652  | 15,365  | 17,640    | 20,043    | 23,539    | 26,912    | 28,421    | 28,031    | 31,824    | 36,319    | 37,547    | 38,945    | 39,285    | 35,441    | 36,365    | 39,966    | 42,969    | 45,369    |
| Mexico                          | 2,401   | 2,451   | 2,558     | 2,923     | 2,987     | 3,278     | 3,499     | 3,062     | 3,548     | 3,721     | 3,698     | 3,415     | 3,685     | 3,396     | 3,218     | 3,475     | 3,507     | 3,687     |
| United States                   | 300,333 | 312,111 | 340,318   | 360,619   | 384,845   | 405,546   | 451,098   | 465,210   | 508,349   | 562,385   | 589,059   | 632,570   | 675,251   | 734,204   | 789,795   | 847,116   | 940,907   | 1,034,456 |
| Central and South America       | 14,593  | 15,010  | 18,661    | 23,793    | 28,292    | 36,188    | 44,116    | 46,371    | 55,292    | 66,394    | 67,793    | 71,099    | 69,933    | 65,201    | 58,668    | 67,299    | 64,777    | 61,447    |
| Argentina                       | 2,779   | 3,125   | 3,918     | 4,702     | 5,510     | 6,976     | 8,693     | 8,677     | 10,270    | 12,336    | 13,405    | 14,290    | 12,897    | 15,159    | 13,344    | 15,972    | 12,813    | 10,765    |
| Brazil                          | 4,745   | 5,238   | 7,125     | 9,919     | 12,279    | 16,500    | 19,964    | 21,313    | 26,784    | 32,509    | 29,735    | 30,653    | 30,959    | 23,823    | 23,962    | 26,918    | 25,350    | 25,712    |
| Chile                           | 750     | 716     | 924       | 1,131     | 1,374     | 1,613     | 2,070     | 1,951     | 2,460     | 3,154     | 3,410     | 3,596     | 3,296     | 3,213     | 3,539     | 3,959     | 3,770     | 3,538     |
| Colombia                        | 1,831   | 1,740   | 2,146     | 3,008     | 3,401     | 4,427     | 5,249     | 5,137     | 6,491     | 7,444     | 8,447     | 8,781     | 9,134     | 6,838     | 6,408     | 7,042     | 7,528     | 7,230     |
| Peru                            | 985     | 1,011   | 1,102     | 1,204     | 1,370     | 1,538     | 1,857     | 1,873     | 2,216     | 2,515     | 2,832     | 3,044     | 3,014     | 2,828     | 2,829     | 3,151     | 3,316     | 3,504     |
| Other Central and South America | 3,503   | 3,180   | 3,447     | 3,828     | 4,357     | 5,134     | 6,282     | 7,421     | 7,071     | 8,435     | 9,963     | 10,736    | 10,633    | 13,339    | 8,586     | 10,257    | 12,001    | 10,699    |
| Europe                          | 276,775 | 333,803 | 388,693   | 413,228   | 445,087   | 536,137   | 588,106   | 539,159   | 554,232   | 619,302   | 609,344   | 657,462   | 687,097   | 610,762   | 630,006   | 691,877   | 770,201   | 810,122   |
| EU                              | 200,975 | 242,839 | 279,526   | 293,445   | 315,764   | 376,753   | 423,788   | 398,780   | 396,738   | 442,072   | 424,887   | 465,554   | 487,877   | 435,938   | 461,665   | 511,670   | 573,802   | 598,554   |
| France                          | 56,765  | 68,060  | 77,334    | 78,885    | 85,214    | 98,207    | 109,234   | 102,942   | 101,686   | 110,425   | 105,390   | 111,919   | 117,220   | 101,062   | 106,103   | 116,185   | 128,694   | 131,487   |
| Germany                         | 50,445  | 59,479  | 68,118    | 71,575    | 75,540    | 92,306    | 102,228   | 95,967    | 94,175    | 112,193   | 110,286   | 124,405   | 131,242   | 113,688   | 118,334   | 128,058   | 140,520   | 145,206   |
| Italy                           | 33,066  | 40,211  | 44,437    | 45,911    | 48,350    | 55,535    | 60,984    | 58,795    | 57,301    | 60,468    | 55,354    | 57,863    | 58,832    | 50,733    | 52,970    | 56,813    | 59,600    | 60,483    |
| Spain                           | 12,044  | 15,305  | 17,452    | 18,704    | 20,230    | 23,522    | 27,018    | 26,388    | 24,424    | 26,578    | 24,778    | 26,380    | 27,129    | 23,372    | 23,948    | 26,441    | 29,490    | 30,112    |
| Other EU                        | 48,655  | 59,783  | 72,185    | 78,369    | 86,430    | 107,183   | 124,324   | 114,688   | 119,152   | 132,407   | 129,080   | 144,987   | 153,453   | 147,082   | 160,310   | 184,174   | 215,498   | 231,266   |
| Non-EU                          | 75,800  | 90,964  | 109,167   | 119,784   | 129,322   | 159,384   | 164,319   | 140,379   | 157,493   | 177,231   | 184,457   | 191,908   | 199,221   | 174,825   | 168,341   | 180,207   | 196,399   | 211,568   |
| United Kingdom                  | 53,992  | 65,755  | 78,457    | 84,789    | 88,817    | 109,231   | 102,247   | 83,240    | 89,550    | 95,206    | 95,960    | 93,625    | 106,328   | 102,533   | 98,655    | 103,415   | 117,065   | 127,777   |
| Russia                          | 5,475   | 6,895   | 8,978     | 10,938    | 14,662    | 18,924    | 25,576    | 21,233    | 28,360    | 37,365    | 41,991    | 48,530    | 44,012    | 27,083    | 24,617    | 29,621    | 30,774    | 32,672    |
| Switzerland                     | 9,860   | 10,677  | 12,121    | 12,506    | 12,802    | 13,627    | 15,646    | 16,600    | 17,904    | 21,126    | 21,037    | 22,089    | 22,988    | 22,531    | 22,380    | 22,807    | 23,687    | 23,961    |
| Other non-EU                    | 6,472   | 7,638   | 9,611     | 11,550    | 13,042    | 17,603    | 20,849    | 19,306    | 21,680    | 23,534    | 25,469    | 27,664    | 25,892    | 22,678    | 22,689    | 24,364    | 24,873    | 27,158    |
| Middle East                     | 14,232  | 15,254  | 17,264    | 19,469    | 22,931    | 28,955    | 34,469    | 35,863    | 38,515    | 43,278    | 39,436    | 43,741    | 51,229    | 52,837    | 57,084    | 60,975    | 59,426    | 61,478    |
| Iran                            | 3,307   | 3,968   | 4,789     | 5,719     | 7,272     | 9,984     | 12,043    | 13,127    | 14,744    | 16,288    | 8,870     | 8,292     | 10,659    | 11,239    | 12,226    | 12,941    | 7,989     | 6,264     |
| Israel                          | 6,167   | 6,101   | 6,404     | 6,985     | 7,648     | 8,779     | 10,606    | 10,994    | 11,294    | 13,253    | 14,709    | 17,488    | 20,779    | 20,783    | 23,412    | 25,845    | 28,445    | 31,082    |
| Saudi Arabia                    | 1,736   | 1,794   | 1,982     | 2,139     | 2,336     | 2,591     | 3,008     | 3,560     | 4,003     | 4,402     | 5,550     | 6,586     | 7,207     | 7,482     | 7,650     | 7,978     | 8,443     | 9,173     |
| United Arab Emirates            | 2,260   | 2,592   | 3,152     | 3,603     | 4,240     | 5,748     | 6,657     | 5,939     | 6,139     | 6,512     | 7,165     | 7,848     | 8,694     | 9,237     | 9,583     | 10,126    | 10,329    | 10,679    |
| Other Middle East               | 762     | 800     | 937       | 1,022     | 1,435     | 1,853     | 2,156     | 2,242     | 2,335     | 2,822     | 3,143     | 3,527     | 3,889     | 4,097     | 4,212     | 4,085     | 4,220     | 4,279     |
| Africa                          | 5,114   | 6,524   | 8,796     | 11,565    | 13,289    | 15,818    | 20,696    | 20,877    | 23,669    | 26,003    | 28,044    | 29,442    | 30,737    | 28,479    | 25,638    | 23,994    | 26,377    | 28,935    |
| Egypt                           | 473     | 382     | 366       | 510       | 627       | 753       | 898       | 1,071     | 1,219     | 3,023     | 4,005     | 3,995     | 4,323     | 4,530     | 4,011     | 2,867     | 3,545     | 4,424     |
| Nigeria                         | 1,221   | 1,387   | 2,690     | 4,630     | 5,683     | 7,140     | 11,701    | 10,823    | 11,952    | 11,401    | 13,177    | 14,842    | 15,735    | 14,370    | 12,017    | 10,321    | 11,177    | 12,691    |
| South Africa                    | 1,477   | 2,359   | 3,023     | 3,450     | 3,639     | 3,981     | 3,721     | 4,408     | 5,830     | 6,442     | 5,699     | 5,223     | 5,142     | 4,613     | 4,277     | 5,125     | 5,500     | 5,366     |
| Other Africa                    | 1,943   | 2,396   | 2,717     | 2,975     | 3,341     | 3,943     | 4,375     | 4,576     | 4,667     | 5,136     | 5,163     | 5,382     | 5,537     | 4,966     | 5,333     | 5,681     | 6,155     | 6,455     |



Table SKTI-7

Value added of KTI services industries, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Asia                        | 187,955 | 203,851 | 222,858 | 241,928 | 260,259 | 289,660 | 327,611 | 346,608 | 390,400 | 453,183 | 491,179 | 503,751 | 553,008 | 544,434 | 576,797 | 628,316 | 693,412 | 707,341 |
| China                       | 19,857  | 20,286  | 23,378  | 29,921  | 37,831  | 50,613  | 66,448  | 79,820  | 94,812  | 122,088 | 150,561 | 174,833 | 205,027 | 215,576 | 215,915 | 243,712 | 288,090 | 285,503 |
| India                       | 10,236  | 12,106  | 14,940  | 18,134  | 21,094  | 27,623  | 32,281  | 35,900  | 45,777  | 53,451  | 54,513  | 63,045  | 71,641  | 78,879  | 88,036  | 101,430 | 104,986 | 110,842 |
| Indonesia                   | 1,618   | 2,032   | 2,309   | 2,599   | 3,295   | 3,666   | 4,215   | 4,763   | 6,472   | 7,566   | 7,730   | 7,701   | 7,391   | 7,259   | 8,105   | 9,291   | 9,756   | 11,241  |
| Japan                       | 119,474 | 128,428 | 135,539 | 134,942 | 129,916 | 130,184 | 148,813 | 154,447 | 158,794 | 174,031 | 177,036 | 148,465 | 141,116 | 126,891 | 142,497 | 138,838 | 143,465 | 147,906 |
| Malaysia                    | 997     | 1,086   | 1,175   | 1,513   | 1,754   | 2,022   | 2,334   | 2,441   | 3,232   | 3,730   | 3,987   | 4,249   | 4,509   | 4,209   | 4,328   | 4,643   | 5,490   | 5,472   |
| Philippines                 | 1,241   | 1,263   | 1,375   | 1,572   | 1,909   | 2,371   | 2,821   | 2,916   | 3,414   | 3,917   | 4,564   | 4,294   | 4,374   | 4,584   | 5,550   | 5,759   | 6,216   | 6,982   |
| Singapore                   | 1,206   | 1,254   | 1,308   | 1,810   | 2,161   | 2,607   | 3,251   | 3,451   | 4,280   | 5,593   | 6,200   | 6,813   | 7,144   | 6,597   | 6,989   | 7,491   | 8,173   | 8,464   |
| South Korea                 | 24,816  | 28,046  | 32,284  | 39,650  | 47,842  | 54,308  | 49,681  | 45,529  | 53,933  | 60,707  | 62,670  | 68,587  | 84,084  | 71,574  | 74,743  | 82,987  | 91,541  | 93,077  |
| Taiwan                      | 4,927   | 5,293   | 5,837   | 6,509   | 7,278   | 8,070   | 8,767   | 8,527   | 9,457   | 10,371  | 10,778  | 11,574  | 12,518  | 12,891  | 13,653  | 15,214  | 16,235  | 16,922  |
| Thailand                    | 1,576   | 1,857   | 2,298   | 2,501   | 2,889   | 3,433   | 3,786   | 3,339   | 4,078   | 4,738   | 5,451   | 5,803   | 5,574   | 5,460   | 5,333   | 5,965   | 6,122   | 7,487   |
| Vietnam                     | 276     | 302     | 339     | 365     | 405     | 473     | 592     | 649     | 746     | 810     | 906     | 1,031   | 1,104   | 1,128   | 1,200   | 1,273   | 1,375   | 1,462   |
| Other Asia                  | 1,731   | 1,899   | 2,076   | 2,412   | 3,885   | 4,291   | 4,623   | 4,825   | 5,404   | 6,180   | 6,783   | 7,357   | 8,527   | 9,387   | 10,447  | 11,712  | 11,963  | 11,984  |
| Oceania                     | 15,787  | 20,348  | 24,214  | 26,879  | 30,314  | 38,282  | 40,823  | 41,165  | 52,025  | 62,856  | 66,767  | 62,920  | 61,252  | 52,183  | 55,471  | 62,552  | 61,149  | 59,741  |
| Australia                   | 14,798  | 19,058  | 22,695  | 25,199  | 28,715  | 36,103  | 38,786  | 39,237  | 49,862  | 60,238  | 64,064  | 60,067  | 58,300  | 49,683  | 52,864  | 59,684  | 58,400  | 56,853  |
| New Zealand                 | 990     | 1,291   | 1,519   | 1,679   | 1,600   | 2,179   | 2,036   | 1,928   | 2,162   | 2,618   | 2,704   | 2,853   | 2,952   | 2,501   | 2,607   | 2,868   | 2,749   | 2,888   |

EU = European Union; KTI = knowledge and technology intensive.

Note(s):

Value added is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. KTI industries include high R&D intensive and medium-high R&D intensive industries based on a classification by the Organisation for Economic Co-operation and Development. KTI services industries include information technology and other information services, software publishing, and scientific research and development. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See Table SKTI-4 for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK's withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

Source(s):

U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.



Table SKTI-8  
Value added of chemicals and chemical products industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017      | 2018      | 2019      |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-----------|-----------|
| World                           | 405,241 | 445,478 | 509,771 | 529,708 | 571,994 | 659,869 | 717,963 | 687,255 | 813,509 | 938,688 | 928,274 | 951,414 | 952,772 | 943,524 | 952,857 | 1,006,736 | 1,085,992 | 1,052,913 |
| North America                   | 126,846 | 125,920 | 139,205 | 137,709 | 157,166 | 167,110 | 165,467 | 164,446 | 196,931 | 203,557 | 211,056 | 219,788 | 216,683 | 210,439 | 221,901 | 222,979   | 233,188   | 230,321   |
| Canada                          | 6,604   | 7,177   | 7,826   | 7,897   | 7,858   | 8,456   | 8,508   | 8,130   | 10,630  | 13,435  | 13,321  | 13,670  | 11,944  | 11,527  | 11,256  | 11,908    | 12,132    | 11,033    |
| Mexico                          | 9,826   | 8,684   | 10,279  | 10,598  | 13,401  | 13,814  | 15,351  | 12,105  | 14,156  | 14,664  | 16,751  | 17,762  | 14,683  | 13,292  | 12,042  | 10,283    | 10,782    | 10,712    |
| United States                   | 110,416 | 110,060 | 121,101 | 119,214 | 135,907 | 144,841 | 141,608 | 144,211 | 172,146 | 175,458 | 180,983 | 188,356 | 190,056 | 185,619 | 198,603 | 200,788   | 210,273   | 208,576   |
| Central and South America       | 16,514  | 19,379  | 23,702  | 27,533  | 30,667  | 38,614  | 47,993  | 42,953  | 51,538  | 58,458  | 57,361  | 55,327  | 50,433  | 44,976  | 40,802  | 46,500    | 43,279    | 41,562    |
| Argentina                       | 1,705   | 2,431   | 3,106   | 3,847   | 4,552   | 5,505   | 7,378   | 7,528   | 9,247   | 9,708   | 9,682   | 9,088   | 5,871   | 5,427   | 5,918   | 6,841     | 5,661     | 5,441     |
| Brazil                          | 9,790   | 11,488  | 14,181  | 15,734  | 17,755  | 23,395  | 28,608  | 22,795  | 30,775  | 36,027  | 33,048  | 32,047  | 31,702  | 25,884  | 25,571  | 29,394    | 26,327    | 26,646    |
| Chile                           | 977     | 1,435   | 1,715   | 2,414   | 2,212   | 2,316   | 2,307   | 2,130   | 2,185   | 2,665   | 3,010   | 2,627   | 2,153   | 1,930   | 1,757   | 1,576     | 1,734     | 1,472     |
| Colombia                        | 1,552   | 1,650   | 1,916   | 2,174   | 2,346   | 2,732   | 3,265   | 3,420   | 3,809   | 3,840   | 4,280   | 4,317   | 4,133   | 3,634   | 3,559   | 3,685     | 3,840     | 3,485     |
| Peru                            | 534     | 566     | 650     | 754     | 829     | 996     | 1,213   | 1,210   | 1,381   | 1,501   | 1,717   | 1,824   | 1,760   | 1,609   | 1,607   | 1,611     | 1,661     | 1,696     |
| Other Central and South America | 1,955   | 1,809   | 2,133   | 2,610   | 2,974   | 3,670   | 5,222   | 5,869   | 4,141   | 4,718   | 5,624   | 5,424   | 4,814   | 6,491   | 2,389   | 3,393     | 4,057     | 2,822     |
| Europe                          | 111,313 | 129,785 | 146,546 | 153,007 | 160,423 | 183,213 | 201,694 | 163,170 | 175,320 | 201,061 | 184,094 | 190,416 | 192,564 | 184,586 | 180,542 | 189,564   | 199,287   | 178,417   |
| EU                              | 88,006  | 102,175 | 116,428 | 119,288 | 123,391 | 143,759 | 151,895 | 130,727 | 139,272 | 154,962 | 141,652 | 146,129 | 147,245 | 146,974 | 147,577 | 155,120   | 162,488   | 143,042   |
| France                          | 12,071  | 14,369  | 16,189  | 17,077  | 17,185  | 20,043  | 22,206  | 20,489  | 19,231  | 21,970  | 20,561  | 23,489  | 24,150  | 21,732  | 20,962  | 22,521    | 22,748    | 20,046    |
| Germany                         | 33,644  | 38,923  | 43,474  | 43,546  | 44,210  | 51,349  | 55,032  | 47,314  | 53,121  | 56,488  | 51,141  | 53,014  | 55,584  | 50,551  | 52,828  | 56,173    | 58,734    | 50,973    |
| Italy                           | 9,267   | 10,407  | 11,761  | 11,739  | 12,006  | 13,766  | 13,629  | 11,732  | 12,965  | 13,412  | 12,281  | 13,009  | 10,214  | 12,085  | 13,296  | 13,701    | 14,549    | 12,950    |
| Spain                           | 6,879   | 8,144   | 9,425   | 9,764   | 10,245  | 11,386  | 12,513  | 10,735  | 11,205  | 12,278  | 10,129  | 9,843   | 10,228  | 8,940   | 9,648   | 10,398    | 11,076    | 9,917     |
| Other EU                        | 26,146  | 30,332  | 35,579  | 37,162  | 39,746  | 47,215  | 48,517  | 40,457  | 42,750  | 50,815  | 47,540  | 46,775  | 47,069  | 53,666  | 50,844  | 52,326    | 55,381    | 49,155    |
| Non-EU                          | 23,307  | 27,610  | 30,118  | 33,720  | 37,032  | 39,454  | 49,799  | 32,443  | 36,048  | 46,099  | 42,442  | 44,287  | 45,319  | 37,611  | 32,965  | 34,444    | 36,799    | 35,375    |
| United Kingdom                  | 14,539  | 16,494  | 15,797  | 17,047  | 17,713  | 16,476  | 14,427  | 12,380  | 12,003  | 14,915  | 14,075  | 16,615  | 18,517  | 18,673  | 15,400  | 15,711    | 17,298    | 15,754    |
| Russia                          | 2,955   | 4,081   | 6,360   | 9,056   | 10,426  | 12,751  | 23,052  | 10,677  | 13,115  | 18,964  | 17,814  | 15,312  | 14,487  | 6,974   | 5,793   | 6,691     | 7,111     | 7,662     |
| Switzerland                     | 2,344   | 2,626   | 2,855   | 3,037   | 3,344   | 3,769   | 4,178   | 4,197   | 4,526   | 4,650   | 3,537   | 3,850   | 4,063   | 4,378   | 4,713   | 4,370     | 5,166     | 4,973     |
| Other non-EU                    | 3,468   | 4,409   | 5,106   | 4,579   | 5,549   | 6,459   | 8,141   | 5,188   | 6,405   | 7,569   | 7,017   | 8,510   | 8,252   | 7,586   | 7,058   | 7,672     | 7,225     | 6,985     |
| Middle East                     | 11,424  | 12,489  | 15,826  | 17,972  | 22,333  | 33,131  | 40,160  | 38,511  | 44,116  | 55,756  | 55,427  | 53,078  | 56,964  | 53,523  | 51,222  | 55,838    | 61,135    | 56,638    |
| Iran                            | 2,618   | 2,498   | 3,556   | 3,377   | 5,026   | 7,543   | 8,222   | 9,982   | 10,604  | 15,564  | 8,246   | 7,087   | 9,301   | 8,951   | 9,881   | 11,180    | 9,593     | 9,393     |
| Israel                          | 1,032   | 1,179   | 1,426   | 1,718   | 2,089   | 2,433   | 3,584   | 3,410   | 3,626   | 4,103   | 4,342   | 4,160   | 3,631   | 5,014   | 3,529   | 3,884     | 3,926     | 3,811     |
| Saudi Arabia                    | 3,969   | 4,332   | 5,014   | 5,760   | 6,692   | 10,441  | 12,074  | 12,445  | 14,994  | 16,542  | 18,520  | 19,415  | 20,976  | 23,159  | 23,541  | 25,386    | 31,011    | 25,671    |
| United Arab Emirates            | 2,220   | 2,480   | 2,895   | 3,586   | 4,839   | 5,520   | 6,439   | 4,755   | 5,244   | 5,498   | 6,221   | 6,119   | 6,644   | 5,688   | 5,230   | 5,849     | 6,098     | 7,818     |
| Other Middle East               | 1,586   | 2,002   | 2,935   | 3,530   | 3,686   | 7,194   | 9,840   | 7,918   | 9,648   | 14,049  | 18,098  | 16,296  | 16,412  | 10,710  | 9,041   | 9,540     | 10,507    | 9,944     |
| Africa                          | 4,917   | 6,448   | 7,844   | 8,710   | 6,815   | 7,831   | 9,044   | 8,818   | 10,191  | 10,251  | 11,075  | 10,760  | 10,742  | 9,885   | 10,383  | 10,509    | 11,893    | 13,189    |
| Egypt                           | 866     | 710     | 930     | 1,081   | 1,190   | 1,478   | 1,870   | 2,058   | 2,463   | 2,658   | 2,943   | 2,263   | 1,805   | 1,767   | 2,258   | 2,018     | 2,453     | 2,847     |
| Nigeria                         | 60      | 64      | 72      | 84      | 98      | 116     | 141     | 129     | 145     | 233     | 387     | 606     | 853     | 853     | 670     | 629       | 789       | 1,292     |
| South Africa                    | 2,774   | 4,263   | 5,276   | 5,669   | 3,564   | 3,606   | 3,862   | 3,816   | 4,203   | 3,870   | 4,229   | 4,012   | 3,947   | 3,434   | 2,965   | 3,113     | 3,318     | 3,445     |
| Other Africa                    | 1,217   | 1,410   | 1,565   | 1,875   | 1,963   | 2,631   | 3,170   | 2,815   | 3,380   | 3,491   | 3,517   | 3,880   | 4,137   | 3,831   | 4,491   | 4,749     | 5,334     | 5,605     |

Table SKTI-8  
Value added of chemicals and chemical products industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Asia                        | 132,031 | 148,563 | 173,140 | 181,215 | 191,153 | 225,299 | 248,464 | 264,193 | 329,339 | 403,050 | 403,099 | 415,567 | 418,983 | 434,849 | 443,292 | 476,408 | 532,450 | 528,659 |
| China                       | 36,714  | 43,679  | 56,156  | 62,765  | 74,288  | 100,067 | 120,194 | 127,064 | 163,643 | 214,757 | 221,443 | 242,156 | 250,309 | 256,040 | 246,983 | 273,074 | 325,928 | 326,874 |
| India                       | 5,271   | 6,011   | 7,072   | 8,074   | 8,931   | 11,716  | 12,827  | 13,305  | 15,775  | 21,689  | 16,721  | 15,908  | 15,614  | 21,114  | 20,259  | 22,730  | 25,538  | 29,263  |
| Indonesia                   | 1,730   | 2,453   | 1,819   | 2,646   | 4,348   | 6,000   | 7,728   | 7,355   | 8,976   | 12,350  | 13,473  | 17,468  | 17,783  | 16,159  | 16,465  | 17,930  | 16,120  | 17,636  |
| Japan                       | 62,074  | 67,330  | 70,768  | 67,471  | 62,539  | 62,250  | 67,269  | 74,750  | 85,703  | 89,862  | 89,763  | 74,365  | 68,057  | 70,366  | 82,954  | 80,251  | 78,682  | 76,153  |
| Malaysia                    | 2,101   | 2,656   | 3,586   | 3,749   | 4,975   | 4,655   | 5,283   | 4,407   | 5,847   | 6,194   | 6,542   | 6,202   | 5,862   | 6,143   | 6,154   | 6,164   | 7,343   | 7,404   |
| Philippines                 | 619     | 605     | 660     | 614     | 706     | 702     | 684     | 746     | 671     | 1,010   | 1,120   | 785     | 720     | 708     | 885     | 914     | 946     | 904     |
| Singapore                   | 1,646   | 1,893   | 2,748   | 2,576   | 2,476   | 3,377   | 1,502   | 2,409   | 3,470   | 3,985   | 2,640   | 4,156   | 4,436   | 5,814   | 8,969   | 8,828   | 9,358   | 9,380   |
| South Korea                 | 12,686  | 13,852  | 17,076  | 18,878  | 19,811  | 22,508  | 20,652  | 19,119  | 24,879  | 32,449  | 32,232  | 33,706  | 34,393  | 33,674  | 34,189  | 35,966  | 36,767  | 30,636  |
| Taiwan                      | 6,564   | 6,880   | 9,302   | 9,816   | 7,242   | 8,564   | 5,894   | 7,884   | 12,346  | 11,567  | 9,467   | 10,454  | 10,790  | 13,105  | 14,379  | 17,442  | 17,971  | 16,170  |
| Thailand                    | 899     | 1,062   | 1,124   | 1,210   | 1,343   | 1,600   | 1,990   | 2,119   | 2,842   | 3,479   | 3,913   | 4,294   | 4,674   | 5,050   | 5,391   | 5,954   | 6,473   | 6,889   |
| Vietnam                     | 320     | 353     | 432     | 542     | 699     | 826     | 1,157   | 1,891   | 1,534   | 1,466   | 1,673   | 1,821   | 1,922   | 2,210   | 2,347   | 2,478   | 2,853   | 3,089   |
| Other Asia                  | 1,405   | 1,790   | 2,398   | 2,873   | 3,794   | 3,034   | 3,285   | 3,142   | 3,652   | 4,243   | 4,111   | 4,252   | 4,422   | 4,465   | 4,317   | 4,677   | 4,473   | 4,261   |
| Oceania                     | 2,196   | 2,893   | 3,508   | 3,562   | 3,437   | 4,671   | 5,140   | 5,164   | 6,074   | 6,552   | 6,163   | 6,478   | 6,402   | 5,266   | 4,716   | 4,937   | 4,760   | 4,128   |
| Australia                   | 1,716   | 2,414   | 2,929   | 2,945   | 2,887   | 4,074   | 4,716   | 4,632   | 5,503   | 5,970   | 5,470   | 5,590   | 5,639   | 4,555   | 3,924   | 4,110   | 3,980   | 3,385   |
| New Zealand                 | 479     | 479     | 579     | 617     | 550     | 597     | 425     | 532     | 571     | 582     | 693     | 887     | 763     | 711     | 792     | 828     | 779     | 743     |

EU = European Union.

**Note(s):**  
*Value added* is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See [Table SKTI-4](#) for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK’s withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.

Table SKTI-9  
Value added of pharmaceuticals industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| World                           | 256,875 | 285,989 | 308,882 | 323,212 | 355,289 | 389,752 | 415,141 | 435,708 | 439,928 | 471,393 | 465,123 | 482,080 | 502,961 | 530,653 | 568,998 | 593,700 | 642,580 | 657,966 |
| North America                   | 103,871 | 107,628 | 112,684 | 111,221 | 126,929 | 131,817 | 132,616 | 151,480 | 139,434 | 138,362 | 132,841 | 141,236 | 148,706 | 155,782 | 166,431 | 170,148 | 173,333 | 190,466 |
| Canada                          | 2,941   | 3,589   | 3,523   | 3,734   | 4,996   | 4,450   | 4,176   | 4,116   | 4,540   | 4,283   | 4,693   | 3,800   | 4,465   | 3,994   | 4,109   | 4,077   | 4,067   | 4,302   |
| Mexico                          | 3,497   | 3,467   | 3,475   | 3,730   | 4,076   | 4,281   | 4,390   | 3,613   | 3,744   | 3,577   | 4,158   | 4,321   | 4,278   | 4,152   | 3,876   | 3,935   | 3,779   | 3,781   |
| United States                   | 97,432  | 100,571 | 105,686 | 103,758 | 117,857 | 123,086 | 124,050 | 143,751 | 131,150 | 130,502 | 123,990 | 133,114 | 139,962 | 147,636 | 158,446 | 162,136 | 165,487 | 182,383 |
| Central and South America       | 4,553   | 4,828   | 5,779   | 7,694   | 9,467   | 11,482  | 13,036  | 12,672  | 14,894  | 16,138  | 15,531  | 15,061  | 14,620  | 11,991  | 11,863  | 14,420  | 13,493  | 12,724  |
| Argentina                       | 188     | 264     | 329     | 417     | 506     | 623     | 830     | 893     | 1,078   | 1,196   | 1,253   | 1,251   | 1,047   | 1,059   | 1,127   | 1,232   | 1,254   | 1,296   |
| Brazil                          | 3,000   | 3,282   | 3,870   | 5,523   | 6,930   | 8,486   | 9,148   | 8,657   | 10,513  | 11,268  | 10,131  | 9,724   | 9,804   | 7,257   | 7,529   | 9,716   | 8,498   | 7,895   |
| Chile                           | 181     | 203     | 259     | 301     | 396     | 439     | 521     | 498     | 633     | 760     | 787     | 726     | 718     | 634     | 638     | 686     | 709     | 723     |
| Colombia                        | 549     | 511     | 702     | 719     | 806     | 961     | 1,183   | 1,149   | 1,369   | 1,489   | 1,659   | 1,680   | 1,599   | 1,406   | 1,365   | 1,450   | 1,538   | 1,471   |
| Peru                            | 225     | 189     | 177     | 210     | 245     | 297     | 383     | 401     | 422     | 446     | 482     | 434     | 389     | 283     | 292     | 286     | 292     | 277     |
| Other Central and South America | 409     | 379     | 442     | 524     | 583     | 677     | 971     | 1,074   | 880     | 979     | 1,219   | 1,247   | 1,062   | 1,352   | 911     | 1,050   | 1,202   | 1,063   |
| Europe                          | 95,799  | 113,846 | 125,475 | 133,499 | 142,372 | 160,137 | 174,131 | 167,671 | 166,818 | 175,907 | 165,317 | 171,553 | 175,577 | 185,095 | 197,510 | 194,683 | 215,599 | 211,355 |
| EU                              | 69,579  | 83,321  | 89,451  | 95,040  | 98,518  | 111,819 | 120,870 | 119,609 | 116,699 | 122,827 | 114,659 | 119,819 | 122,860 | 134,444 | 142,598 | 137,994 | 154,277 | 147,950 |
| France                          | 10,813  | 13,786  | 14,639  | 15,342  | 17,112  | 17,995  | 18,137  | 16,587  | 15,595  | 16,656  | 15,139  | 15,937  | 15,281  | 13,766  | 13,841  | 14,192  | 14,598  | 14,363  |
| Germany                         | 12,504  | 16,793  | 19,629  | 22,044  | 23,545  | 26,982  | 31,294  | 28,523  | 27,198  | 29,602  | 28,403  | 29,553  | 31,318  | 25,351  | 28,475  | 25,004  | 30,865  | 24,796  |
| Italy                           | 7,867   | 9,560   | 10,225  | 9,718   | 9,738   | 10,725  | 12,066  | 11,164  | 11,042  | 11,909  | 10,909  | 11,480  | 10,861  | 9,858   | 10,272  | 10,376  | 11,045  | 10,333  |
| Spain                           | 3,935   | 5,043   | 5,987   | 6,556   | 7,296   | 8,671   | 10,092  | 9,127   | 7,089   | 6,819   | 6,599   | 8,057   | 9,104   | 7,578   | 7,772   | 7,747   | 7,897   | 7,755   |
| Other EU                        | 34,461  | 38,139  | 38,972  | 41,381  | 40,827  | 47,446  | 49,280  | 54,208  | 55,774  | 57,841  | 53,609  | 54,793  | 56,296  | 77,891  | 82,238  | 80,675  | 89,871  | 90,704  |
| Non-EU                          | 26,220  | 30,525  | 36,024  | 38,459  | 43,854  | 48,318  | 53,261  | 48,062  | 50,119  | 53,080  | 50,658  | 51,734  | 52,717  | 50,651  | 54,912  | 56,689  | 61,323  | 63,405  |
| United Kingdom                  | 15,010  | 16,303  | 18,974  | 19,676  | 22,967  | 23,921  | 25,465  | 21,853  | 21,612  | 22,054  | 19,797  | 18,608  | 19,437  | 18,109  | 18,039  | 17,561  | 19,022  | 19,137  |
| Russia                          | 839     | 972     | 1,223   | 1,485   | 1,810   | 2,343   | 2,695   | 2,124   | 2,434   | 2,601   | 3,185   | 3,687   | 3,307   | 1,416   | 2,006   | 1,728   | 1,639   | 1,742   |
| Switzerland                     | 9,596   | 11,958  | 14,254  | 15,253  | 16,806  | 19,098  | 21,771  | 21,311  | 22,730  | 25,453  | 24,679  | 26,371  | 26,949  | 28,243  | 31,661  | 34,058  | 37,137  | 38,633  |
| Other non-EU                    | 776     | 1,292   | 1,573   | 2,045   | 2,272   | 2,956   | 3,331   | 2,774   | 3,343   | 2,972   | 2,997   | 3,069   | 3,024   | 2,882   | 3,206   | 3,341   | 3,524   | 3,893   |
| Middle East                     | 2,476   | 2,871   | 3,270   | 3,656   | 4,173   | 4,777   | 5,089   | 5,163   | 6,415   | 7,261   | 6,418   | 6,161   | 6,225   | 7,297   | 6,280   | 6,625   | 5,839   | 5,713   |
| Iran                            | 354     | 522     | 556     | 608     | 745     | 947     | 1,234   | 1,606   | 1,810   | 2,657   | 1,408   | 1,210   | 1,588   | 1,528   | 1,746   | 1,974   | 1,688   | 1,597   |
| Israel                          | 1,642   | 1,816   | 2,103   | 2,326   | 2,552   | 2,733   | 2,632   | 2,475   | 3,456   | 3,333   | 3,528   | 3,380   | 2,950   | 4,073   | 2,867   | 2,789   | 2,331   | 2,139   |
| Saudi Arabia                    | 52      | 57      | 66      | 76      | 88      | 137     | 159     | 163     | 196     | 209     | 250     | 272     | 289     | 310     | 308     | 374     | 418     | 385     |
| United Arab Emirates            | 134     | 149     | 174     | 216     | 291     | 332     | 388     | 286     | 316     | 373     | 423     | 459     | 419     | 459     | 525     | 506     | 398     | 449     |
| Other Middle East               | 294     | 326     | 371     | 431     | 496     | 628     | 676     | 632     | 636     | 689     | 810     | 841     | 979     | 928     | 834     | 982     | 1,003   | 1,144   |
| Africa                          | 787     | 867     | 1,094   | 1,228   | 1,303   | 1,505   | 1,719   | 1,813   | 2,158   | 2,114   | 2,184   | 2,298   | 2,213   | 2,346   | 2,477   | 2,640   | 2,929   | 3,592   |
| Egypt                           | 356     | 292     | 382     | 444     | 489     | 607     | 769     | 846     | 1,012   | 921     | 922     | 983     | 856     | 987     | 993     | 1,160   | 1,384   | 1,942   |
| Nigeria                         | 10      | 10      | 11      | 13      | 16      | 18      | 22      | 20      | 23      | 37      | 61      | 96      | 135     | 135     | 112     | 108     | 128     | 213     |
| South Africa                    | 236     | 342     | 465     | 509     | 533     | 581     | 596     | 635     | 775     | 778     | 826     | 831     | 817     | 856     | 961     | 948     | 955     | 941     |
| Other Africa                    | 185     | 223     | 235     | 262     | 266     | 298     | 331     | 312     | 347     | 378     | 374     | 388     | 406     | 368     | 411     | 423     | 462     | 496     |

Table SKTI-9  
Value added of pharmaceuticals industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002   | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Asia                        | 47,757 | 53,871 | 58,226 | 63,555 | 68,490 | 77,420 | 86,109 | 94,418 | 106,954 | 127,769 | 139,055 | 142,036 | 152,247 | 165,341 | 181,747 | 202,049 | 228,223 | 231,394 |
| China                       | 14,497 | 16,186 | 16,141 | 19,658 | 22,349 | 28,052 | 37,488 | 41,334 | 47,335  | 58,692  | 73,290  | 84,314  | 95,166  | 106,325 | 116,085 | 133,259 | 153,450 | 158,924 |
| India                       | 3,039  | 3,438  | 4,306  | 5,075  | 5,614  | 7,365  | 8,063  | 7,915  | 9,534   | 13,722  | 11,486  | 12,344  | 13,292  | 14,276  | 14,517  | 19,495  | 21,806  | 23,995  |
| Indonesia                   | 1,840  | 2,137  | 1,682  | 2,008  | 2,026  | 2,796  | 3,603  | 3,427  | 4,184   | 3,533   | 1,468   | 1,141   | 1,300   | 1,091   | 1,260   | 1,418   | 1,415   | 1,588   |
| Japan                       | 21,473 | 24,174 | 25,367 | 25,351 | 23,636 | 22,512 | 23,366 | 27,720 | 31,431  | 33,576  | 32,475  | 27,061  | 24,127  | 24,919  | 29,719  | 27,432  | 26,896  | 27,004  |
| Malaysia                    | 87     | 99     | 108    | 142    | 180    | 178    | 223    | 212    | 275     | 299     | 323     | 376     | 429     | 374     | 359     | 344     | 380     | 410     |
| Philippines                 | 151    | 185    | 210    | 236    | 331    | 285    | 236    | 386    | 471     | 430     | 392     | 706     | 556     | 338     | 442     | 546     | 414     | 408     |
| Singapore                   | 2,719  | 3,274  | 5,228  | 4,777  | 7,462  | 8,506  | 5,714  | 6,237  | 6,205   | 9,298   | 11,391  | 7,218   | 7,503   | 7,577   | 8,000   | 6,838   | 9,689   | 4,534   |
| South Korea                 | 2,647  | 2,839  | 3,331  | 4,206  | 4,690  | 5,201  | 4,611  | 4,258  | 4,127   | 4,666   | 4,470   | 4,794   | 5,440   | 5,923   | 6,374   | 7,177   | 7,820   | 7,390   |
| Taiwan                      | 556    | 649    | 688    | 770    | 875    | 951    | 953    | 1,026  | 1,177   | 1,278   | 1,331   | 1,381   | 1,325   | 1,336   | 1,447   | 1,439   | 1,463   | 1,662   |
| Thailand                    | 91     | 109    | 123    | 138    | 170    | 202    | 226    | 260    | 340     | 366     | 436     | 501     | 565     | 629     | 688     | 795     | 983     | 1,074   |
| Vietnam                     | 208    | 201    | 269    | 273    | 290    | 375    | 480    | 526    | 621     | 430     | 500     | 598     | 735     | 676     | 731     | 709     | 913     | 962     |
| Other Asia                  | 449    | 579    | 773    | 922    | 869    | 997    | 1,146  | 1,118  | 1,255   | 1,480   | 1,493   | 1,604   | 1,809   | 1,879   | 2,127   | 2,599   | 2,994   | 3,443   |
| Oceania                     | 1,632  | 2,080  | 2,353  | 2,358  | 2,555  | 2,613  | 2,442  | 2,491  | 3,254   | 3,842   | 3,777   | 3,736   | 3,373   | 2,800   | 2,692   | 3,135   | 3,165   | 2,723   |
| Australia                   | 1,557  | 2,010  | 2,277  | 2,266  | 2,477  | 2,495  | 2,379  | 2,404  | 3,122   | 3,709   | 3,584   | 3,522   | 3,156   | 2,594   | 2,467   | 2,915   | 2,953   | 2,525   |
| New Zealand                 | 75     | 71     | 76     | 92     | 77     | 118    | 63     | 87     | 133     | 134     | 194     | 214     | 217     | 206     | 225     | 220     | 212     | 198     |

EU = European Union.

**Note(s):**  
*Value added* is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See [Table SKTI-4](#) for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK’s withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.

Table SKTI-10  
Value added of computer, electronic, and optical products industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| World                           | 542,766 | 620,698 | 694,914 | 726,171 | 781,020 | 844,390 | 870,614 | 787,935 | 909,898 | 967,122 | 973,445 | 1,007,788 | 1,066,306 | 1,057,710 | 1,074,808 | 1,175,421 | 1,283,449 | 1,255,021 |
| North America                   | 197,674 | 216,226 | 223,055 | 234,423 | 249,092 | 254,226 | 256,648 | 243,111 | 262,113 | 260,000 | 263,797 | 266,499   | 275,741   | 292,357   | 291,607   | 304,636   | 329,873   | 333,865   |
| Canada                          | 4,003   | 4,968   | 5,778   | 6,506   | 6,872   | 7,317   | 7,086   | 6,716   | 7,725   | 7,691   | 6,728   | 5,895     | 5,646     | 4,925     | 4,709     | 5,036     | 4,649     | 4,371     |
| Mexico                          | 19,528  | 16,524  | 14,500  | 15,389  | 16,653  | 16,792  | 15,437  | 10,882  | 12,298  | 12,519  | 13,680  | 13,823    | 16,690    | 17,968    | 16,743    | 17,650    | 18,225    | 19,369    |
| United States                   | 174,143 | 194,735 | 202,777 | 212,528 | 225,567 | 230,117 | 234,126 | 225,514 | 242,090 | 239,790 | 243,389 | 246,781   | 253,405   | 269,464   | 270,155   | 281,950   | 306,999   | 310,124   |
| Central and South America       | 5,242   | 4,335   | 6,035   | 6,996   | 8,929   | 9,944   | 12,339  | 9,815   | 12,998  | 14,249  | 13,914  | 14,558    | 13,077    | 9,444     | 8,675     | 11,057    | 9,462     | 8,556     |
| Argentina                       | 100     | 158     | 239     | 314     | 364     | 449     | 535     | 491     | 646     | 710     | 685     | 651       | 529       | 490       | 504       | 597       | 505       | 450       |
| Brazil                          | 4,516   | 3,565   | 5,091   | 5,912   | 7,717   | 8,422   | 10,542  | 7,876   | 11,080  | 12,251  | 11,536  | 12,205    | 10,970    | 7,026     | 6,976     | 9,165     | 7,549     | 6,950     |
| Chile                           | 26      | 27      | 29      | 28      | 27      | 29      | 25      | 28      | 35      | 43      | 51      | 58        | 99        | 340       | 305       | 277       | 311       | 219       |
| Colombia                        | 103     | 99      | 128     | 114     | 124     | 159     | 132     | 151     | 168     | 190     | 195     | 326       | 281       | 263       | 153       | 178       | 180       | 170       |
| Peru                            | 20      | 12      | 14      | 15      | 28      | 36      | 49      | 38      | 45      | 43      | 64      | 71        | 67        | 57        | 52        | 52        | 53        | 52        |
| Other Central and South America | 478     | 472     | 533     | 613     | 669     | 848     | 1,056   | 1,231   | 1,025   | 1,012   | 1,384   | 1,247     | 1,131     | 1,268     | 685       | 788       | 863       | 715       |
| Europe                          | 108,492 | 127,570 | 151,633 | 155,402 | 164,372 | 188,490 | 193,642 | 153,165 | 162,708 | 180,726 | 166,206 | 173,880   | 178,513   | 153,629   | 153,140   | 156,544   | 166,613   | 151,855   |
| EU                              | 80,619  | 97,179  | 114,370 | 116,667 | 123,289 | 141,472 | 140,252 | 109,912 | 115,144 | 123,273 | 108,978 | 115,134   | 118,558   | 104,869   | 107,578   | 110,839   | 115,609   | 101,320   |
| France                          | 14,778  | 16,273  | 17,880  | 16,540  | 16,566  | 18,050  | 18,001  | 15,026  | 15,177  | 15,378  | 14,122  | 14,731    | 14,757    | 12,751    | 13,086    | 13,743    | 14,801    | 13,455    |
| Germany                         | 25,086  | 31,570  | 37,819  | 37,842  | 39,725  | 49,903  | 47,858  | 34,954  | 39,688  | 44,894  | 40,585  | 43,025    | 45,208    | 42,374    | 44,539    | 45,695    | 45,800    | 39,349    |
| Italy                           | 7,349   | 8,578   | 9,894   | 10,122  | 10,445  | 11,822  | 12,025  | 10,223  | 10,720  | 11,870  | 10,728  | 10,552    | 10,625    | 9,224     | 8,926     | 9,361     | 9,894     | 8,592     |
| Spain                           | 2,385   | 2,730   | 2,762   | 2,892   | 2,934   | 3,587   | 3,959   | 3,342   | 2,820   | 2,891   | 2,512   | 2,463     | 2,160     | 1,731     | 1,737     | 1,845     | 2,102     | 1,887     |
| Other EU                        | 31,021  | 38,028  | 46,014  | 49,271  | 53,618  | 58,110  | 58,410  | 46,366  | 46,739  | 48,240  | 41,032  | 44,363    | 45,808    | 38,789    | 39,291    | 40,195    | 43,012    | 38,037    |
| Non-EU                          | 27,872  | 30,391  | 37,263  | 38,735  | 41,082  | 47,018  | 53,390  | 43,253  | 47,564  | 57,453  | 57,228  | 58,746    | 59,954    | 48,760    | 45,562    | 45,704    | 51,004    | 50,535    |
| United Kingdom                  | 14,360  | 13,746  | 17,754  | 16,607  | 16,937  | 18,148  | 19,255  | 16,589  | 17,593  | 18,802  | 17,854  | 17,979    | 18,884    | 18,317    | 16,914    | 16,620    | 19,447    | 17,968    |
| Russia                          | 1,944   | 2,607   | 3,876   | 4,713   | 5,648   | 7,671   | 9,196   | 5,845   | 7,358   | 9,170   | 9,852   | 10,467    | 9,776     | 4,338     | 4,147     | 4,706     | 4,845     | 5,204     |
| Switzerland                     | 9,508   | 11,196  | 12,611  | 14,051  | 15,452  | 17,601  | 21,216  | 18,239  | 19,726  | 26,273  | 26,074  | 26,844    | 27,846    | 23,365    | 21,708    | 21,165    | 23,324    | 23,712    |
| Other non-EU                    | 2,061   | 2,842   | 3,022   | 3,364   | 3,045   | 3,598   | 3,724   | 2,579   | 2,886   | 3,208   | 3,449   | 3,456     | 3,449     | 2,739     | 2,793     | 3,213     | 3,387     | 3,651     |
| Middle East                     | 4,795   | 5,066   | 5,242   | 5,458   | 5,900   | 6,970   | 7,363   | 8,181   | 8,524   | 9,045   | 10,704  | 10,092    | 10,847    | 9,570     | 9,679     | 10,793    | 11,569    | 13,014    |
| Iran                            | 293     | 331     | 471     | 410     | 401     | 467     | 486     | 861     | 790     | 1,159   | 614     | 528       | 693       | 667       | 783       | 884       | 760       | 725       |
| Israel                          | 4,338   | 4,549   | 4,547   | 4,787   | 5,238   | 6,176   | 6,492   | 6,966   | 7,318   | 7,408   | 9,565   | 9,042     | 9,634     | 8,495     | 8,418     | 9,369     | 10,264    | 11,757    |
| Saudi Arabia                    | 20      | 22      | 26      | 30      | 34      | 36      | 41      | 40      | 48      | 56      | 69      | 86        | 95        | 91        | 85        | 107       | 115       | 101       |
| United Arab Emirates            | 23      | 26      | 30      | 37      | 50      | 57      | 67      | 49      | 54      | 63      | 69      | 64        | 59        | 62        | 68        | 74        | 64        | 67        |
| Other Middle East               | 120     | 138     | 168     | 194     | 177     | 233     | 278     | 265     | 314     | 359     | 387     | 371       | 367       | 255       | 324       | 360       | 367       | 364       |
| Africa                          | 829     | 1,083   | 1,318   | 1,504   | 1,493   | 1,482   | 1,408   | 1,470   | 1,629   | 1,577   | 1,954   | 1,606     | 1,586     | 1,394     | 1,493     | 1,628     | 1,687     | 1,745     |
| Egypt                           | 48      | 39      | 51      | 60      | 66      | 82      | 103     | 114     | 136     | 72      | 470     | 113       | 51        | 147       | 190       | 283       | 347       | 385       |
| Nigeria                         | 2       | 2       | 2       | 3       | 3       | 4       | 4       | 4       | 5       | 8       | 8       | 9         | 10        | 8         | 6         | 5         | 7         | 12        |
| South Africa                    | 379     | 557     | 687     | 690     | 626     | 641     | 582     | 583     | 624     | 638     | 676     | 639       | 657       | 585       | 636       | 607       | 545       | 513       |
| Other Africa                    | 401     | 485     | 577     | 751     | 798     | 756     | 719     | 769     | 864     | 859     | 799     | 845       | 868       | 653       | 661       | 733       | 788       | 835       |

Table SKTI-10

Value added of computer, electronic, and optical products industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Asia                        | 223,876 | 263,909 | 304,933 | 319,315 | 347,923 | 379,462 | 394,940 | 368,883 | 457,960 | 496,598 | 511,758 | 536,330 | 582,298 | 586,512 | 605,738 | 686,309 | 759,766 | 742,192 |
| China                       | 48,916  | 62,372  | 72,135  | 83,249  | 99,773  | 111,481 | 132,967 | 130,115 | 157,898 | 186,633 | 210,581 | 237,686 | 262,882 | 279,664 | 286,243 | 319,641 | 364,788 | 373,195 |
| India                       | 2,480   | 2,882   | 2,985   | 3,653   | 4,051   | 4,743   | 4,257   | 4,390   | 4,838   | 4,326   | 3,955   | 4,200   | 3,869   | 4,481   | 4,791   | 5,500   | 6,523   | 6,490   |
| Indonesia                   | 1,047   | 1,317   | 1,310   | 1,135   | 1,746   | 2,665   | 3,035   | 2,894   | 2,725   | 2,828   | 3,034   | 3,865   | 3,280   | 4,680   | 4,812   | 4,743   | 3,733   | 3,407   |
| Japan                       | 95,171  | 110,672 | 122,184 | 116,685 | 113,142 | 117,878 | 119,312 | 103,820 | 124,797 | 120,759 | 103,279 | 84,199  | 81,303  | 75,974  | 80,840  | 78,501  | 77,647  | 76,800  |
| Malaysia                    | 7,571   | 8,822   | 10,074  | 9,217   | 9,833   | 11,284  | 10,777  | 7,587   | 10,118  | 11,800  | 13,482  | 14,178  | 14,874  | 13,390  | 13,784  | 14,177  | 15,196  | 15,641  |
| Philippines                 | 2,423   | 1,955   | 2,300   | 2,466   | 2,912   | 4,329   | 2,942   | 3,381   | 3,089   | 3,614   | 4,209   | 2,502   | 2,524   | 2,397   | 3,273   | 3,407   | 3,690   | 3,145   |
| Singapore                   | 7,401   | 7,339   | 9,182   | 10,704  | 12,016  | 11,725  | 11,508  | 10,398  | 16,508  | 15,304  | 15,132  | 15,499  | 15,787  | 15,434  | 12,921  | 19,999  | 31,646  | 31,800  |
| South Korea                 | 28,708  | 31,924  | 42,978  | 46,828  | 52,442  | 59,518  | 50,943  | 53,639  | 72,951  | 81,802  | 83,463  | 91,433  | 95,365  | 90,060  | 93,925  | 121,739 | 134,814 | 111,575 |
| Taiwan                      | 25,716  | 31,387  | 36,140  | 39,245  | 45,738  | 48,277  | 51,004  | 44,618  | 54,795  | 59,504  | 63,109  | 69,327  | 81,882  | 81,002  | 83,282  | 91,902  | 91,969  | 88,970  |
| Thailand                    | 3,879   | 4,582   | 4,851   | 5,222   | 5,600   | 6,737   | 7,232   | 7,017   | 8,821   | 7,864   | 8,101   | 8,221   | 8,339   | 8,453   | 8,512   | 8,611   | 9,078   | 8,500   |
| Vietnam                     | 212     | 240     | 266     | 306     | 376     | 505     | 607     | 678     | 1,029   | 1,723   | 2,982   | 4,772   | 11,695  | 10,433  | 12,677  | 17,435  | 20,088  | 22,153  |
| Other Asia                  | 352     | 417     | 528     | 605     | 292     | 320     | 356     | 345     | 391     | 441     | 431     | 448     | 498     | 543     | 678     | 654     | 594     | 516     |
| Oceania                     | 1,859   | 2,508   | 2,698   | 3,073   | 3,310   | 3,815   | 4,273   | 3,311   | 3,966   | 4,927   | 5,112   | 4,824   | 4,245   | 4,804   | 4,476   | 4,455   | 4,479   | 3,794   |
| Australia                   | 1,693   | 2,265   | 2,399   | 2,733   | 2,863   | 3,260   | 3,739   | 2,801   | 3,362   | 4,297   | 4,508   | 4,260   | 3,548   | 4,148   | 3,778   | 3,922   | 3,865   | 3,250   |
| New Zealand                 | 166     | 243     | 299     | 340     | 447     | 555     | 534     | 510     | 604     | 630     | 604     | 564     | 697     | 656     | 698     | 533     | 614     | 544     |

EU = European Union.

**Note(s):**  
*Value added* is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See [Table SKTI-4](#) for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK's withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.

Table SKTI-11  
Value added of electrical equipment industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| World                           | 240,881 | 268,859 | 295,987 | 315,110 | 353,353 | 396,757 | 453,401 | 418,029 | 471,827 | 516,978 | 529,013 | 550,818 | 567,947 | 554,425 | 566,412 | 613,035 | 658,098 | 666,249 |
| North America                   | 50,541  | 51,791  | 49,232  | 51,193  | 60,404  | 60,001  | 65,501  | 58,903  | 59,945  | 58,040  | 62,341  | 67,896  | 63,963  | 73,208  | 67,629  | 70,391  | 74,996  | 74,959  |
| Canada                          | 2,445   | 2,302   | 2,746   | 3,059   | 3,145   | 3,478   | 3,540   | 3,232   | 3,513   | 4,061   | 3,997   | 3,789   | 3,007   | 2,893   | 3,002   | 3,129   | 3,032   | 2,795   |
| Mexico                          | 4,406   | 3,944   | 4,423   | 4,922   | 5,834   | 6,227   | 6,448   | 5,030   | 5,655   | 5,670   | 6,192   | 6,003   | 6,526   | 6,642   | 6,165   | 6,489   | 6,903   | 7,160   |
| United States                   | 43,690  | 45,545  | 42,063  | 43,212  | 51,425  | 50,296  | 55,513  | 50,640  | 50,777  | 48,309  | 52,152  | 58,104  | 54,430  | 63,672  | 58,462  | 60,773  | 65,061  | 65,004  |
| Central and South America       | 4,285   | 4,318   | 5,071   | 7,116   | 8,411   | 10,952  | 13,579  | 12,804  | 16,443  | 18,342  | 17,625  | 18,287  | 16,515  | 12,477  | 10,656  | 12,442  | 11,558  | 10,943  |
| Argentina                       | 188     | 228     | 309     | 371     | 438     | 586     | 750     | 637     | 809     | 964     | 915     | 909     | 732     | 696     | 675     | 760     | 744     | 690     |
| Brazil                          | 3,023   | 3,118   | 3,528   | 5,193   | 6,123   | 8,137   | 10,294  | 9,695   | 12,905  | 14,232  | 13,166  | 13,740  | 12,446  | 8,561   | 7,331   | 8,920   | 7,743   | 7,599   |
| Chile                           | 206     | 193     | 223     | 264     | 332     | 351     | 308     | 341     | 420     | 526     | 613     | 702     | 609     | 328     | 377     | 342     | 364     | 248     |
| Colombia                        | 212     | 181     | 259     | 349     | 432     | 596     | 690     | 594     | 749     | 815     | 795     | 830     | 761     | 660     | 621     | 594     | 610     | 586     |
| Peru                            | 90      | 75      | 100     | 112     | 141     | 189     | 251     | 194     | 229     | 194     | 236     | 313     | 315     | 336     | 393     | 342     | 426     | 354     |
| Other Central and South America | 567     | 523     | 652     | 827     | 945     | 1,093   | 1,287   | 1,343   | 1,331   | 1,612   | 1,900   | 1,793   | 1,652   | 1,898   | 1,259   | 1,484   | 1,671   | 1,466   |
| Europe                          | 81,655  | 95,210  | 110,032 | 111,186 | 123,723 | 142,201 | 158,856 | 127,492 | 135,180 | 147,921 | 137,644 | 140,893 | 142,444 | 120,682 | 123,513 | 129,115 | 134,725 | 119,657 |
| EU                              | 65,198  | 78,088  | 90,212  | 89,444  | 98,809  | 112,290 | 126,279 | 104,944 | 110,416 | 119,675 | 109,706 | 112,699 | 115,278 | 98,136  | 100,950 | 106,349 | 112,416 | 97,079  |
| France                          | 7,641   | 8,589   | 9,863   | 9,275   | 9,019   | 10,635  | 11,282  | 9,938   | 9,372   | 9,664   | 9,109   | 9,396   | 9,181   | 7,533   | 7,600   | 7,507   | 7,798   | 6,668   |
| Germany                         | 29,792  | 35,556  | 41,595  | 40,314  | 45,485  | 48,176  | 53,982  | 46,511  | 51,679  | 57,312  | 52,290  | 54,474  | 57,259  | 45,899  | 47,618  | 50,541  | 52,206  | 42,432  |
| Italy                           | 9,115   | 11,086  | 12,952  | 13,291  | 14,139  | 16,193  | 17,293  | 14,176  | 14,764  | 15,672  | 14,107  | 14,409  | 13,573  | 11,960  | 12,316  | 12,689  | 13,527  | 11,800  |
| Spain                           | 4,078   | 5,113   | 5,867   | 5,660   | 6,885   | 7,699   | 8,632   | 6,879   | 6,329   | 5,603   | 4,804   | 4,874   | 4,977   | 4,461   | 4,646   | 4,945   | 5,542   | 4,729   |
| Other EU                        | 14,572  | 17,744  | 19,935  | 20,904  | 23,280  | 29,588  | 35,090  | 27,440  | 28,272  | 31,424  | 29,397  | 29,545  | 30,288  | 28,284  | 28,771  | 30,666  | 33,343  | 31,450  |
| Non-EU                          | 16,457  | 17,122  | 19,819  | 21,742  | 24,915  | 29,912  | 32,577  | 22,548  | 24,764  | 28,246  | 27,938  | 28,195  | 27,166  | 22,546  | 22,562  | 22,765  | 22,309  | 22,578  |
| United Kingdom                  | 7,793   | 8,368   | 8,981   | 8,447   | 8,539   | 9,388   | 8,747   | 6,823   | 7,200   | 6,877   | 7,299   | 6,839   | 7,885   | 6,903   | 6,342   | 6,084   | 5,838   | 5,552   |
| Russia                          | 3,470   | 2,765   | 4,091   | 5,283   | 7,384   | 9,557   | 10,751  | 4,780   | 6,349   | 7,851   | 8,089   | 7,255   | 6,426   | 4,163   | 4,561   | 5,199   | 5,442   | 5,894   |
| Switzerland                     | 3,171   | 3,536   | 3,914   | 4,103   | 4,317   | 5,126   | 6,237   | 5,708   | 5,583   | 6,804   | 6,152   | 6,426   | 6,019   | 5,534   | 5,530   | 5,127   | 4,898   | 4,864   |
| Other non-EU                    | 2,022   | 2,453   | 2,834   | 3,909   | 4,675   | 5,840   | 6,842   | 5,236   | 5,631   | 6,713   | 6,397   | 7,675   | 6,836   | 5,946   | 6,129   | 6,355   | 6,132   | 6,268   |
| Middle East                     | 2,100   | 2,397   | 2,621   | 3,078   | 3,645   | 4,321   | 5,082   | 5,122   | 5,507   | 6,820   | 6,091   | 6,440   | 6,683   | 6,649   | 6,641   | 7,576   | 7,642   | 7,588   |
| Iran                            | 473     | 533     | 618     | 750     | 842     | 1,013   | 1,052   | 1,609   | 1,524   | 2,236   | 1,185   | 1,018   | 1,336   | 1,286   | 1,647   | 1,869   | 1,618   | 1,560   |
| Israel                          | 330     | 431     | 328     | 334     | 389     | 479     | 557     | 506     | 568     | 584     | 523     | 555     | 558     | 486     | 487     | 500     | 441     | 443     |
| Saudi Arabia                    | 792     | 865     | 1,001   | 1,150   | 1,336   | 1,488   | 1,863   | 1,692   | 2,041   | 2,171   | 2,423   | 2,727   | 2,882   | 3,033   | 2,761   | 3,329   | 3,688   | 3,272   |
| United Arab Emirates            | 327     | 365     | 426     | 528     | 712     | 812     | 947     | 700     | 772     | 921     | 1,023   | 1,209   | 962     | 918     | 862     | 965     | 976     | 1,342   |
| Other Middle East               | 178     | 203     | 248     | 317     | 366     | 529     | 662     | 616     | 603     | 908     | 938     | 931     | 944     | 925     | 885     | 913     | 919     | 971     |
| Africa                          | 1,634   | 1,900   | 2,281   | 2,599   | 2,895   | 3,228   | 3,452   | 3,420   | 3,717   | 3,596   | 3,760   | 3,818   | 3,564   | 3,353   | 3,272   | 3,660   | 3,891   | 4,053   |
| Egypt                           | 401     | 329     | 431     | 501     | 551     | 685     | 866     | 953     | 891     | 661     | 808     | 977     | 806     | 883     | 809     | 1,031   | 1,102   | 1,091   |
| Nigeria                         | 1       | 1       | 1       | 1       | 2       | 2       | 2       | 2       | 2       | 4       | 4       | 5       | 5       | 4       | 3       | 3       | 4       | 7       |
| South Africa                    | 530     | 754     | 942     | 1,056   | 1,216   | 1,241   | 1,166   | 1,206   | 1,409   | 1,392   | 1,490   | 1,373   | 1,305   | 1,254   | 1,168   | 1,197   | 1,259   | 1,325   |
| Other Africa                    | 702     | 816     | 907     | 1,040   | 1,126   | 1,300   | 1,416   | 1,259   | 1,415   | 1,538   | 1,459   | 1,463   | 1,448   | 1,211   | 1,291   | 1,428   | 1,526   | 1,630   |



Table SKTI-11  
Value added of electrical equipment industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002   | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|-----------------------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Asia                        | 99,253 | 111,308 | 124,540 | 137,564 | 151,971 | 173,671 | 204,020 | 207,952 | 248,333 | 279,168 | 298,484 | 310,762 | 332,475 | 336,119 | 352,756 | 387,445 | 422,932 | 446,996 |
| China                       | 27,719 | 32,094  | 36,381  | 46,107  | 57,244  | 74,419  | 102,628 | 113,041 | 133,301 | 157,116 | 174,714 | 196,140 | 214,155 | 225,875 | 236,717 | 266,149 | 297,886 | 318,792 |
| India                       | 2,456  | 2,728   | 3,292   | 4,949   | 5,501   | 6,300   | 5,970   | 6,491   | 8,104   | 8,260   | 7,553   | 6,855   | 6,621   | 7,604   | 7,720   | 6,967   | 7,458   | 7,941   |
| Indonesia                   | 970    | 980     | 1,475   | 1,835   | 2,484   | 2,323   | 2,688   | 2,703   | 3,137   | 4,251   | 5,232   | 7,235   | 5,974   | 5,188   | 5,083   | 5,272   | 5,213   | 5,810   |
| Japan                       | 54,815 | 60,993  | 66,099  | 66,371  | 65,007  | 66,761  | 69,615  | 63,394  | 73,955  | 77,529  | 77,461  | 64,208  | 67,124  | 60,001  | 66,220  | 69,155  | 69,490  | 71,213  |
| Malaysia                    | 853    | 914     | 1,159   | 915     | 1,119   | 1,258   | 1,384   | 1,029   | 1,196   | 1,378   | 1,561   | 1,619   | 1,677   | 2,120   | 2,115   | 2,111   | 2,253   | 2,411   |
| Philippines                 | 466    | 424     | 478     | 542     | 526     | 582     | 632     | 691     | 778     | 649     | 524     | 578     | 602     | 650     | 716     | 752     | 856     | 747     |
| Singapore                   | 316    | 333     | 351     | 358     | 429     | 467     | 522     | 450     | 464     | 487     | 605     | 661     | 637     | 592     | 619     | 643     | 760     | 753     |
| South Korea                 | 7,578  | 8,566   | 10,608  | 11,538  | 13,505  | 14,633  | 13,773  | 13,574  | 18,612  | 20,279  | 21,087  | 23,454  | 24,966  | 23,447  | 22,640  | 24,503  | 26,627  | 26,509  |
| Taiwan                      | 2,550  | 2,631   | 2,724   | 2,895   | 3,343   | 3,673   | 3,450   | 3,071   | 4,174   | 4,275   | 4,776   | 4,852   | 5,008   | 4,973   | 5,128   | 5,241   | 5,384   | 5,326   |
| Thailand                    | 953    | 1,033   | 1,270   | 1,234   | 1,573   | 1,878   | 1,813   | 1,947   | 2,675   | 2,911   | 2,909   | 2,864   | 2,818   | 2,772   | 2,708   | 2,981   | 3,032   | 2,977   |
| Vietnam                     | 175    | 201     | 255     | 360     | 522     | 683     | 792     | 866     | 1,096   | 1,054   | 1,149   | 1,338   | 1,857   | 1,743   | 1,830   | 2,236   | 2,555   | 3,002   |
| Other Asia                  | 403    | 410     | 446     | 461     | 716     | 694     | 754     | 697     | 839     | 979     | 913     | 959     | 1,035   | 1,157   | 1,259   | 1,435   | 1,420   | 1,513   |
| Oceania                     | 1,412  | 1,937   | 2,209   | 2,375   | 2,304   | 2,383   | 2,912   | 2,336   | 2,702   | 3,091   | 3,067   | 2,722   | 2,303   | 1,937   | 1,944   | 2,407   | 2,354   | 2,054   |
| Australia                   | 1,176  | 1,586   | 1,784   | 1,889   | 1,962   | 2,113   | 2,747   | 2,160   | 2,464   | 2,853   | 2,714   | 2,403   | 1,907   | 1,582   | 1,584   | 1,738   | 1,728   | 1,473   |
| New Zealand                 | 236    | 351     | 425     | 487     | 342     | 270     | 165     | 176     | 238     | 238     | 353     | 319     | 397     | 355     | 360     | 669     | 627     | 581     |

EU = European Union.

**Note(s):**  
*Value added* is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See [Table SKTI-4](#) for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK’s withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.



Table SKTI-12  
Value added of machinery and equipment industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011      | 2012      | 2013      | 2014      | 2015    | 2016    | 2017      | 2018      | 2019      |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|---------|---------|-----------|-----------|-----------|
| World                           | 438,483 | 493,868 | 566,517 | 611,993 | 669,699 | 773,527 | 874,436 | 732,876 | 850,751 | 1,000,589 | 1,019,595 | 1,026,886 | 1,051,297 | 978,246 | 986,386 | 1,071,354 | 1,168,837 | 1,163,389 |
| North America                   | 111,254 | 110,503 | 119,371 | 131,100 | 140,542 | 149,476 | 152,155 | 133,904 | 146,142 | 167,833   | 176,463   | 181,437   | 183,533   | 172,472 | 162,513 | 174,504   | 183,806   | 189,701   |
| Canada                          | 7,632   | 8,391   | 9,699   | 10,739  | 11,986  | 13,035  | 12,722  | 10,155  | 11,440  | 14,507    | 15,253    | 14,717    | 13,899    | 11,613  | 10,720  | 12,145    | 13,190    | 13,183    |
| Mexico                          | 4,282   | 4,084   | 4,649   | 5,212   | 5,870   | 6,096   | 6,528   | 4,591   | 6,950   | 8,019     | 8,585     | 8,792     | 8,619     | 8,351   | 8,023   | 8,947     | 9,242     | 9,537     |
| United States                   | 99,340  | 98,027  | 105,023 | 115,150 | 122,686 | 130,345 | 132,905 | 119,158 | 127,752 | 145,307   | 152,625   | 157,927   | 161,014   | 152,509 | 143,771 | 153,411   | 161,374   | 166,982   |
| Central and South America       | 7,076   | 7,540   | 9,670   | 10,717  | 12,773  | 16,813  | 21,144  | 17,680  | 25,179  | 30,237    | 28,333    | 28,081    | 25,252    | 17,243  | 15,760  | 17,301    | 16,350    | 15,529    |
| Argentina                       | 246     | 278     | 347     | 413     | 470     | 586     | 726     | 723     | 880     | 1,028     | 1,106     | 1,069     | 768       | 551     | 345     | 181       | 177       | 162       |
| Brazil                          | 5,685   | 6,016   | 7,875   | 8,610   | 10,280  | 13,932  | 17,703  | 14,208  | 21,537  | 25,925    | 23,455    | 23,014    | 20,883    | 13,154  | 12,415  | 13,965    | 12,614    | 12,207    |
| Chile                           | 309     | 343     | 418     | 497     | 613     | 640     | 671     | 743     | 915     | 1,145     | 1,335     | 1,527     | 1,167     | 1,065   | 1,109   | 1,137     | 1,527     | 1,425     |
| Colombia                        | 184     | 184     | 245     | 307     | 362     | 493     | 544     | 469     | 577     | 606       | 630       | 672       | 649       | 477     | 471     | 379       | 385       | 364       |
| Peru                            | 177     | 263     | 225     | 241     | 280     | 244     | 295     | 268     | 343     | 573       | 674       | 716       | 817       | 816     | 801     | 834       | 733       | 641       |
| Other Central and South America | 475     | 457     | 561     | 648     | 768     | 918     | 1,205   | 1,269   | 928     | 962       | 1,134     | 1,082     | 968       | 1,180   | 619     | 805       | 914       | 731       |
| Europe                          | 160,741 | 192,096 | 224,244 | 233,153 | 256,863 | 309,223 | 338,849 | 251,180 | 275,378 | 322,550   | 304,823   | 316,820   | 325,455   | 275,720 | 273,912 | 291,827   | 319,704   | 304,136   |
| EU                              | 129,701 | 156,140 | 181,826 | 187,614 | 206,996 | 248,301 | 273,864 | 209,225 | 223,848 | 261,064   | 242,971   | 252,816   | 262,886   | 225,868 | 228,873 | 245,634   | 270,819   | 256,942   |
| France                          | 11,370  | 13,626  | 15,437  | 15,434  | 16,231  | 18,665  | 20,053  | 15,753  | 14,931  | 17,215    | 16,111    | 16,058    | 16,566    | 13,503  | 13,091  | 12,808    | 13,820    | 13,176    |
| Germany                         | 58,328  | 70,504  | 82,263  | 84,181  | 91,901  | 110,715 | 122,913 | 90,526  | 100,372 | 118,306   | 111,598   | 116,588   | 122,054   | 104,313 | 106,957 | 115,919   | 129,240   | 120,827   |
| Italy                           | 23,882  | 29,588  | 34,325  | 35,264  | 38,693  | 45,622  | 49,375  | 38,099  | 39,590  | 44,371    | 41,146    | 43,583    | 45,513    | 38,638  | 40,055  | 42,636    | 46,094    | 42,936    |
| Spain                           | 5,878   | 7,008   | 8,099   | 8,214   | 8,640   | 9,686   | 10,883  | 9,104   | 8,233   | 8,854     | 8,410     | 8,687     | 9,136     | 7,251   | 7,120   | 7,806     | 8,442     | 8,158     |
| Other EU                        | 30,243  | 35,413  | 41,701  | 44,522  | 51,532  | 63,613  | 70,641  | 55,742  | 60,722  | 72,318    | 65,706    | 67,899    | 69,618    | 62,163  | 61,649  | 66,465    | 73,222    | 71,845    |
| Non-EU                          | 31,040  | 35,956  | 42,418  | 45,539  | 49,867  | 60,922  | 64,985  | 41,955  | 51,530  | 61,486    | 61,852    | 64,005    | 62,568    | 49,852  | 45,040  | 46,194    | 48,885    | 47,194    |
| United Kingdom                  | 17,093  | 19,193  | 21,304  | 20,880  | 21,187  | 23,695  | 20,812  | 12,746  | 17,956  | 20,621    | 22,013    | 24,045    | 25,023    | 23,161  | 19,017  | 19,393    | 20,908    | 19,243    |
| Russia                          | 4,050   | 5,357   | 8,078   | 10,126  | 12,577  | 18,421  | 22,151  | 10,729  | 12,832  | 15,864    | 16,300    | 15,376    | 12,965    | 4,867   | 5,495   | 5,904     | 6,217     | 6,498     |
| Switzerland                     | 7,417   | 8,266   | 8,929   | 9,135   | 9,770   | 10,790  | 12,065  | 10,404  | 11,797  | 14,150    | 12,316    | 12,736    | 13,262    | 12,356  | 12,087  | 12,156    | 12,729    | 12,187    |
| Other non-EU                    | 2,479   | 3,140   | 4,106   | 5,398   | 6,332   | 8,017   | 9,957   | 8,076   | 8,944   | 10,851    | 11,224    | 11,848    | 11,319    | 9,468   | 8,440   | 8,740     | 9,031     | 9,266     |
| Middle East                     | 2,284   | 2,538   | 2,784   | 3,259   | 3,792   | 4,835   | 5,588   | 5,290   | 5,700   | 6,807     | 5,428     | 5,777     | 6,718     | 6,330   | 6,352   | 6,999     | 6,453     | 6,455     |
| Iran                            | 579     | 687     | 797     | 955     | 1,122   | 1,516   | 1,524   | 1,608   | 1,802   | 2,645     | 1,401     | 1,204     | 1,580     | 1,521   | 1,366   | 1,559     | 1,351     | 1,289     |
| Israel                          | 719     | 762     | 689     | 737     | 817     | 987     | 1,301   | 1,229   | 1,327   | 1,462     | 1,121     | 1,348     | 1,784     | 1,479   | 1,691   | 1,907     | 1,940     | 1,984     |
| Saudi Arabia                    | 365     | 398     | 461     | 530     | 615     | 844     | 949     | 939     | 1,132   | 1,251     | 1,384     | 1,570     | 1,725     | 1,671   | 1,515   | 1,575     | 1,743     | 1,556     |
| United Arab Emirates            | 338     | 378     | 441     | 546     | 737     | 841     | 981     | 724     | 799     | 950       | 1,065     | 1,158     | 1,105     | 1,135   | 1,219   | 1,209     | 579       | 774       |
| Other Middle East               | 283     | 313     | 395     | 490     | 500     | 647     | 833     | 790     | 640     | 500       | 457       | 497       | 524       | 524     | 561     | 749       | 839       | 853       |
| Africa                          | 1,578   | 2,081   | 2,535   | 2,722   | 2,847   | 3,152   | 3,106   | 2,859   | 3,164   | 3,203     | 3,250     | 3,155     | 3,103     | 2,741   | 2,997   | 3,315     | 3,446     | 3,781     |
| Egypt                           | 81      | 67      | 88      | 102     | 112     | 139     | 176     | 194     | 215     | 270       | 228       | 294       | 414       | 355     | 521     | 611       | 595       | 854       |
| Nigeria                         | 4       | 4       | 5       | 6       | 7       | 8       | 10      | 9       | 10      | 18        | 18        | 20        | 22        | 18      | 15      | 13        | 18        | 32        |
| South Africa                    | 1,038   | 1,464   | 1,850   | 1,963   | 1,993   | 2,180   | 1,966   | 1,773   | 2,004   | 2,011     | 2,111     | 1,905     | 1,682     | 1,605   | 1,585   | 1,698     | 1,743     | 1,802     |
| Other Africa                    | 455     | 546     | 593     | 652     | 735     | 825     | 954     | 884     | 935     | 903       | 893       | 936       | 986       | 762     | 876     | 992       | 1,089     | 1,093     |

Table SKTI-12  
Value added of machinery and equipment industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Asia                        | 152,914 | 175,941 | 203,935 | 226,725 | 248,654 | 284,663 | 347,890 | 317,002 | 388,899 | 462,560 | 494,297 | 484,917 | 500,545 | 499,201 | 520,004 | 572,188 | 633,673 | 638,864 |
| China                       | 33,564  | 41,002  | 46,834  | 59,684  | 75,317  | 100,212 | 144,758 | 150,615 | 186,474 | 231,110 | 254,584 | 280,127 | 292,900 | 297,394 | 304,797 | 344,290 | 391,636 | 401,285 |
| India                       | 3,329   | 3,873   | 5,267   | 6,118   | 6,952   | 8,888   | 9,732   | 9,142   | 10,981  | 13,128  | 12,414  | 9,379   | 10,824  | 11,259  | 11,609  | 12,769  | 14,393  | 14,100  |
| Indonesia                   | 427     | 418     | 295     | 648     | 841     | 953     | 992     | 1,010   | 1,253   | 1,920   | 2,089   | 2,268   | 2,832   | 3,615   | 3,925   | 4,239   | 4,525   | 4,442   |
| Japan                       | 97,725  | 110,423 | 128,434 | 132,930 | 134,069 | 139,278 | 158,249 | 126,817 | 150,440 | 171,358 | 178,371 | 143,417 | 139,529 | 134,235 | 147,725 | 150,158 | 157,917 | 158,186 |
| Malaysia                    | 837     | 837     | 1,004   | 984     | 1,324   | 1,331   | 1,490   | 1,239   | 1,530   | 1,651   | 1,772   | 1,818   | 1,864   | 2,068   | 2,026   | 1,984   | 2,152   | 2,314   |
| Philippines                 | 209     | 270     | 279     | 175     | 139     | 166     | 186     | 227     | 212     | 253     | 278     | 293     | 209     | 206     | 266     | 273     | 298     | 279     |
| Singapore                   | 1,509   | 1,603   | 1,959   | 2,210   | 2,536   | 3,125   | 3,680   | 3,604   | 4,473   | 5,612   | 5,353   | 5,831   | 6,805   | 5,256   | 4,756   | 5,332   | 7,363   | 5,632   |
| South Korea                 | 11,253  | 12,988  | 14,817  | 18,410  | 20,999  | 23,549  | 21,297  | 17,968  | 24,794  | 27,766  | 28,642  | 30,804  | 33,181  | 32,747  | 32,339  | 39,309  | 40,211  | 37,447  |
| Taiwan                      | 3,414   | 3,751   | 4,090   | 4,546   | 5,215   | 5,546   | 5,602   | 4,536   | 5,989   | 6,937   | 7,646   | 7,517   | 8,508   | 8,351   | 8,255   | 9,434   | 10,291  | 9,746   |
| Thailand                    | 476     | 564     | 694     | 727     | 843     | 1,080   | 1,251   | 1,191   | 1,938   | 2,003   | 2,258   | 2,483   | 2,708   | 2,930   | 3,131   | 3,015   | 3,349   | 3,754   |
| Vietnam                     | 78      | 98      | 119     | 124     | 181     | 256     | 328     | 356     | 469     | 413     | 484     | 562     | 735     | 724     | 717     | 831     | 956     | 1,073   |
| Other Asia                  | 92      | 113     | 144     | 169     | 236     | 279     | 325     | 296     | 346     | 409     | 406     | 416     | 451     | 417     | 458     | 555     | 580     | 606     |
| Oceania                     | 2,636   | 3,169   | 3,979   | 4,316   | 4,228   | 5,364   | 5,705   | 4,964   | 6,289   | 7,398   | 7,000   | 6,698   | 6,691   | 4,538   | 4,848   | 5,220   | 5,406   | 4,924   |
| Australia                   | 2,134   | 2,523   | 3,201   | 3,464   | 3,501   | 4,239   | 4,612   | 4,105   | 5,202   | 6,118   | 5,711   | 5,296   | 5,240   | 3,296   | 3,567   | 3,888   | 3,988   | 3,579   |
| New Zealand                 | 502     | 646     | 778     | 852     | 728     | 1,125   | 1,093   | 859     | 1,087   | 1,281   | 1,289   | 1,402   | 1,451   | 1,242   | 1,281   | 1,332   | 1,418   | 1,345   |

EU = European Union.

**Note(s):**  
*Value added* is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See [Table SKTI-4](#) for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK's withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.

Table SKTI-13  
Value added of motor vehicles, trailers, and semi-trailers industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017      | 2018      | 2019      |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-----------|-----------|
| World                           | 476,117 | 537,099 | 573,567 | 594,904 | 623,659 | 690,219 | 679,734 | 552,393 | 740,792 | 815,003 | 856,616 | 876,462 | 944,011 | 925,748 | 984,792 | 1,060,968 | 1,105,874 | 1,060,766 |
| North America                   | 161,856 | 168,460 | 164,448 | 162,876 | 163,256 | 154,941 | 117,043 | 68,069  | 118,516 | 137,453 | 153,719 | 162,149 | 175,311 | 188,391 | 196,809 | 204,479   | 205,649   | 208,339   |
| Canada                          | 19,641  | 20,287  | 19,388  | 19,473  | 18,311  | 18,505  | 13,511  | 9,733   | 14,078  | 14,577  | 16,080  | 15,502  | 15,908  | 14,593  | 15,253  | 14,456    | 14,309    | 13,768    |
| Mexico                          | 15,505  | 13,855  | 14,662  | 15,926  | 19,034  | 20,078  | 19,947  | 14,171  | 21,055  | 24,910  | 28,910  | 31,265  | 34,759  | 36,177  | 35,373  | 40,909    | 43,133    | 45,180    |
| United States                   | 126,710 | 134,318 | 130,398 | 127,477 | 125,912 | 116,358 | 83,586  | 44,165  | 83,384  | 97,966  | 108,729 | 115,383 | 124,645 | 137,621 | 146,182 | 149,114   | 148,207   | 149,391   |
| Central and South America       | 11,850  | 13,765  | 17,430  | 22,515  | 28,110  | 37,628  | 49,638  | 44,350  | 56,202  | 65,299  | 54,388  | 54,134  | 43,196  | 28,518  | 22,792  | 31,028    | 29,269    | 26,747    |
| Argentina                       | 1,033   | 1,317   | 1,712   | 2,292   | 3,126   | 4,323   | 5,606   | 4,784   | 5,096   | 5,871   | 5,315   | 5,312   | 3,181   | 2,579   | 2,439   | 2,900     | 3,226     | 2,368     |
| Brazil                          | 8,707   | 10,542  | 13,324  | 17,315  | 21,537  | 28,956  | 39,110  | 33,949  | 47,090  | 54,602  | 43,660  | 43,547  | 35,429  | 20,195  | 18,027  | 24,918    | 22,198    | 21,566    |
| Chile                           | 106     | 110     | 164     | 167     | 208     | 206     | 174     | 158     | 189     | 241     | 263     | 318     | 153     | 251     | 236     | 244       | 222       | 149       |
| Colombia                        | 393     | 338     | 388     | 508     | 615     | 900     | 692     | 524     | 758     | 902     | 984     | 838     | 861     | 701     | 655     | 614       | 672       | 672       |
| Peru                            | 64      | 72      | 89      | 106     | 119     | 171     | 257     | 281     | 391     | 454     | 543     | 601     | 623     | 618     | 655     | 830       | 882       | 828       |
| Other Central and South America | 1,546   | 1,386   | 1,753   | 2,128   | 2,505   | 3,072   | 3,800   | 4,654   | 2,679   | 3,229   | 3,622   | 3,518   | 2,948   | 4,174   | 779     | 1,523     | 2,069     | 1,165     |
| Europe                          | 138,301 | 169,782 | 191,259 | 190,807 | 207,981 | 241,862 | 240,633 | 177,073 | 223,617 | 255,628 | 237,820 | 256,570 | 283,399 | 256,804 | 275,628 | 291,781   | 307,727   | 269,710   |
| EU                              | 120,676 | 151,268 | 170,842 | 168,603 | 184,968 | 215,463 | 212,394 | 157,326 | 198,494 | 227,472 | 208,051 | 221,278 | 245,406 | 222,870 | 241,984 | 257,194   | 272,320   | 236,346   |
| France                          | 17,499  | 20,362  | 23,637  | 21,600  | 20,360  | 22,195  | 21,834  | 17,249  | 19,011  | 19,640  | 16,490  | 16,668  | 16,697  | 14,679  | 14,880  | 15,011    | 14,680    | 12,971    |
| Germany                         | 62,261  | 79,462  | 86,619  | 85,650  | 97,283  | 114,024 | 108,133 | 80,174  | 110,419 | 132,578 | 126,070 | 132,780 | 150,399 | 134,306 | 147,421 | 155,937   | 165,271   | 137,307   |
| Italy                           | 9,962   | 11,633  | 13,498  | 13,058  | 14,750  | 17,586  | 17,121  | 12,856  | 14,375  | 14,868  | 11,920  | 13,277  | 13,812  | 13,227  | 15,263  | 17,234    | 17,601    | 14,766    |
| Spain                           | 9,877   | 12,489  | 14,100  | 13,525  | 14,491  | 16,228  | 15,642  | 12,753  | 11,783  | 11,816  | 9,535   | 11,322  | 12,948  | 11,912  | 12,433  | 13,283    | 14,543    | 13,431    |
| Other EU                        | 21,076  | 27,321  | 32,987  | 34,770  | 38,085  | 45,430  | 49,665  | 34,295  | 42,907  | 48,570  | 44,035  | 47,231  | 51,551  | 48,746  | 51,986  | 55,729    | 60,224    | 57,873    |
| Non-EU                          | 17,625  | 18,514  | 20,417  | 22,204  | 23,013  | 26,399  | 28,239  | 19,747  | 25,123  | 28,156  | 29,770  | 35,292  | 37,993  | 33,935  | 33,645  | 34,587    | 35,407    | 33,364    |
| United Kingdom                  | 12,706  | 13,589  | 14,316  | 14,544  | 14,573  | 15,837  | 15,637  | 10,620  | 14,338  | 15,146  | 16,039  | 20,302  | 24,585  | 23,158  | 22,118  | 21,730    | 22,348    | 19,392    |
| Russia                          | 1,982   | 1,151   | 1,577   | 1,920   | 2,366   | 3,202   | 3,756   | 3,978   | 4,501   | 5,348   | 6,592   | 7,024   | 5,663   | 3,497   | 3,782   | 4,322     | 4,698     | 5,500     |
| Switzerland                     | 299     | 337     | 358     | 372     | 470     | 517     | 580     | 536     | 728     | 966     | 819     | 852     | 831     | 769     | 678     | 595       | 650       | 661       |
| Other non-EU                    | 2,638   | 3,436   | 4,166   | 5,369   | 5,605   | 6,842   | 8,266   | 4,614   | 5,556   | 6,696   | 6,320   | 7,114   | 6,914   | 6,511   | 7,067   | 7,940     | 7,711     | 7,810     |
| Middle East                     | 1,593   | 2,225   | 2,305   | 2,831   | 3,771   | 3,863   | 4,569   | 5,458   | 5,761   | 7,934   | 5,445   | 4,853   | 5,667   | 5,319   | 7,817   | 9,082     | 8,287     | 7,922     |
| Iran                            | 936     | 1,552   | 1,549   | 1,991   | 2,832   | 2,722   | 3,234   | 4,077   | 4,148   | 6,088   | 3,226   | 2,772   | 3,638   | 3,501   | 5,900   | 6,643     | 5,798     | 5,543     |
| Israel                          | 199     | 205     | 192     | 207     | 227     | 271     | 299     | 308     | 324     | 293     | 285     | 300     | 295     | 300     | 334     | 363       | 344       | 303       |
| Saudi Arabia                    | 199     | 217     | 252     | 289     | 336     | 352     | 382     | 359     | 434     | 458     | 563     | 645     | 674     | 674     | 602     | 815       | 911       | 838       |
| United Arab Emirates            | 53      | 60      | 70      | 86      | 117     | 133     | 155     | 115     | 126     | 146     | 160     | 157     | 190     | 188     | 205     | 228       | 197       | 176       |
| Other Middle East               | 205     | 192     | 243     | 257     | 260     | 385     | 499     | 599     | 729     | 949     | 1,211   | 979     | 870     | 655     | 777     | 1,033     | 1,037     | 1,061     |
| Africa                          | 1,922   | 2,552   | 3,199   | 3,671   | 4,088   | 4,222   | 3,896   | 3,318   | 4,375   | 4,705   | 4,628   | 4,654   | 4,821   | 4,899   | 4,854   | 5,015     | 5,612     | 6,535     |
| Egypt                           | 129     | 106     | 139     | 162     | 178     | 221     | 280     | 308     | 396     | 488     | 303     | 401     | 551     | 755     | 635     | 751       | 894       | 1,477     |
| Nigeria                         | 41      | 45      | 50      | 58      | 68      | 80      | 98      | 89      | 100     | 123     | 181     | 237     | 315     | 263     | 126     | 108       | 203       | 353       |
| South Africa                    | 1,451   | 2,100   | 2,693   | 3,086   | 3,368   | 3,317   | 2,818   | 2,248   | 3,111   | 3,220   | 3,354   | 3,077   | 2,984   | 3,002   | 3,146   | 3,153     | 3,401     | 3,490     |
| Other Africa                    | 300     | 301     | 316     | 365     | 474     | 604     | 700     | 673     | 768     | 874     | 790     | 938     | 971     | 878     | 946     | 1,003     | 1,114     | 1,216     |

Table SKTI-13  
Value added of motor vehicles, trailers, and semi-trailers industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Asia                        | 157,833 | 176,811 | 190,786 | 208,022 | 212,347 | 242,841 | 259,599 | 249,913 | 328,189 | 339,476 | 396,541 | 390,556 | 428,136 | 439,134 | 473,593 | 516,188 | 548,431 | 540,716 |
| China                       | 27,593  | 34,495  | 32,223  | 33,942  | 41,973  | 56,276  | 70,412  | 87,697  | 120,073 | 136,634 | 157,802 | 180,588 | 210,213 | 220,736 | 246,229 | 279,935 | 304,942 | 299,268 |
| India                       | 1,974   | 2,959   | 3,916   | 4,256   | 5,104   | 6,472   | 6,400   | 8,909   | 10,657  | 13,381  | 13,248  | 10,771  | 14,090  | 16,091  | 15,633  | 17,487  | 20,770  | 19,532  |
| Indonesia                   | 5,247   | 6,604   | 7,836   | 6,327   | 4,735   | 6,765   | 9,050   | 8,665   | 11,852  | 11,828  | 13,449  | 12,481  | 12,522  | 14,540  | 15,312  | 15,928  | 15,893  | 15,315  |
| Japan                       | 99,916  | 106,710 | 116,517 | 128,064 | 121,014 | 127,627 | 130,966 | 108,689 | 141,708 | 129,536 | 160,081 | 131,244 | 130,700 | 126,351 | 135,873 | 141,511 | 144,192 | 148,741 |
| Malaysia                    | 1,690   | 1,624   | 1,624   | 1,224   | 1,238   | 1,244   | 1,579   | 1,422   | 2,024   | 2,288   | 2,551   | 2,703   | 2,855   | 3,058   | 3,226   | 3,394   | 3,764   | 4,194   |
| Philippines                 | 424     | 428     | 471     | 547     | 558     | 766     | 965     | 848     | 1,310   | 1,173   | 1,044   | 1,579   | 3,226   | 3,173   | 2,053   | 2,176   | 2,294   | 2,183   |
| Singapore                   | 41      | 135     | 113     | 122     | 140     | 132     | 112     | 128     | 137     | 184     | 166     | 278     | 281     | 256     | 288     | 357     | 333     | 313     |
| South Korea                 | 12,328  | 13,793  | 16,321  | 19,458  | 22,519  | 26,506  | 20,998  | 17,895  | 24,864  | 29,090  | 32,382  | 34,518  | 36,018  | 36,146  | 35,578  | 34,863  | 34,267  | 29,812  |
| Taiwan                      | 3,378   | 3,442   | 3,502   | 4,030   | 3,180   | 2,995   | 2,749   | 2,654   | 3,287   | 3,817   | 3,811   | 3,984   | 4,483   | 4,645   | 4,693   | 4,818   | 4,637   | 4,626   |
| Thailand                    | 4,676   | 5,890   | 7,224   | 8,648   | 10,497  | 12,555  | 14,789  | 11,399  | 10,368  | 9,262   | 9,711   | 10,021  | 10,330  | 10,632  | 10,864  | 11,635  | 13,090  | 12,898  |
| Vietnam                     | 116     | 170     | 185     | 275     | 380     | 553     | 728     | 907     | 914     | 1,020   | 1,030   | 1,253   | 2,118   | 1,881   | 2,200   | 2,155   | 2,377   | 2,600   |
| Other Asia                  | 451     | 561     | 855     | 1,130   | 1,011   | 950     | 851     | 701     | 996     | 1,264   | 1,267   | 1,136   | 1,301   | 1,626   | 1,644   | 1,931   | 1,871   | 1,234   |
| Oceania                     | 2,762   | 3,505   | 4,140   | 4,183   | 4,106   | 4,861   | 4,356   | 4,212   | 4,131   | 4,508   | 4,075   | 3,545   | 3,483   | 2,683   | 3,299   | 3,394   | 899     | 795     |
| Australia                   | 2,686   | 3,409   | 4,028   | 4,062   | 4,005   | 4,704   | 4,250   | 4,089   | 3,950   | 4,330   | 3,914   | 3,328   | 3,183   | 2,359   | 2,908   | 2,989   | 507     | 445     |
| New Zealand                 | 76      | 96      | 112     | 121     | 101     | 157     | 106     | 124     | 181     | 178     | 161     | 216     | 299     | 324     | 391     | 406     | 392     | 350     |

EU = European Union.

**Note(s):**  
*Value added* is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See [Table SKTI-4](#) for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK’s withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.

Table SKTI-14  
Value added of air and spacecraft and related machinery industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| World                           | 103,627 | 107,921 | 114,580 | 133,947 | 146,610 | 171,202 | 178,178 | 174,360 | 182,640 | 196,720 | 197,786 | 208,339 | 219,040 | 221,393 | 219,874 | 233,748 | 247,522 | 258,874 |
| North America                   | 61,920  | 61,542  | 64,005  | 76,633  | 83,323  | 99,400  | 98,491  | 102,078 | 106,707 | 111,143 | 111,299 | 117,382 | 125,099 | 133,892 | 129,723 | 137,795 | 144,087 | 152,239 |
| Canada                          | 3,665   | 4,438   | 4,653   | 4,978   | 5,570   | 6,400   | 7,284   | 6,143   | 6,592   | 6,801   | 7,553   | 8,359   | 8,848   | 8,064   | 6,814   | 7,228   | 7,666   | 8,365   |
| Mexico                          | 533     | 389     | 427     | 480     | 519     | 597     | 678     | 534     | 589     | 745     | 997     | 1,180   | 1,356   | 1,389   | 1,324   | 1,361   | 1,547   | 1,600   |
| United States                   | 57,722  | 56,715  | 58,925  | 71,176  | 77,234  | 92,402  | 90,529  | 95,402  | 99,527  | 103,597 | 102,750 | 107,842 | 114,895 | 124,439 | 121,585 | 129,207 | 134,874 | 142,274 |
| Central and South America       | 1,780   | 1,494   | 1,924   | 1,559   | 1,824   | 1,953   | 2,315   | 1,524   | 2,165   | 2,451   | 2,518   | 3,084   | 2,706   | 2,199   | 2,020   | 2,825   | 1,910   | 1,744   |
| Argentina                       | 4       | 5       | 6       | 8       | 8       | 10      | 11      | 10      | 10      | 10      | 9       | 9       | 7       | 7       | 6       | 8       | 7       | 5       |
| Brazil                          | 1,587   | 1,288   | 1,757   | 1,445   | 1,705   | 1,790   | 2,143   | 1,300   | 1,917   | 2,239   | 2,215   | 2,807   | 2,445   | 2,006   | 1,859   | 2,649   | 1,722   | 1,541   |
| Chile                           | 7       | 13      | 22      | 12      | 10      | 10      | 8       | 8       | 9       | 11      | 12      | 16      | 17      | 9       | 12      | 14      | 14      | 12      |
| Colombia                        | 24      | 21      | 13      | 16      | 22      | 33      | 38      | 60      | 79      | 80      | 92      | 95      | 91      | 50      | 38      | 52      | 60      | 67      |
| Peru                            | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       |
| Other Central and South America | 158     | 167     | 125     | 79      | 79      | 110     | 115     | 146     | 149     | 111     | 190     | 158     | 146     | 128     | 103     | 101     | 107     | 120     |
| Europe                          | 28,710  | 32,254  | 34,774  | 40,497  | 43,697  | 48,598  | 54,529  | 47,010  | 47,646  | 55,709  | 57,948  | 62,107  | 64,368  | 57,584  | 56,990  | 60,868  | 63,251  | 61,594  |
| EU                              | 17,023  | 18,437  | 17,787  | 22,288  | 23,439  | 27,029  | 33,233  | 30,015  | 30,362  | 33,178  | 34,936  | 37,822  | 40,781  | 36,861  | 38,210  | 41,932  | 45,471  | 43,849  |
| France                          | 6,316   | 6,915   | 5,573   | 8,208   | 9,338   | 10,821  | 12,955  | 11,700  | 10,872  | 11,371  | 13,150  | 14,225  | 15,316  | 14,909  | 15,139  | 14,240  | 14,514  | 13,142  |
| Germany                         | 5,667   | 5,848   | 5,871   | 7,345   | 6,906   | 8,027   | 9,397   | 8,278   | 9,715   | 9,892   | 10,617  | 10,935  | 11,824  | 10,538  | 10,878  | 14,818  | 17,008  | 17,244  |
| Italy                           | 2,026   | 1,783   | 2,222   | 2,232   | 2,442   | 2,848   | 4,776   | 4,340   | 4,022   | 4,186   | 4,072   | 3,628   | 4,503   | 3,587   | 4,609   | 4,701   | 5,384   | 5,266   |
| Spain                           | 765     | 1,061   | 1,183   | 1,268   | 1,480   | 1,516   | 2,004   | 1,915   | 1,787   | 2,955   | 2,638   | 3,934   | 3,731   | 2,911   | 2,606   | 2,956   | 3,312   | 3,137   |
| Other EU                        | 2,250   | 2,830   | 2,937   | 3,235   | 3,273   | 3,817   | 4,102   | 3,782   | 3,967   | 4,775   | 4,458   | 5,099   | 5,407   | 4,915   | 4,979   | 5,217   | 5,253   | 5,060   |
| Non-EU                          | 11,687  | 13,817  | 16,987  | 18,210  | 20,258  | 21,569  | 21,296  | 16,995  | 17,284  | 22,531  | 23,013  | 24,285  | 23,587  | 20,723  | 18,780  | 18,935  | 17,780  | 17,745  |
| United Kingdom                  | 10,021  | 11,836  | 14,321  | 14,785  | 15,916  | 15,779  | 14,650  | 10,752  | 9,728   | 12,665  | 11,723  | 10,909  | 10,824  | 12,304  | 10,460  | 10,841  | 9,925   | 9,194   |
| Russia                          | 1,131   | 1,410   | 1,949   | 2,420   | 3,104   | 4,314   | 4,734   | 4,241   | 5,024   | 6,381   | 8,092   | 9,827   | 9,620   | 5,475   | 5,444   | 5,507   | 4,936   | 5,238   |
| Switzerland                     | 168     | 211     | 249     | 261     | 294     | 334     | 400     | 384     | 758     | 1,117   | 971     | 1,189   | 1,243   | 1,254   | 996     | 1,055   | 1,116   | 1,083   |
| Other non-EU                    | 368     | 361     | 468     | 743     | 944     | 1,142   | 1,512   | 1,617   | 1,773   | 2,368   | 2,227   | 2,360   | 1,901   | 1,690   | 1,880   | 1,532   | 1,803   | 2,230   |
| Middle East                     | 809     | 1,159   | 1,296   | 1,270   | 1,379   | 1,421   | 1,820   | 1,763   | 1,818   | 2,183   | 1,964   | 2,037   | 2,159   | 2,025   | 2,149   | 2,539   | 2,571   | 2,755   |
| Iran                            | 197     | 480     | 523     | 440     | 477     | 276     | 327     | 325     | 344     | 505     | 268     | 230     | 302     | 291     | 308     | 361     | 321     | 312     |
| Israel                          | 517     | 569     | 634     | 664     | 711     | 905     | 1,171   | 1,158   | 1,155   | 1,273   | 1,289   | 1,413   | 1,459   | 1,341   | 1,358   | 1,572   | 1,650   | 1,755   |
| Saudi Arabia                    | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       |
| United Arab Emirates            | 63      | 71      | 83      | 103     | 138     | 158     | 184     | 136     | 150     | 177     | 197     | 217     | 220     | 235     | 262     | 269     | 244     | 329     |
| Other Middle East               | 33      | 39      | 56      | 63      | 53      | 82      | 138     | 143     | 169     | 227     | 210     | 177     | 178     | 158     | 220     | 336     | 357     | 359     |
| Africa                          | 366     | 458     | 492     | 541     | 583     | 434     | 481     | 488     | 527     | 555     | 562     | 581     | 606     | 539     | 704     | 890     | 956     | 986     |
| Egypt                           | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       | *       |
| Nigeria                         | 10      | 10      | 11      | 11      | 11      | 12      | 12      | 12      | 11      | 11      | 12      | 13      | 14      | 13      | 10      | 10      | 19      | 33      |
| South Africa                    | 91      | 121     | 141     | 144     | 150     | 163     | 158     | 187     | 198     | 193     | 183     | 165     | 156     | 161     | 169     | 165     | 164     | 152     |
| Other Africa                    | 265     | 327     | 340     | 386     | 422     | 259     | 312     | 289     | 318     | 351     | 366     | 402     | 437     | 364     | 525     | 714     | 773     | 800     |

Table SKTI-14  
Value added of air and spacecraft and related machinery industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002  | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   | 2010   | 2011   | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   |
|-----------------------------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Asia                        | 9,252 | 10,024 | 10,906 | 12,129 | 14,370 | 17,836 | 19,291 | 20,208 | 21,989 | 22,460 | 21,207 | 21,255 | 22,139 | 23,288 | 26,468 | 27,105 | 31,992 | 37,092 |
| China                       | 2,903 | 3,310  | 3,382  | 4,165  | 5,058  | 7,425  | 8,523  | 8,811  | 9,349  | 8,702  | 9,036  | 9,529  | 10,405 | 11,052 | 12,186 | 14,321 | 18,098 | 20,811 |
| India                       | 34    | 49     | 71     | 62     | 73     | 85     | 87     | 27     | 43     | 44     | 153    | 166    | 254    | 203    | 248    | 273    | 329    | 337    |
| Indonesia                   | 59    | 76     | 93     | 118    | 97     | 101    | 149    | 156    | 208    | 278    | 249    | 100    | 100    | 74     | 83     | 92     | 93     | 96     |
| Japan                       | 4,532 | 4,861  | 5,363  | 5,464  | 6,290  | 6,945  | 6,993  | 7,785  | 8,257  | 8,971  | 7,201  | 6,337  | 6,177  | 7,087  | 8,487  | 7,369  | 7,677  | 9,299  |
| Malaysia                    | 28    | 31     | 33     | 82     | 212    | 206    | 312    | 237    | 337    | 463    | 579    | 691    | 755    | 368    | 406    | 456    | 556    | 627    |
| Philippines                 | 47    | 49     | 55     | 65     | 69     | 55     | 85     | 76     | 60     | 61     | 73     | 9      | 88     | 176    | 150    | 157    | 165    | 148    |
| Singapore                   | 884   | 886    | 1,089  | 1,294  | 1,505  | 1,774  | 1,907  | 1,857  | 1,998  | 2,139  | 2,184  | 2,263  | 2,105  | 1,974  | 1,851  | 1,865  | 2,001  | 2,485  |
| South Korea                 | 283   | 281    | 345    | 396    | 570    | 679    | 572    | 577    | 920    | 834    | 946    | 1,272  | 1,318  | 1,348  | 1,942  | 1,377  | 1,842  | 1,953  |
| Taiwan                      | 211   | 178    | 141    | 110    | 67     | 102    | 134    | 118    | 138    | 167    | 188    | 203    | 230    | 256    | 265    | 270    | 292    | 316    |
| Thailand                    | 9     | 11     | 12     | 14     | 17     | 20     | 20     | 17     | 25     | 27     | 10     | 8      | 6      | 5      | 12     | 14     | 15     | 17     |
| Vietnam                     | 3     | 4      | 4      | 6      | 1      | 1      | 1      | 2      | 1      | 1      | 2      | 7      | 1      | 2      | 2      | 14     | 16     | 21     |
| Other Asia                  | 259   | 290    | 319    | 354    | 411    | 443    | 509    | 544    | 653    | 773    | 586    | 670    | 698    | 743    | 835    | 898    | 909    | 982    |
| Oceania                     | 790   | 991    | 1,182  | 1,317  | 1,435  | 1,561  | 1,250  | 1,288  | 1,789  | 2,220  | 2,287  | 1,893  | 1,962  | 1,866  | 1,819  | 1,727  | 2,754  | 2,464  |
| Australia                   | 582   | 723    | 866    | 980    | 1,128  | 1,191  | 928    | 962    | 1,413  | 1,818  | 1,927  | 1,534  | 1,587  | 1,526  | 1,482  | 1,330  | 2,342  | 2,079  |
| New Zealand                 | 207   | 269    | 316    | 337    | 307    | 370    | 322    | 326    | 376    | 402    | 361    | 359    | 375    | 340    | 337    | 397    | 412    | 385    |

\* = amount < \$500,000.

EU = European Union.

**Note(s):**  
Value added is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See Table SKTI-4 for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK’s withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.

Table SKTI-15  
Value added of railroad, military vehicles, and other transport industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002   | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   | 2010   | 2011   | 2012   | 2013   | 2014   | 2015   | 2016    | 2017    | 2018    | 2019    |
|---------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| World                           | 38,025 | 42,011 | 47,484 | 49,492 | 52,404 | 61,919 | 73,718 | 71,921 | 79,948 | 89,676 | 91,557 | 91,922 | 97,502 | 95,915 | 100,076 | 103,883 | 114,722 | 117,161 |
| North America                   | 9,496  | 10,010 | 10,738 | 12,115 | 12,808 | 15,082 | 17,298 | 14,528 | 13,952 | 16,092 | 16,253 | 17,260 | 16,870 | 16,930 | 17,541  | 15,120  | 15,335  | 14,988  |
| Canada                          | 1,053  | 1,205  | 1,189  | 1,413  | 1,608  | 1,786  | 1,778  | 1,523  | 1,414  | 1,883  | 1,828  | 1,761  | 1,765  | 1,768  | 1,786   | 1,708   | 1,853   | 1,748   |
| Mexico                          | 564    | 512    | 647    | 728    | 718    | 686    | 841    | 579    | 585    | 885    | 1,215  | 1,206  | 1,406  | 1,785  | 1,491   | 1,522   | 1,738   | 1,979   |
| United States                   | 7,879  | 8,293  | 8,902  | 9,974  | 10,482 | 12,610 | 14,680 | 12,427 | 11,952 | 13,324 | 13,210 | 14,293 | 13,699 | 13,378 | 14,264  | 11,890  | 11,744  | 11,260  |
| Central and South America       | 720    | 847    | 1,243  | 1,755  | 2,512  | 3,416  | 3,956  | 3,035  | 4,342  | 4,349  | 3,341  | 3,237  | 3,284  | 2,121  | 2,111   | 2,181   | 1,947   | 1,747   |
| Argentina                       | 13     | 15     | 20     | 25     | 27     | 32     | 35     | 33     | 33     | 35     | 32     | 32     | 24     | 21     | 21      | 27      | 20      | 14      |
| Brazil                          | 568    | 664    | 1,062  | 1,542  | 2,263  | 3,126  | 3,666  | 2,770  | 4,043  | 3,977  | 2,912  | 2,778  | 2,835  | 1,835  | 1,848   | 1,861   | 1,623   | 1,428   |
| Chile                           | 61     | 82     | 61     | 78     | 75     | 78     | 64     | 58     | 70     | 82     | 91     | 119    | 130    | 68     | 91      | 101     | 101     | 91      |
| Colombia                        | 34     | 38     | 59     | 76     | 109    | 130    | 132    | 109    | 135    | 196    | 224    | 232    | 222    | 122    | 97      | 129     | 142     | 154     |
| Peru                            | 2      | 2      | 2      | 3      | 4      | 6      | 8      | 9      | 11     | 13     | 14     | 16     | 16     | 16     | 17      | 20      | 14      | 14      |
| Other Central and South America | 43     | 46     | 39     | 32     | 34     | 44     | 52     | 56     | 51     | 46     | 67     | 60     | 57     | 60     | 38      | 43      | 47      | 46      |
| Europe                          | 8,880  | 10,923 | 12,280 | 12,748 | 14,268 | 17,085 | 20,072 | 19,492 | 19,167 | 21,094 | 22,134 | 22,088 | 20,327 | 18,107 | 18,397  | 19,447  | 24,113  | 24,452  |
| EU                              | 7,376  | 9,131  | 9,771  | 10,082 | 11,281 | 13,711 | 15,895 | 14,844 | 13,394 | 13,358 | 13,019 | 12,932 | 14,050 | 12,292 | 12,002  | 11,674  | 13,338  | 13,122  |
| France                          | 1,189  | 1,174  | 1,556  | 1,445  | 1,591  | 1,835  | 2,366  | 2,490  | 2,500  | 1,123  | 1,868  | 1,970  | 2,140  | 1,892  | 1,845   | 1,611   | 1,699   | 1,699   |
| Germany                         | 1,436  | 1,971  | 1,877  | 2,363  | 2,428  | 3,078  | 2,800  | 3,002  | 2,854  | 3,163  | 2,852  | 2,695  | 3,446  | 3,411  | 3,273   | 3,068   | 3,605   | 3,600   |
| Italy                           | 1,866  | 2,234  | 2,650  | 2,213  | 2,422  | 2,824  | 3,348  | 2,496  | 2,589  | 1,976  | 2,116  | 1,867  | 2,290  | 1,956  | 1,926   | 1,931   | 2,118   | 2,067   |
| Spain                           | 1,076  | 1,304  | 1,324  | 1,642  | 1,913  | 2,331  | 2,754  | 2,700  | 1,886  | 2,419  | 2,125  | 2,075  | 1,570  | 1,220  | 1,321   | 1,421   | 1,926   | 1,767   |
| Other EU                        | 1,810  | 2,448  | 2,364  | 2,419  | 2,928  | 3,642  | 4,626  | 4,156  | 3,565  | 4,676  | 4,057  | 4,324  | 4,604  | 3,812  | 3,637   | 3,643   | 3,991   | 3,989   |
| Non-EU                          | 1,503  | 1,792  | 2,510  | 2,665  | 2,987  | 3,374  | 4,178  | 4,647  | 5,773  | 7,736  | 9,115  | 9,156  | 6,278  | 5,815  | 6,395   | 7,773   | 10,774  | 11,330  |
| United Kingdom                  | 886    | 931    | 1,265  | 1,171  | 1,220  | 1,032  | 1,357  | 684    | 1,038  | 1,183  | 1,377  | 1,583  | 1,203  | 1,318  | 1,049   | 1,142   | 2,879   | 2,898   |
| Russia                          | 195    | 243    | 341    | 449    | 576    | 884    | 1,010  | 2,037  | 2,389  | 3,325  | 4,398  | 5,241  | 3,290  | 3,024  | 3,807   | 5,165   | 6,382   | 6,789   |
| Switzerland                     | 197    | 248    | 293    | 308    | 346    | 393    | 471    | 453    | 502    | 804    | 936    | 871    | 940    | 826    | 862     | 786     | 807     | 781     |
| Other non-EU                    | 225    | 370    | 611    | 737    | 844    | 1,064  | 1,340  | 1,473  | 1,844  | 2,424  | 2,404  | 1,460  | 844    | 647    | 677     | 680     | 706     | 862     |
| Middle East                     | 156    | 276    | 306    | 288    | 330    | 264    | 310    | 277    | 297    | 386    | 310    | 312    | 343    | 349    | 407     | 461     | 423     | 453     |
| Iran                            | 79     | 193    | 211    | 177    | 192    | 111    | 132    | 131    | 139    | 203    | 108    | 93     | 122    | 117    | 164     | 185     | 161     | 154     |
| Israel                          | *      | *      | *      | *      | 2      | 2      | 3      | 3      | 3      | 2      | 3      | 3      | 4      | 3      | 4       | 5       | 5       | 6       |
| Saudi Arabia                    | 33     | 34     | 38     | 40     | 43     | 44     | 48     | 46     | 47     | 51     | 58     | 64     | 64     | 66     | 59      | 83      | 86      | 73      |
| United Arab Emirates            | 41     | 46     | 53     | 66     | 89     | 102    | 119    | 88     | 97     | 114    | 127    | 140    | 142    | 152    | 165     | 166     | 147     | 197     |
| Other Middle East               | 2      | 3      | 4      | 4      | 4      | 6      | 9      | 9      | 11     | 15     | 14     | 12     | 12     | 11     | 15      | 22      | 23      | 23      |
| Africa                          | 218    | 266    | 317    | 338    | 394    | 407    | 458    | 500    | 519    | 492    | 462    | 491    | 489    | 530    | 547     | 557     | 613     | 680     |
| Egypt                           | 39     | 32     | 42     | 49     | 54     | 67     | 85     | 93     | 90     | 46     | 53     | 65     | 38     | 104    | 85      | 54      | 48      | 55      |
| Nigeria                         | 4      | 5      | 5      | 7      | 8      | 10     | 13     | 11     | 13     | 18     | 22     | 29     | 37     | 33     | 27      | 29      | 54      | 93      |
| South Africa                    | 109    | 144    | 168    | 171    | 179    | 194    | 188    | 223    | 235    | 229    | 218    | 197    | 186    | 192    | 200     | 194     | 191     | 176     |
| Other Africa                    | 66     | 85     | 101    | 111    | 152    | 135    | 173    | 172    | 180    | 199    | 169    | 200    | 229    | 201    | 235     | 281     | 322     | 355     |



Table SKTI-15  
Value added of railroad, military vehicles, and other transport industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002   | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   | 2010   | 2011   | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Asia                        | 18,127 | 19,136 | 21,734 | 21,250 | 21,416 | 24,697 | 30,494 | 33,102 | 40,182 | 45,721 | 47,491 | 47,662 | 55,466 | 57,410 | 60,601 | 65,607 | 71,454 | 74,098 |
| China                       | 5,695  | 6,001  | 6,189  | 7,341  | 7,749  | 9,815  | 13,392 | 14,427 | 17,594 | 21,187 | 25,071 | 27,759 | 34,107 | 36,230 | 37,089 | 41,092 | 44,959 | 46,628 |
| India                       | 915    | 1,199  | 1,490  | 1,774  | 2,081  | 2,414  | 2,469  | 3,180  | 4,376  | 4,335  | 4,060  | 3,795  | 4,339  | 4,498  | 4,647  | 5,203  | 6,383  | 6,603  |
| Indonesia                   | 1,823  | 2,336  | 2,860  | 2,163  | 1,936  | 2,018  | 2,975  | 3,119  | 4,150  | 5,554  | 4,994  | 4,238  | 4,239  | 3,143  | 3,357  | 3,684  | 3,667  | 3,760  |
| Japan                       | 6,421  | 6,242  | 7,685  | 6,323  | 5,761  | 5,671  | 6,431  | 7,456  | 7,902  | 7,676  | 7,213  | 5,928  | 6,504  | 7,541  | 8,778  | 8,807  | 9,047  | 9,434  |
| Malaysia                    | 36     | 38     | 48     | 62     | 68     | 75     | 110    | 76     | 138    | 154    | 182    | 166    | 197    | 152    | 123    | 84     | 82     | 93     |
| Philippines                 | 57     | 59     | 67     | 79     | 84     | 149    | 337    | 373    | 375    | 368    | 524    | 401    | 259    | 181    | 300    | 319    | 341    | 331    |
| Singapore                   | 356    | 269    | 201    | 57     | 55     | 80     | 99     | 85     | 260    | 318    | 311    | 326    | 371    | 327    | 268    | 264    | 248    | 281    |
| South Korea                 | 978    | 915    | 891    | 857    | 864    | 881    | 749    | 910    | 1,149  | 1,094  | 1,083  | 946    | 872    | 795    | 837    | 700    | 775    | 690    |
| Taiwan                      | 1,304  | 1,394  | 1,410  | 1,450  | 1,206  | 1,618  | 1,924  | 1,586  | 1,746  | 2,011  | 2,116  | 2,155  | 2,316  | 2,454  | 2,444  | 2,486  | 2,687  | 2,910  |
| Thailand                    | 390    | 501    | 621    | 757    | 951    | 1,024  | 1,033  | 773    | 1,199  | 1,371  | 373    | 328    | 298    | 308    | 793    | 883    | 952    | 960    |
| Vietnam                     | 124    | 143    | 219    | 322    | 474    | 724    | 742    | 890    | 1,042  | 1,397  | 1,325  | 1,390  | 1,669  | 1,482  | 1,596  | 1,667  | 1,871  | 1,886  |
| Other Asia                  | 29     | 39     | 53     | 65     | 186    | 228    | 233    | 227    | 250    | 256    | 239    | 229    | 295    | 299    | 368    | 419    | 443    | 523    |
| Oceania                     | 427    | 552    | 867    | 998    | 677    | 969    | 1,128  | 988    | 1,489  | 1,541  | 1,566  | 873    | 722    | 467    | 471    | 511    | 837    | 744    |
| Australia                   | 411    | 530    | 841    | 970    | 652    | 939    | 1,102  | 962    | 1,458  | 1,509  | 1,537  | 848    | 712    | 446    | 443    | 492    | 812    | 721    |
| New Zealand                 | 17     | 22     | 26     | 27     | 25     | 30     | 26     | 26     | 30     | 33     | 29     | 25     | 10     | 21     | 28     | 19     | 25     | 23     |

\* = amount < \$500,000.

EU = European Union.

**Note(s):**  
Value added is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See Table SKTI-4 for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK’s withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.



Table SKTI-16  
Value added of medical and dental instruments industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002   | 2003   | 2004   | 2005   | 2006   | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|---------------------------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| World                           | 74,973 | 81,650 | 86,167 | 90,381 | 97,685 | 108,264 | 121,790 | 129,166 | 134,222 | 138,186 | 138,540 | 143,866 | 146,180 | 143,140 | 148,885 | 159,254 | 172,677 | 175,126 |
| North America                   | 37,534 | 38,945 | 40,331 | 42,373 | 45,913 | 48,073  | 51,882  | 59,503  | 60,690  | 57,427  | 59,683  | 58,980  | 58,697  | 58,642  | 62,405  | 65,307  | 68,448  | 70,088  |
| Canada                          | 1,059  | 1,308  | 1,405  | 1,458  | 1,616  | 1,734   | 1,818   | 1,698   | 1,962   | 2,074   | 2,029   | 2,199   | 1,791   | 1,639   | 1,690   | 1,605   | 1,711   | 1,764   |
| Mexico                          | 1,547  | 1,455  | 1,309  | 1,426  | 1,558  | 1,665   | 1,927   | 1,686   | 1,762   | 1,857   | 1,938   | 2,006   | 2,048   | 2,000   | 1,965   | 2,125   | 2,461   | 2,606   |
| United States                   | 34,928 | 36,182 | 37,616 | 39,489 | 42,739 | 44,674  | 48,137  | 56,119  | 56,967  | 53,495  | 55,716  | 54,774  | 54,858  | 55,003  | 58,750  | 61,577  | 64,276  | 65,718  |
| Central and South America       | 1,176  | 1,251  | 1,452  | 1,724  | 2,021  | 2,668   | 3,410   | 3,587   | 4,284   | 4,546   | 4,718   | 4,524   | 4,254   | 3,275   | 3,148   | 3,685   | 3,372   | 3,302   |
| Argentina                       | 12     | 15     | 18     | 20     | 21     | 23      | 29      | 28      | 31      | 32      | 32      | 32      | 23      | 21      | 20      | 24      | 21      | 20      |
| Brazil                          | 529    | 581    | 696    | 888    | 1,097  | 1,460   | 2,017   | 2,096   | 2,795   | 3,091   | 3,193   | 3,157   | 3,067   | 2,216   | 2,068   | 2,556   | 2,146   | 2,194   |
| Chile                           | 1      | 2      | 2      | 2      | 2      | 2       | 2       | 3       | 4       | 3       | 3       | 4       | 5       | 6       | 21      | 25      | 29      | 24      |
| Colombia                        | 175    | 181    | 220    | 244    | 273    | 341     | 380     | 325     | 349     | 342     | 328     | 198     | 193     | 278     | 337     | 308     | 328     | 273     |
| Peru                            | 289    | 296    | 327    | 372    | 411    | 583     | 666     | 792     | 767     | 750     | 926     | 896     | 743     | 542     | 522     | 576     | 633     | 583     |
| Other Central and South America | 170    | 177    | 189    | 197    | 216    | 258     | 316     | 343     | 338     | 328     | 235     | 235     | 223     | 211     | 180     | 196     | 215     | 208     |
| Europe                          | 20,710 | 25,257 | 27,538 | 27,948 | 30,213 | 34,562  | 38,779  | 36,416  | 36,852  | 40,289  | 35,921  | 38,568  | 38,964  | 37,463  | 37,868  | 40,910  | 45,345  | 43,715  |
| EU                              | 15,971 | 19,419 | 21,304 | 21,357 | 22,913 | 26,057  | 29,683  | 28,500  | 28,773  | 31,364  | 27,376  | 29,714  | 30,509  | 30,252  | 30,732  | 33,433  | 37,178  | 35,618  |
| France                          | 2,381  | 2,981  | 3,301  | 3,242  | 3,234  | 3,600   | 3,947   | 3,925   | 3,673   | 3,784   | 3,352   | 3,785   | 3,842   | 3,136   | 3,216   | 3,309   | 3,395   | 3,238   |
| Germany                         | 5,104  | 6,630  | 7,183  | 7,293  | 8,099  | 9,076   | 10,114  | 9,696   | 10,466  | 12,281  | 10,550  | 11,205  | 11,312  | 9,867   | 9,832   | 11,579  | 12,712  | 11,990  |
| Italy                           | 3,080  | 3,345  | 3,654  | 3,709  | 3,978  | 4,603   | 5,037   | 4,548   | 4,890   | 4,755   | 3,906   | 4,169   | 4,257   | 3,756   | 3,982   | 4,481   | 5,012   | 5,000   |
| Spain                           | 802    | 1,007  | 1,161  | 1,135  | 1,260  | 1,512   | 1,896   | 1,755   | 1,527   | 1,559   | 1,454   | 1,458   | 1,461   | 1,163   | 1,167   | 1,264   | 1,478   | 1,484   |
| Other EU                        | 4,604  | 5,455  | 6,005  | 5,977  | 6,342  | 7,265   | 8,689   | 8,576   | 8,217   | 8,985   | 8,115   | 9,096   | 9,637   | 12,329  | 12,534  | 12,800  | 14,581  | 13,905  |
| Non-EU                          | 4,739  | 5,838  | 6,234  | 6,591  | 7,300  | 8,505   | 9,096   | 7,916   | 8,079   | 8,925   | 8,546   | 8,855   | 8,455   | 7,210   | 7,136   | 7,477   | 8,167   | 8,097   |
| United Kingdom                  | 3,156  | 3,844  | 3,927  | 3,885  | 4,193  | 4,846   | 4,473   | 4,462   | 4,309   | 4,429   | 4,227   | 4,102   | 4,110   | 3,925   | 3,639   | 3,583   | 3,919   | 3,840   |
| Russia                          | 320    | 521    | 756    | 1,029  | 1,267  | 1,520   | 1,938   | 1,156   | 1,333   | 1,775   | 1,704   | 1,868   | 1,514   | 676     | 721     | 1,067   | 1,273   | 1,365   |
| Switzerland                     | 950    | 1,086  | 1,131  | 1,161  | 1,246  | 1,439   | 1,775   | 1,623   | 1,664   | 1,863   | 1,795   | 2,002   | 2,036   | 1,896   | 1,996   | 2,051   | 2,174   | 2,057   |
| Other non-EU                    | 313    | 387    | 420    | 516    | 594    | 699     | 910     | 676     | 773     | 857     | 820     | 882     | 795     | 714     | 779     | 776     | 801     | 835     |
| Middle East                     | 262    | 296    | 297    | 325    | 374    | 438     | 537     | 530     | 604     | 689     | 608     | 613     | 633     | 604     | 629     | 725     | 751     | 798     |
| Iran                            | 37     | 44     | 47     | 49     | 67     | 80      | 104     | 133     | 159     | 220     | 113     | 102     | 129     | 125     | 113     | 130     | 116     | 113     |
| Israel                          | 113    | 114    | 108    | 112    | 101    | 106     | 114     | 97      | 100     | 92      | 91      | 105     | 114     | 103     | 111     | 127     | 129     | 139     |
| Saudi Arabia                    | 16     | 22     | 27     | 30     | 35     | 36      | 45      | 47      | 55      | 66      | 76      | 95      | 98      | 96      | 86      | 119     | 138     | 128     |
| United Arab Emirates            | 26     | 30     | 34     | 42     | 56     | 65      | 80      | 62      | 67      | 75      | 81      | 87      | 87      | 99      | 96      | 108     | 104     | 139     |
| Other Middle East               | 70     | 87     | 81     | 94     | 115    | 151     | 195     | 191     | 223     | 236     | 246     | 224     | 205     | 181     | 223     | 242     | 265     | 279     |
| Africa                          | 1,241  | 1,661  | 1,940  | 2,147  | 2,328  | 2,651   | 2,786   | 2,607   | 2,849   | 3,030   | 2,786   | 2,862   | 2,829   | 2,716   | 2,381   | 2,376   | 2,735   | 3,179   |
| Egypt                           | 9      | 7      | 9      | 11     | 12     | 15      | 20      | 23      | 27      | 149     | 28      | 16      | 15      | 309     | 58      | 72      | 95      | 136     |
| Nigeria                         | 98     | 108    | 118    | 136    | 160    | 191     | 245     | 236     | 257     | 351     | 465     | 668     | 854     | 694     | 479     | 410     | 484     | 800     |
| South Africa                    | 736    | 1,063  | 1,287  | 1,389  | 1,439  | 1,602   | 1,612   | 1,538   | 1,663   | 1,526   | 1,394   | 1,200   | 1,152   | 966     | 1,028   | 1,051   | 1,191   | 1,239   |
| Other Africa                    | 398    | 483    | 525    | 611    | 718    | 843     | 910     | 809     | 902     | 1,003   | 899     | 977     | 807     | 747     | 816     | 843     | 964     | 1,004   |

Table SKTI-16  
Value added of medical and dental instruments industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002   | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   | 2010   | 2011   | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Asia                        | 13,900 | 14,048 | 14,392 | 15,642 | 16,679 | 19,654 | 24,160 | 26,162 | 28,509 | 31,746 | 34,265 | 37,754 | 40,268 | 39,928 | 41,928 | 45,681 | 51,439 | 53,508 |
| China                       | 5,724  | 5,450  | 5,611  | 6,832  | 8,023  | 10,130 | 13,589 | 15,000 | 16,973 | 19,151 | 21,627 | 25,421 | 27,191 | 27,118 | 27,813 | 31,068 | 35,758 | 36,152 |
| India                       | 271    | 333    | 488    | 526    | 590    | 763    | 794    | 1,025  | 1,189  | 1,458  | 1,422  | 1,436  | 1,813  | 1,522  | 1,831  | 1,893  | 1,677  | 1,734  |
| Indonesia                   | 119    | 135    | 202    | 258    | 340    | 361    | 432    | 442    | 497    | 513    | 523    | 601    | 724    | 905    | 908    | 930    | 955    | 1,101  |
| Japan                       | 5,094  | 5,276  | 5,174  | 5,011  | 4,365  | 4,613  | 5,605  | 5,798  | 5,293  | 5,999  | 5,881  | 5,015  | 4,839  | 4,525  | 4,890  | 4,817  | 5,049  | 5,555  |
| Malaysia                    | 107    | 114    | 126    | 124    | 137    | 166    | 190    | 248    | 240    | 285    | 334    | 379    | 395    | 398    | 391    | 386    | 442    | 491    |
| Philippines                 | 24     | 29     | 28     | 32     | 45     | 44     | 26     | 38     | 41     | 43     | 35     | 12     | 10     | 10     | 14     | 13     | 15     | 11     |
| Singapore                   | 252    | 259    | 214    | 247    | 320    | 429    | 431    | 495    | 699    | 756    | 823    | 943    | 1,112  | 1,113  | 1,417  | 1,568  | 1,837  | 2,529  |
| South Korea                 | 992    | 1,045  | 1,056  | 1,178  | 1,329  | 1,492  | 1,295  | 1,098  | 1,306  | 1,395  | 1,397  | 1,507  | 1,580  | 1,628  | 1,753  | 1,841  | 2,174  | 2,083  |
| Taiwan                      | 640    | 677    | 699    | 668    | 672    | 689    | 731    | 717    | 811    | 872    | 922    | 1,016  | 1,077  | 1,123  | 1,238  | 1,310  | 1,475  | 1,614  |
| Thailand                    | 544    | 563    | 585    | 533    | 635    | 718    | 759    | 851    | 1,015  | 894    | 904    | 966    | 953    | 981    | 999    | 1,080  | 1,184  | 1,167  |
| Vietnam                     | 51     | 63     | 81     | 86     | 99     | 115    | 155    | 292    | 269    | 206    | 230    | 267    | 372    | 414    | 464    | 535    | 620    | 808    |
| Other Asia                  | 82     | 103    | 128    | 148    | 124    | 134    | 153    | 159    | 176    | 173    | 166    | 191    | 204    | 191    | 209    | 239    | 253    | 263    |
| Oceania                     | 150    | 191    | 217    | 222    | 158    | 218    | 237    | 361    | 433    | 460    | 558    | 566    | 535    | 513    | 525    | 570    | 587    | 535    |
| Australia                   | 124    | 155    | 176    | 177    | 122    | 172    | 196    | 320    | 396    | 420    | 517    | 521    | 490    | 472    | 477    | 521    | 538    | 487    |
| New Zealand                 | 26     | 36     | 40     | 45     | 35     | 45     | 41     | 41     | 38     | 40     | 41     | 45     | 45     | 41     | 48     | 48     | 49     | 48     |

EU = European Union.

**Note(s):**  
Value added is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See Table SKTI-4 for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK’s withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations, October 2021.

Table SKTI-17  
Value added of IT and other information services industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| World                           | 510,374 | 569,022 | 635,123 | 680,670 | 740,660 | 831,878 | 933,632 | 922,926 | 992,002 | 1,123,653 | 1,163,837 | 1,224,034 | 1,298,267 | 1,281,320 | 1,363,281 | 1,473,119 | 1,619,127 | 1,720,742 |
| North America                   | 180,800 | 190,305 | 209,993 | 221,340 | 247,849 | 251,526 | 284,653 | 295,627 | 327,279 | 366,137   | 385,744   | 415,432   | 444,618   | 481,503   | 527,966   | 566,124   | 629,640   | 690,936   |
| Canada                          | 8,611   | 10,649  | 12,016  | 13,468  | 15,871  | 18,009  | 19,117  | 19,400  | 22,157  | 25,325    | 26,453    | 27,326    | 27,740    | 25,628    | 26,679    | 29,459    | 31,862    | 33,791    |
| Mexico                          | 824     | 792     | 908     | 1,055   | 1,091   | 1,199   | 1,286   | 1,087   | 1,164   | 1,195     | 1,220     | 1,232     | 1,339     | 1,210     | 1,193     | 1,318     | 1,317     | 1,366     |
| United States                   | 171,364 | 178,864 | 197,069 | 206,818 | 230,887 | 232,318 | 264,249 | 275,140 | 303,958 | 339,617   | 358,071   | 386,873   | 415,539   | 454,665   | 500,094   | 535,347   | 596,461   | 655,779   |
| Central and South America       | 7,908   | 8,296   | 10,638  | 14,453  | 17,329  | 22,273  | 26,890  | 28,131  | 34,589  | 41,750    | 41,231    | 43,543    | 42,803    | 37,668    | 35,622    | 40,456    | 38,604    | 37,454    |
| Argentina                       | 1,108   | 1,241   | 1,553   | 1,862   | 2,183   | 2,765   | 3,472   | 3,389   | 4,013   | 4,829     | 5,195     | 5,537     | 4,979     | 5,866     | 5,150     | 6,148     | 4,920     | 4,132     |
| Brazil                          | 3,790   | 4,215   | 5,778   | 8,088   | 9,994   | 13,370  | 15,973  | 17,283  | 22,029  | 26,814    | 24,599    | 26,078    | 26,173    | 20,458    | 20,755    | 23,110    | 21,902    | 22,307    |
| Chile                           | 606     | 573     | 728     | 950     | 1,156   | 1,359   | 1,800   | 1,669   | 2,139   | 2,767     | 3,009     | 3,172     | 2,961     | 2,845     | 3,135     | 3,527     | 3,326     | 3,125     |
| Colombia                        | 769     | 736     | 921     | 1,719   | 1,915   | 2,412   | 2,778   | 2,563   | 3,179   | 3,542     | 3,982     | 4,006     | 3,978     | 2,980     | 2,823     | 3,170     | 3,358     | 3,193     |
| Peru                            | 467     | 493     | 540     | 593     | 677     | 728     | 832     | 791     | 895     | 988       | 1,095     | 1,164     | 1,172     | 1,076     | 1,081     | 1,218     | 1,274     | 1,329     |
| Other Central and South America | 1,169   | 1,040   | 1,119   | 1,240   | 1,405   | 1,639   | 2,035   | 2,436   | 2,334   | 2,810     | 3,350     | 3,586     | 3,540     | 4,444     | 2,679     | 3,284     | 3,823     | 3,367     |
| Europe                          | 173,315 | 208,590 | 239,820 | 256,642 | 276,477 | 335,194 | 364,644 | 330,888 | 332,725 | 375,481   | 373,228   | 399,403   | 422,867   | 379,311   | 394,365   | 431,321   | 484,998   | 512,955   |
| EU                              | 124,892 | 149,393 | 170,893 | 180,184 | 194,747 | 234,728 | 264,740 | 246,099 | 241,523 | 272,968   | 265,130   | 289,712   | 305,963   | 271,680   | 290,276   | 321,213   | 362,132   | 380,046   |
| France                          | 30,770  | 36,753  | 41,779  | 42,704  | 46,914  | 54,397  | 60,602  | 55,141  | 53,984  | 58,366    | 56,061    | 58,740    | 62,127    | 54,689    | 58,484    | 64,384    | 72,555    | 74,167    |
| Germany                         | 33,481  | 38,534  | 44,465  | 47,412  | 50,759  | 62,928  | 68,418  | 63,183  | 61,708  | 75,578    | 74,886    | 85,822    | 91,366    | 78,017    | 82,232    | 88,539    | 98,797    | 104,293   |
| Italy                           | 19,907  | 23,858  | 25,655  | 26,112  | 26,762  | 31,058  | 34,431  | 33,690  | 32,512  | 35,301    | 32,617    | 34,226    | 35,557    | 31,275    | 33,369    | 36,238    | 37,545    | 37,780    |
| Spain                           | 8,336   | 10,673  | 12,166  | 12,858  | 14,006  | 16,431  | 18,916  | 18,353  | 16,448  | 17,792    | 16,648    | 17,935    | 18,533    | 15,721    | 16,444    | 18,448    | 20,773    | 21,252    |
| Other EU                        | 32,397  | 39,574  | 46,828  | 51,098  | 56,306  | 69,915  | 82,374  | 75,732  | 76,871  | 85,930    | 84,918    | 92,989    | 98,381    | 91,977    | 99,746    | 113,605   | 132,462   | 142,555   |
| Non-EU                          | 48,423  | 59,198  | 68,927  | 76,457  | 81,731  | 100,465 | 99,903  | 84,789  | 91,202  | 102,513   | 108,097   | 109,691   | 116,904   | 107,631   | 104,089   | 110,108   | 122,866   | 132,909   |
| United Kingdom                  | 37,027  | 46,531  | 54,129  | 59,393  | 62,749  | 77,089  | 70,933  | 57,545  | 60,550  | 66,015    | 67,782    | 67,782    | 76,783    | 73,469    | 71,184    | 74,857    | 86,140    | 94,448    |
| Russia                          | 1,168   | 1,451   | 1,598   | 2,395   | 3,356   | 4,973   | 7,287   | 5,981   | 7,239   | 9,418     | 12,474    | 12,343    | 10,924    | 7,322     | 5,948     | 7,137     | 7,467     | 7,956     |
| Switzerland                     | 6,931   | 7,391   | 8,420   | 8,767   | 9,106   | 9,626   | 11,256  | 11,710  | 12,800  | 15,311    | 15,263    | 16,028    | 16,563    | 16,246    | 16,128    | 16,370    | 16,898    | 17,052    |
| Other non-EU                    | 3,297   | 3,825   | 4,780   | 5,903   | 6,519   | 8,777   | 10,427  | 9,554   | 10,612  | 11,768    | 12,579    | 13,538    | 12,634    | 10,593    | 10,829    | 11,743    | 12,360    | 13,453    |
| Middle East                     | 8,135   | 8,406   | 9,258   | 10,343  | 11,864  | 14,655  | 17,620  | 18,360  | 19,321  | 21,984    | 21,221    | 24,450    | 28,611    | 29,426    | 32,641    | 35,262    | 36,006    | 37,999    |
| Iran                            | 1,223   | 1,480   | 1,794   | 2,139   | 2,721   | 3,742   | 4,541   | 4,745   | 5,294   | 5,824     | 3,130     | 2,923     | 3,734     | 3,947     | 4,307     | 4,572     | 2,828     | 2,220     |
| Israel                          | 4,857   | 4,702   | 4,889   | 5,359   | 5,821   | 6,725   | 8,147   | 8,669   | 8,713   | 10,317    | 11,267    | 13,720    | 16,202    | 16,349    | 19,003    | 20,977    | 23,159    | 25,265    |
| Saudi Arabia                    | 851     | 871     | 950     | 1,007   | 1,085   | 1,196   | 1,424   | 1,687   | 1,933   | 2,152     | 2,789     | 3,398     | 3,758     | 3,928     | 3,996     | 4,134     | 4,324     | 4,686     |
| United Arab Emirates            | 905     | 1,040   | 1,266   | 1,446   | 1,702   | 2,313   | 2,724   | 2,450   | 2,529   | 2,681     | 2,946     | 3,195     | 3,565     | 3,791     | 3,916     | 4,122     | 4,196     | 4,327     |
| Other Middle East               | 299     | 314     | 359     | 391     | 535     | 678     | 784     | 808     | 852     | 1,011     | 1,090     | 1,214     | 1,352     | 1,412     | 1,419     | 1,457     | 1,499     | 1,501     |
| Africa                          | 2,116   | 2,534   | 3,260   | 4,596   | 5,184   | 6,294   | 10,323  | 10,014  | 11,035  | 10,466    | 11,452    | 12,336    | 12,318    | 11,300    | 9,691     | 8,581     | 9,721     | 11,460    |
| Egypt                           | 189     | 152     | 145     | 203     | 249     | 297     | 361     | 424     | 481     | 1,228     | 1,627     | 1,622     | 1,735     | 1,825     | 1,608     | 1,143     | 1,406     | 1,741     |
| Nigeria                         | 958     | 1,097   | 1,593   | 2,707   | 3,068   | 3,826   | 7,664   | 7,161   | 7,845   | 6,293     | 7,006     | 7,835     | 7,684     | 6,829     | 5,403     | 4,539     | 5,194     | 6,484     |
| South Africa                    | 205     | 344     | 459     | 522     | 558     | 634     | 592     | 683     | 944     | 1,035     | 908       | 825       | 808       | 725       | 667       | 793       | 846       | 819       |
| Other Africa                    | 763     | 940     | 1,063   | 1,164   | 1,309   | 1,537   | 1,706   | 1,746   | 1,766   | 1,909     | 1,911     | 2,054     | 2,091     | 1,921     | 2,013     | 2,106     | 2,275     | 2,417     |

Table SKTI-17  
Value added of IT and other information services industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Asia                        | 129,726 | 140,551 | 150,734 | 161,029 | 168,066 | 184,483 | 211,070 | 221,335 | 242,985 | 278,162 | 298,345 | 297,491 | 315,837 | 315,370 | 334,629 | 359,201 | 389,313 | 399,551 |
| China                       | 8,957   | 9,202   | 10,196  | 13,306  | 17,554  | 24,557  | 33,721  | 38,897  | 46,312  | 59,528  | 74,252  | 90,842  | 109,131 | 112,602 | 112,527 | 127,208 | 150,814 | 149,643 |
| India                       | 7,345   | 8,682   | 10,774  | 13,014  | 15,129  | 19,804  | 23,177  | 25,769  | 32,767  | 38,233  | 35,560  | 40,904  | 45,115  | 50,313  | 54,445  | 61,893  | 62,337  | 65,862  |
| Indonesia                   | 795     | 1,015   | 1,165   | 1,319   | 1,641   | 1,853   | 2,159   | 2,483   | 3,423   | 3,999   | 4,091   | 4,077   | 3,789   | 3,680   | 4,104   | 4,771   | 4,972   | 5,715   |
| Japan                       | 98,428  | 106,153 | 111,238 | 112,169 | 108,281 | 109,351 | 124,522 | 129,072 | 131,709 | 143,914 | 148,892 | 125,293 | 118,896 | 107,047 | 119,628 | 116,834 | 120,649 | 124,853 |
| Malaysia                    | 385     | 415     | 445     | 610     | 680     | 819     | 938     | 987     | 1,229   | 1,354   | 1,510   | 1,654   | 1,741   | 1,621   | 1,662   | 1,779   | 2,097   | 2,103   |
| Philippines                 | 489     | 508     | 554     | 633     | 769     | 956     | 1,148   | 1,153   | 1,336   | 1,521   | 1,773   | 1,665   | 1,699   | 1,801   | 2,190   | 2,277   | 2,458   | 2,759   |
| Singapore                   | 411     | 424     | 431     | 778     | 949     | 1,249   | 1,544   | 1,679   | 2,002   | 2,771   | 3,110   | 3,459   | 3,649   | 3,309   | 3,594   | 3,909   | 4,302   | 4,486   |
| South Korea                 | 9,255   | 10,184  | 11,471  | 14,413  | 17,419  | 19,528  | 16,809  | 14,830  | 17,018  | 19,029  | 20,810  | 20,542  | 22,052  | 24,579  | 25,326  | 28,137  | 29,193  | 29,830  |
| Taiwan                      | 2,359   | 2,472   | 2,655   | 2,854   | 3,173   | 3,609   | 3,928   | 3,712   | 3,975   | 4,125   | 4,291   | 4,710   | 5,252   | 5,624   | 6,095   | 6,853   | 7,356   | 7,935   |
| Thailand                    | 766     | 905     | 1,159   | 1,207   | 1,369   | 1,562   | 1,731   | 1,502   | 1,795   | 2,142   | 2,355   | 2,561   | 2,522   | 2,637   | 2,649   | 2,942   | 2,546   | 3,724   |
| Vietnam                     | 58      | 64      | 72      | 75      | 81      | 95      | 118     | 128     | 194     | 188     | 187     | 208     | 222     | 211     | 225     | 241     | 266     | 283     |
| Other Asia                  | 477     | 527     | 575     | 653     | 1,021   | 1,100   | 1,275   | 1,122   | 1,225   | 1,358   | 1,516   | 1,575   | 1,769   | 1,946   | 2,184   | 2,358   | 2,323   | 2,359   |
| Oceania                     | 8,374   | 10,339  | 11,421  | 12,268  | 13,892  | 17,454  | 18,433  | 18,571  | 24,067  | 29,673  | 32,617  | 31,379  | 31,212  | 26,742  | 28,367  | 32,174  | 30,846  | 30,386  |
| Australia                   | 7,635   | 9,385   | 10,327  | 11,063  | 12,721  | 15,832  | 16,880  | 17,120  | 22,414  | 27,737  | 30,651  | 29,226  | 28,950  | 24,821  | 26,372  | 30,031  | 28,596  | 28,017  |
| New Zealand                 | 739     | 954     | 1,094   | 1,205   | 1,171   | 1,622   | 1,553   | 1,450   | 1,653   | 1,936   | 1,966   | 2,154   | 2,261   | 1,921   | 1,996   | 2,144   | 2,250   | 2,369   |

EU = European Union; IT = information technology.

**Note(s):**  
*Value added* is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See [Table SKTI-4](#) for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK’s withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.

Table SKTI-18  
Value added of software publishing industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| World                           | 101,149 | 111,002 | 128,760 | 141,473 | 146,199 | 177,252 | 189,842 | 188,693 | 206,329 | 232,283 | 235,115 | 254,348 | 270,752 | 271,446 | 287,902 | 319,604 | 358,121 | 390,486 |
| North America                   | 59,813  | 64,487  | 73,824  | 82,903  | 83,300  | 103,844 | 108,640 | 109,781 | 120,675 | 134,227 | 141,926 | 154,871 | 163,723 | 170,310 | 182,355 | 201,799 | 223,045 | 246,929 |
| Canada                          | 1,895   | 2,152   | 2,680   | 3,207   | 3,816   | 4,430   | 4,643   | 4,159   | 4,835   | 5,438   | 5,738   | 6,066   | 6,238   | 5,348   | 5,360   | 5,871   | 6,281   | 6,702   |
| Mexico                          | 459     | 407     | 428     | 481     | 528     | 602     | 663     | 574     | 668     | 768     | 773     | 872     | 913     | 851     | 801     | 868     | 872     | 899     |
| United States                   | 57,460  | 61,927  | 70,716  | 79,215  | 78,956  | 98,812  | 103,334 | 105,048 | 115,173 | 128,020 | 135,414 | 147,933 | 156,572 | 164,111 | 176,194 | 195,060 | 215,892 | 239,328 |
| Central and South America       | 1,073   | 1,195   | 1,541   | 1,975   | 2,311   | 2,951   | 3,843   | 3,856   | 4,449   | 5,288   | 4,757   | 4,437   | 4,362   | 3,637   | 2,943   | 3,467   | 3,470   | 3,335   |
| Argentina                       | 59      | 81      | 109     | 133     | 154     | 191     | 245     | 257     | 313     | 374     | 408     | 414     | 418     | 508     | 454     | 554     | 453     | 389     |
| Brazil                          | 639     | 744     | 972     | 1,277   | 1,496   | 1,931   | 2,554   | 2,553   | 3,031   | 3,550   | 2,965   | 2,655   | 2,695   | 1,750   | 1,580   | 1,802   | 1,735   | 1,803   |
| Chile                           | 106     | 110     | 150     | 127     | 147     | 170     | 174     | 175     | 198     | 237     | 227     | 237     | 196     | 147     | 151     | 165     | 155     | 148     |
| Colombia                        | 84      | 73      | 78      | 165     | 191     | 258     | 342     | 300     | 372     | 463     | 435     | 392     | 343     | 265     | 255     | 289     | 307     | 295     |
| Peru                            | 42      | 54      | 62      | 70      | 82      | 89      | 107     | 112     | 137     | 171     | 154     | 153     | 137     | 129     | 133     | 154     | 165     | 176     |
| Other Central and South America | 143     | 134     | 170     | 204     | 240     | 312     | 420     | 459     | 397     | 494     | 568     | 587     | 573     | 838     | 371     | 503     | 655     | 523     |
| Europe                          | 25,291  | 28,906  | 34,475  | 36,177  | 39,039  | 47,274  | 52,825  | 49,701  | 52,468  | 59,527  | 56,356  | 61,738  | 66,386  | 63,980  | 66,549  | 75,360  | 87,499  | 94,873  |
| EU                              | 17,798  | 20,654  | 24,594  | 25,801  | 28,185  | 34,127  | 39,719  | 38,420  | 40,133  | 45,533  | 42,199  | 46,454  | 49,743  | 48,294  | 51,528  | 59,615  | 70,451  | 75,629  |
| France                          | 4,067   | 4,737   | 5,509   | 5,753   | 6,362   | 7,332   | 8,294   | 7,957   | 8,199   | 9,321   | 8,849   | 9,762   | 10,581  | 9,187   | 9,843   | 11,165  | 12,070  | 12,159  |
| Germany                         | 4,231   | 4,845   | 5,671   | 5,899   | 6,382   | 8,008   | 9,920   | 9,256   | 9,563   | 11,608  | 10,865  | 11,891  | 12,253  | 10,419  | 10,977  | 11,901  | 12,469  | 12,323  |
| Italy                           | 1,934   | 2,082   | 2,393   | 2,509   | 2,674   | 3,097   | 3,365   | 3,115   | 3,384   | 3,259   | 2,466   | 2,526   | 2,613   | 2,097   | 2,338   | 2,518   | 2,779   | 2,498   |
| Spain                           | 1,432   | 1,679   | 1,901   | 2,133   | 2,222   | 2,451   | 2,736   | 2,643   | 2,504   | 2,577   | 2,094   | 1,992   | 2,024   | 1,895   | 1,903   | 2,099   | 2,291   | 2,453   |
| Other EU                        | 6,134   | 7,311   | 9,119   | 9,507   | 10,545  | 13,239  | 15,404  | 15,449  | 16,484  | 18,769  | 17,924  | 20,284  | 22,272  | 24,696  | 26,467  | 31,933  | 40,843  | 46,196  |
| Non-EU                          | 7,493   | 8,251   | 9,882   | 10,376  | 10,853  | 13,146  | 13,106  | 11,281  | 12,335  | 13,994  | 14,158  | 15,283  | 16,642  | 15,687  | 15,020  | 15,746  | 17,048  | 19,244  |
| United Kingdom                  | 5,805   | 6,265   | 7,562   | 7,751   | 7,947   | 9,657   | 9,214   | 7,842   | 8,399   | 9,288   | 9,386   | 10,090  | 11,687  | 11,227  | 10,499  | 10,649  | 11,527  | 13,037  |
| Russia                          | 270     | 396     | 472     | 571     | 739     | 897     | 1,052   | 679     | 812     | 1,124   | 1,354   | 1,459   | 1,225   | 1,184   | 1,260   | 1,577   | 1,740   | 1,945   |
| Switzerland                     | 519     | 592     | 657     | 687     | 696     | 742     | 845     | 856     | 955     | 1,133   | 1,021   | 1,092   | 1,171   | 1,184   | 1,228   | 1,299   | 1,390   | 1,459   |
| Other non-EU                    | 899     | 999     | 1,189   | 1,367   | 1,471   | 1,851   | 1,995   | 1,904   | 2,168   | 2,449   | 2,397   | 2,643   | 2,560   | 2,092   | 2,033   | 2,220   | 2,391   | 2,803   |
| Middle East                     | 401     | 381     | 416     | 468     | 530     | 621     | 730     | 686     | 764     | 872     | 868     | 951     | 995     | 1,073   | 1,145   | 1,244   | 1,292   | 1,371   |
| Iran                            | 57      | 35      | 21      | 35      | 41      | 40      | 48      | 55      | 64      | 92      | 51      | 48      | 64      | 69      | 80      | 89      | 57      | 46      |
| Israel                          | 211     | 204     | 222     | 246     | 263     | 298     | 348     | 306     | 327     | 340     | 333     | 375     | 351     | 400     | 429     | 473     | 518     | 562     |
| Saudi Arabia                    | 18      | 20      | 23      | 27      | 33      | 48      | 48      | 50      | 65      | 79      | 84      | 91      | 105     | 100     | 103     | 109     | 115     | 126     |
| United Arab Emirates            | 39      | 40      | 47      | 54      | 65      | 73      | 91      | 83      | 93      | 114     | 126     | 138     | 153     | 168     | 184     | 203     | 214     | 227     |
| Other Middle East               | 76      | 83      | 103     | 106     | 129     | 162     | 194     | 192     | 214     | 247     | 274     | 300     | 323     | 336     | 349     | 370     | 389     | 410     |
| Africa                          | 138     | 181     | 227     | 239     | 280     | 334     | 328     | 317     | 401     | 440     | 477     | 532     | 573     | 502     | 484     | 506     | 569     | 619     |
| Egypt                           | 8       | 8       | 10      | 12      | 16      | 24      | 32      | 39      | 47      | 57      | 74      | 77      | 119     | 93      | 85      | 63      | 79      | 103     |
| Nigeria                         | 7       | 7       | 9       | 12      | 16      | 22      | 28      | 27      | 32      | 46      | 53      | 69      | 86      | 87      | 82      | 76      | 85      | 95      |
| South Africa                    | 92      | 130     | 170     | 170     | 200     | 229     | 208     | 189     | 250     | 262     | 278     | 281     | 251     | 208     | 193     | 236     | 258     | 257     |
| Other Africa                    | 31      | 35      | 38      | 45      | 49      | 59      | 61      | 62      | 73      | 75      | 72      | 105     | 117     | 114     | 123     | 131     | 147     | 164     |

Table SKTI-18  
Value added of software publishing industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002   | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   | 2010   | 2011   | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Asia                        | 12,663 | 13,428 | 15,336 | 16,597 | 17,315 | 17,723 | 19,075 | 20,147 | 22,818 | 26,522 | 25,632 | 27,117 | 30,148 | 28,117 | 30,918 | 33,947 | 39,110 | 40,179 |
| China                       | 1,455  | 1,640  | 2,034  | 2,283  | 2,472  | 2,873  | 3,305  | 3,532  | 3,854  | 4,928  | 5,742  | 6,798  | 8,806  | 8,806  | 9,048  | 10,512 | 12,552 | 12,280 |
| India                       | 274    | 332    | 314    | 484    | 581    | 770    | 870    | 818    | 1,070  | 1,378  | 1,300  | 1,361  | 1,328  | 1,368  | 1,466  | 1,663  | 1,671  | 1,793  |
| Indonesia                   | 163    | 167    | 195    | 204    | 284    | 266    | 319    | 360    | 471    | 496    | 461    | 459    | 447    | 403    | 443    | 514    | 532    | 609    |
| Japan                       | 7,085  | 7,567  | 8,598  | 8,557  | 8,043  | 7,372  | 8,377  | 9,055  | 9,607  | 10,320 | 9,039  | 7,632  | 7,228  | 6,500  | 7,396  | 7,150  | 7,406  | 7,309  |
| Malaysia                    | 153    | 176    | 200    | 178    | 264    | 228    | 270    | 245    | 505    | 665    | 578    | 523    | 584    | 505    | 521    | 566    | 664    | 662    |
| Philippines                 | 40     | 17     | 17     | 19     | 21     | 26     | 3      | 3      | 3      | 4      | 4      | 3      | 7      | 7      | 9      | 10     | 11     | 13     |
| Singapore                   | 96     | 93     | 97     | 161    | 177    | 80     | 81     | 84     | 108    | 141    | 137    | 134    | 128    | 102    | 97     | 107    | 119    | 126    |
| South Korea                 | 2,712  | 2,715  | 3,068  | 3,820  | 4,576  | 5,149  | 4,770  | 4,941  | 5,915  | 7,099  | 6,957  | 8,706  | 10,060 | 8,890  | 10,345 | 11,676 | 14,321 | 15,515 |
| Taiwan                      | 617    | 647    | 725    | 794    | 787    | 824    | 920    | 931    | 1,082  | 1,266  | 1,187  | 1,218  | 1,222  | 1,167  | 1,177  | 1,289  | 1,362  | 1,311  |
| Thailand                    | 19     | 23     | 30     | 32     | 40     | 48     | 58     | 57     | 69     | 78     | 76     | 85     | 85     | 87     | 88     | 99     | 85     | 127    |
| Vietnam                     | 6      | 7      | 8      | 9      | 10     | 12     | 13     | 14     | 9      | 8      | 7      | 7      | 8      | 8      | 9      | 10     | 11     | 13     |
| Other Asia                  | 41     | 45     | 51     | 56     | 61     | 76     | 88     | 106    | 125    | 139    | 145    | 190    | 245    | 275    | 318    | 351    | 376    | 421    |
| Oceania                     | 1,770  | 2,424  | 2,941  | 3,113  | 3,424  | 4,505  | 4,401  | 4,205  | 4,755  | 5,408  | 5,099  | 4,702  | 4,565  | 3,826  | 3,509  | 3,280  | 3,135  | 3,181  |
| Australia                   | 1,571  | 2,151  | 2,591  | 2,723  | 3,092  | 4,121  | 4,075  | 3,868  | 4,426  | 4,969  | 4,624  | 4,170  | 4,000  | 3,355  | 3,037  | 2,828  | 2,724  | 2,753  |
| New Zealand                 | 200    | 273    | 350    | 390    | 332    | 384    | 326    | 337    | 329    | 439    | 476    | 532    | 565    | 471    | 472    | 452    | 411    | 428    |

EU = European Union.

**Note(s):**  
*Value added* is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See [Table SKTI-4](#) for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK’s withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations, October 2021.

Table SKTI-19  
Value added of scientific research and development industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy     | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| World                           | 218,319 | 244,695 | 277,119 | 298,306 | 324,684 | 371,645 | 415,364 | 414,725 | 459,522 | 517,504 | 533,916 | 564,963 | 602,459 | 574,171 | 581,859 | 632,846 | 685,477 | 701,348 |
| North America                   | 74,773  | 75,136  | 76,699  | 79,342  | 80,223  | 80,366  | 89,725  | 90,894  | 95,766  | 102,061 | 102,635 | 104,628 | 109,880 | 121,228 | 119,057 | 122,634 | 134,698 | 145,647 |
| Canada                          | 2,147   | 2,564   | 2,944   | 3,368   | 3,852   | 4,473   | 4,660   | 4,471   | 4,832   | 5,556   | 5,356   | 5,553   | 5,307   | 4,464   | 4,326   | 4,636   | 4,826   | 4,876   |
| Mexico                          | 1,117   | 1,252   | 1,222   | 1,388   | 1,369   | 1,477   | 1,550   | 1,401   | 1,716   | 1,757   | 1,705   | 1,311   | 1,433   | 1,335   | 1,224   | 1,289   | 1,318   | 1,422   |
| United States                   | 71,509  | 71,320  | 72,533  | 74,586  | 75,002  | 74,416  | 83,515  | 85,022  | 89,218  | 94,748  | 95,574  | 97,764  | 103,140 | 115,428 | 113,507 | 116,709 | 128,554 | 139,349 |
| Central and South America       | 5,611   | 5,519   | 6,482   | 7,365   | 8,653   | 10,964  | 13,383  | 14,384  | 16,254  | 19,355  | 21,805  | 23,119  | 22,768  | 23,896  | 20,102  | 23,376  | 22,703  | 20,659  |
| Argentina                       | 1,611   | 1,803   | 2,257   | 2,707   | 3,173   | 4,019   | 4,977   | 5,032   | 5,943   | 7,133   | 7,802   | 8,339   | 7,500   | 8,786   | 7,740   | 9,270   | 7,440   | 6,244   |
| Brazil                          | 316     | 280     | 375     | 554     | 790     | 1,199   | 1,436   | 1,477   | 1,725   | 2,145   | 2,171   | 1,920   | 2,091   | 1,615   | 1,627   | 2,006   | 1,712   | 1,601   |
| Chile                           | 38      | 34      | 46      | 54      | 71      | 84      | 95      | 107     | 123     | 150     | 173     | 187     | 139     | 221     | 253     | 267     | 289     | 265     |
| Colombia                        | 978     | 931     | 1,147   | 1,124   | 1,295   | 1,757   | 2,129   | 2,274   | 2,940   | 3,440   | 4,030   | 4,383   | 4,813   | 3,594   | 3,330   | 3,583   | 3,863   | 3,742   |
| Peru                            | 477     | 464     | 500     | 541     | 611     | 721     | 918     | 969     | 1,183   | 1,356   | 1,583   | 1,727   | 1,705   | 1,622   | 1,615   | 1,779   | 1,878   | 1,999   |
| Other Central and South America | 2,191   | 2,007   | 2,158   | 2,384   | 2,713   | 3,183   | 3,827   | 4,526   | 4,340   | 5,131   | 6,045   | 6,562   | 6,520   | 8,058   | 5,536   | 6,471   | 7,522   | 6,808   |
| Europe                          | 78,169  | 96,307  | 114,398 | 120,410 | 129,571 | 153,670 | 170,637 | 158,570 | 169,039 | 184,295 | 179,760 | 196,321 | 197,844 | 167,471 | 169,092 | 185,195 | 197,704 | 202,293 |
| EU                              | 58,286  | 72,792  | 84,040  | 87,460  | 92,832  | 107,897 | 119,328 | 114,262 | 115,082 | 123,571 | 117,558 | 129,388 | 132,170 | 115,964 | 119,861 | 130,842 | 141,219 | 142,878 |
| France                          | 21,929  | 26,570  | 30,046  | 30,428  | 31,938  | 36,478  | 40,338  | 39,845  | 39,503  | 42,738  | 40,479  | 43,417  | 44,512  | 37,186  | 37,775  | 40,636  | 44,068  | 45,161  |
| Germany                         | 12,733  | 16,100  | 17,981  | 18,265  | 18,399  | 21,370  | 23,890  | 23,528  | 22,905  | 25,007  | 24,535  | 26,693  | 27,624  | 25,251  | 25,124  | 27,618  | 29,255  | 28,590  |
| Italy                           | 11,224  | 14,271  | 16,390  | 17,290  | 18,914  | 21,380  | 23,188  | 21,990  | 21,406  | 21,908  | 20,272  | 21,111  | 20,661  | 17,361  | 17,263  | 18,057  | 19,276  | 20,204  |
| Spain                           | 2,276   | 2,953   | 3,385   | 3,712   | 4,002   | 4,640   | 5,367   | 5,392   | 5,472   | 6,210   | 6,035   | 6,453   | 6,573   | 5,756   | 5,602   | 5,893   | 6,426   | 6,408   |
| Other EU                        | 10,123  | 12,898  | 16,237  | 17,764  | 19,579  | 24,029  | 26,545  | 23,507  | 25,797  | 27,708  | 26,237  | 31,714  | 32,800  | 30,409  | 34,097  | 38,637  | 42,194  | 42,515  |
| Non-EU                          | 19,883  | 23,515  | 30,358  | 32,950  | 36,739  | 45,772  | 51,309  | 44,308  | 53,957  | 60,724  | 62,202  | 66,933  | 65,674  | 51,507  | 49,232  | 54,353  | 56,485  | 59,415  |
| United Kingdom                  | 11,161  | 12,959  | 16,766  | 17,646  | 18,122  | 22,484  | 22,101  | 17,853  | 20,600  | 19,903  | 18,792  | 15,754  | 17,858  | 17,837  | 16,972  | 17,908  | 19,398  | 20,291  |
| Russia                          | 4,038   | 5,048   | 6,908   | 7,973   | 10,566  | 13,054  | 17,237  | 14,574  | 20,309  | 26,823  | 28,163  | 34,728  | 31,864  | 18,576  | 17,409  | 20,906  | 21,566  | 22,772  |
| Switzerland                     | 2,409   | 2,694   | 3,043   | 3,051   | 3,000   | 3,259   | 3,545   | 4,034   | 4,149   | 4,682   | 4,753   | 4,970   | 5,254   | 5,100   | 5,024   | 5,137   | 5,399   | 5,450   |
| Other non-EU                    | 2,276   | 2,814   | 3,642   | 4,280   | 5,051   | 6,975   | 8,427   | 7,848   | 8,899   | 9,317   | 10,493  | 11,483  | 10,698  | 9,994   | 9,827   | 10,402  | 10,122  | 10,902  |
| Middle East                     | 5,696   | 6,466   | 7,591   | 8,658   | 10,537  | 13,679  | 16,119  | 16,817  | 18,430  | 20,422  | 17,348  | 18,339  | 21,622  | 22,338  | 23,298  | 24,469  | 22,128  | 22,107  |
| Iran                            | 2,027   | 2,453   | 2,974   | 3,546   | 4,510   | 6,202   | 7,454   | 8,327   | 9,385   | 10,373  | 5,689   | 5,321   | 6,862   | 7,222   | 7,839   | 8,281   | 5,104   | 3,998   |
| Israel                          | 1,100   | 1,195   | 1,293   | 1,379   | 1,565   | 1,755   | 2,111   | 2,019   | 2,254   | 2,595   | 3,109   | 3,393   | 4,226   | 4,035   | 3,980   | 4,395   | 4,768   | 5,255   |
| Saudi Arabia                    | 867     | 903     | 1,009   | 1,105   | 1,218   | 1,348   | 1,536   | 1,823   | 2,006   | 2,171   | 2,677   | 3,097   | 3,345   | 3,454   | 3,551   | 3,735   | 4,005   | 4,361   |
| United Arab Emirates            | 1,316   | 1,512   | 1,840   | 2,102   | 2,473   | 3,362   | 3,842   | 3,405   | 3,516   | 3,717   | 4,094   | 4,516   | 4,976   | 5,278   | 5,483   | 5,801   | 5,919   | 6,126   |
| Other Middle East               | 387     | 403     | 475     | 526     | 770     | 1,012   | 1,177   | 1,243   | 1,269   | 1,565   | 1,779   | 2,012   | 2,213   | 2,349   | 2,444   | 2,257   | 2,332   | 2,368   |
| Africa                          | 2,860   | 3,810   | 5,308   | 6,731   | 7,825   | 9,189   | 10,044  | 10,546  | 12,232  | 15,097  | 16,115  | 16,573  | 17,846  | 16,677  | 15,463  | 14,907  | 16,087  | 16,856  |
| Egypt                           | 275     | 221     | 211     | 295     | 362     | 432     | 505     | 608     | 691     | 1,738   | 2,303   | 2,295   | 2,469   | 2,611   | 2,318   | 1,661   | 2,060   | 2,581   |
| Nigeria                         | 255     | 283     | 1,087   | 1,911   | 2,599   | 3,292   | 4,009   | 3,635   | 4,076   | 5,061   | 6,118   | 6,938   | 7,964   | 7,455   | 6,532   | 5,705   | 5,898   | 6,112   |
| South Africa                    | 1,180   | 1,884   | 2,394   | 2,759   | 2,881   | 3,118   | 2,922   | 3,535   | 4,637   | 5,145   | 4,513   | 4,117   | 4,083   | 3,681   | 3,416   | 4,096   | 4,396   | 4,289   |
| Other Africa                    | 1,149   | 1,421   | 1,616   | 1,767   | 1,983   | 2,347   | 2,608   | 2,767   | 2,828   | 3,153   | 3,180   | 3,223   | 3,329   | 2,930   | 3,197   | 3,445   | 3,733   | 3,875   |



Table SKTI-19  
Value added of scientific research and development industry, by region, country, or economy: 2002–19

(Millions of current dollars)

| Region, country, or economy | 2002   | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Asia                        | 45,566 | 49,872 | 56,788 | 64,302 | 74,878 | 87,453 | 97,466 | 105,125 | 124,597 | 148,499 | 167,203 | 179,144 | 207,023 | 200,947 | 211,251 | 235,168 | 264,989 | 267,612 |
| China                       | 9,445  | 9,444  | 11,148 | 14,332 | 17,805 | 23,183 | 29,422 | 37,390  | 44,646  | 57,632  | 70,568  | 77,192  | 87,091  | 94,168  | 94,340  | 105,992 | 124,724 | 123,580 |
| India                       | 2,617  | 3,092  | 3,851  | 4,636  | 5,385  | 7,049  | 8,234  | 9,312   | 11,940  | 13,840  | 17,654  | 20,780  | 25,197  | 27,198  | 32,125  | 37,874  | 40,978  | 43,186  |
| Indonesia                   | 660    | 851    | 949    | 1,076  | 1,370  | 1,547  | 1,737  | 1,920   | 2,578   | 3,071   | 3,179   | 3,165   | 3,155   | 3,176   | 3,558   | 4,006   | 4,252   | 4,917   |
| Japan                       | 13,961 | 14,708 | 15,703 | 14,216 | 13,592 | 13,461 | 15,913 | 16,320  | 17,478  | 19,798  | 19,105  | 15,540  | 14,992  | 13,343  | 15,472  | 14,854  | 15,411  | 15,745  |
| Malaysia                    | 459    | 494    | 530    | 726    | 810    | 975    | 1,126  | 1,209   | 1,498   | 1,712   | 1,899   | 2,072   | 2,184   | 2,082   | 2,145   | 2,298   | 2,729   | 2,707   |
| Philippines                 | 711    | 738    | 805    | 920    | 1,118  | 1,389  | 1,670  | 1,760   | 2,075   | 2,392   | 2,786   | 2,625   | 2,668   | 2,775   | 3,351   | 3,472   | 3,747   | 4,210   |
| Singapore                   | 699    | 737    | 781    | 870    | 1,035  | 1,278  | 1,625  | 1,688   | 2,171   | 2,680   | 2,954   | 3,221   | 3,366   | 3,187   | 3,298   | 3,475   | 3,752   | 3,852   |
| South Korea                 | 12,849 | 15,147 | 17,745 | 21,417 | 25,847 | 29,632 | 28,103 | 25,758  | 31,000  | 34,579  | 34,903  | 39,338  | 51,972  | 38,106  | 39,073  | 43,175  | 48,027  | 47,732  |
| Taiwan                      | 1,950  | 2,174  | 2,457  | 2,861  | 3,318  | 3,637  | 3,919  | 3,884   | 4,400   | 4,979   | 5,301   | 5,646   | 6,045   | 6,100   | 6,381   | 7,072   | 7,517   | 7,676   |
| Thailand                    | 791    | 930    | 1,110  | 1,262  | 1,480  | 1,822  | 1,997  | 1,780   | 2,214   | 2,518   | 3,020   | 3,156   | 2,967   | 2,736   | 2,595   | 2,925   | 3,491   | 3,637   |
| Vietnam                     | 212    | 231    | 259    | 282    | 313    | 365    | 461    | 506     | 544     | 614     | 712     | 816     | 874     | 909     | 966     | 1,022   | 1,098   | 1,166   |
| Other Asia                  | 1,213  | 1,327  | 1,450  | 1,703  | 2,803  | 3,115  | 3,261  | 3,597   | 4,055   | 4,683   | 5,122   | 5,592   | 6,513   | 7,166   | 7,946   | 9,002   | 9,263   | 9,204   |
| Oceania                     | 5,643  | 7,586  | 9,852  | 11,498 | 12,999 | 16,324 | 17,988 | 18,389  | 23,203  | 27,776  | 29,051  | 26,839  | 25,475  | 21,615  | 23,595  | 27,097  | 27,169  | 26,174  |
| Australia                   | 5,592  | 7,522  | 9,777  | 11,414 | 12,902 | 16,150 | 17,831 | 18,248  | 23,023  | 27,532  | 28,789  | 26,671  | 25,349  | 21,507  | 23,455  | 26,825  | 27,080  | 26,082  |
| New Zealand                 | 51     | 64     | 75     | 84     | 97     | 173    | 157    | 141     | 180     | 244     | 262     | 168     | 126     | 108     | 140     | 272     | 89      | 92      |

EU = European Union.

**Note(s):**  
*Value added* is the amount contributed by a country, an industry, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Detail may not add to total because of rounding. The world total and regional totals do not include all countries and economies due to limitations in data availability. See [Table SKTI-4](#) for a full list of countries and economies in each region for which data are available. China includes Hong Kong. The EU total excludes the United Kingdom (UK) to reflect the new EU country composition following the UK’s withdrawal on 1 February 2020. In order to maintain consistency over time, the EU aggregate excludes the UK for the entire time series.

**Source(s):**  
U.S. Bureau of Economic Analysis, Value Added by Industry, accessed 5 October 2021; IHS Markit, special tabulations (2021) of the Comparative Industry Service.



Table SKTI-20  
Exports and imports of KTI industries for select countries: 2002–18

(Millions of current dollars)

| Region, country, or economy | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Exports                     |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| World                       | 2,560.6 | 2,926.1 | 3,516.8 | 3,856.8 | 4,360.1 | 5,047.3 | 5,594.5 | 4,423.6 | 5,398.0 | 6,276.0 | 6,253.6 | 6,410.0 | 6,692.1 | 6,302.8 | 6,182.8 | 6,797.2 | 7,405.7 |
| Austria                     | 26.8    | 31.5    | 39.6    | 41.5    | 45.8    | 54.0    | 55.9    | 43.7    | 55.9    | 65.1    | 62.9    | 66.3    | 69.3    | 58.7    | 60.9    | 68.1    | 79.0    |
| Belgium                     | 42.4    | 50.6    | 59.4    | 60.2    | 61.7    | 70.1    | 79.6    | 62.1    | 65.3    | 75.9    | 72.0    | 75.6    | 73.8    | 60.6    | 68.5    | 80.5    | 88.0    |
| Brazil                      | 17.0    | 19.6    | 26.7    | 33.1    | 36.7    | 41.1    | 50.6    | 33.8    | 38.4    | 44.5    | 45.0    | 46.1    | 37.6    | 35.8    | 37.5    | 41.7    | 42.2    |
| Canada                      | 98.7    | 100.1   | 110.8   | 118.1   | 122.0   | 124.1   | 117.8   | 85.4    | 104.7   | 116.0   | 124.5   | 121.7   | 126.8   | 124.8   | 124.2   | 123.1   | 134.1   |
| China                       | 125.1   | 175.0   | 245.5   | 309.7   | 407.4   | 525.0   | 658.1   | 565.3   | 749.8   | 920.0   | 961.3   | 1,016.6 | 1,117.2 | 1,087.0 | 983.7   | 1,139.4 | 1,228.5 |
| France                      | 155.6   | 178.1   | 206.8   | 213.3   | 230.6   | 255.9   | 269.4   | 207.0   | 224.4   | 254.6   | 243.5   | 254.2   | 259.4   | 238.4   | 244.6   | 261.7   | 293.2   |
| Germany                     | 301.0   | 355.9   | 427.0   | 452.4   | 506.5   | 610.4   | 673.3   | 491.5   | 611.4   | 718.5   | 689.2   | 715.1   | 748.1   | 671.3   | 672.4   | 740.2   | 808.4   |
| India                       | 20.7    | 25.9    | 38.2    | 50.3    | 63.9    | 77.8    | 95.3    | 85.0    | 115.3   | 133.3   | 135.7   | 146.0   | 147.4   | 145.3   | 149.5   | 169.2   | 192.4   |
| Indonesia                   | 11.8    | 12.6    | 14.5    | 16.7    | 18.7    | 21.4    | 23.9    | 20.1    | 25.9    | 32.6    | 32.1    | 31.7    | 31.0    | 29.1    | 29.9    | 33.1    | 35.6    |
| Ireland                     | 56.0    | 58.2    | 67.8    | 68.3    | 72.0    | 84.1    | 95.9    | 93.7    | 94.8    | 107.1   | 101.8   | 108.6   | 125.4   | 165.4   | 162.5   | 177.9   | 208.3   |
| Israel                      | 15.9    | 18.3    | 22.1    | 24.3    | 24.9    | 26.5    | 32.6    | 28.3    | 32.4    | 37.8    | 38.7    | 38.9    | 38.7    | 37.4    | 36.6    | 38.6    | 41.7    |
| Italy                       | 102.7   | 121.2   | 142.5   | 149.3   | 166.8   | 203.2   | 224.0   | 165.7   | 176.5   | 204.6   | 187.8   | 198.4   | 205.8   | 184.1   | 187.5   | 203.4   | 220.0   |
| Japan                       | 275.6   | 312.8   | 373.6   | 390.1   | 411.6   | 452.8   | 488.8   | 339.4   | 465.5   | 495.0   | 491.5   | 441.4   | 455.2   | 414.3   | 426.3   | 461.3   | 502.4   |
| Malaysia                    | 41.6    | 44.8    | 54.1    | 59.7    | 60.0    | 70.5    | 72.8    | 64.2    | 76.0    | 87.1    | 83.5    | 80.1    | 83.8    | 76.7    | 73.9    | 84.7    | 92.6    |
| Mexico                      | 90.4    | 89.3    | 100.6   | 111.4   | 131.0   | 140.8   | 152.4   | 125.4   | 160.9   | 183.0   | 198.6   | 206.3   | 225.8   | 231.1   | 228.9   | 248.5   | 271.4   |
| Netherlands                 | 47.5    | 59.4    | 71.8    | 77.4    | 86.3    | 103.2   | 110.7   | 85.6    | 90.4    | 116.7   | 109.7   | 106.9   | 111.1   | 120.3   | 115.6   | 131.8   | 150.5   |
| Philippines                 | 12.6    | 13.4    | 15.5    | 16.2    | 18.2    | 20.7    | 21.3    | 20.8    | 26.4    | 25.7    | 29.6    | 29.9    | 32.4    | 32.9    | 33.3    | 37.0    | 39.6    |
| Russia                      | 17.3    | 20.6    | 25.4    | 30.0    | 36.3    | 40.4    | 53.9    | 33.2    | 42.3    | 51.9    | 59.2    | 57.6    | 56.5    | 40.7    | 28.5    | 36.8    | 44.6    |
| Singapore                   | 46.3    | 51.6    | 62.9    | 68.8    | 73.7    | 84.7    | 89.2    | 80.2    | 104.6   | 122.6   | 121.7   | 125.3   | 132.2   | 123.1   | 114.2   | 126.7   | 141.4   |
| South Korea                 | 107.2   | 132.1   | 174.0   | 197.6   | 222.4   | 257.6   | 281.5   | 251.2   | 328.1   | 399.4   | 399.2   | 419.9   | 418.9   | 391.4   | 371.9   | 416.2   | 446.9   |
| Spain                       | 58.8    | 73.3    | 86.2    | 87.5    | 92.9    | 112.4   | 112.7   | 91.2    | 104.9   | 124.4   | 109.3   | 121.4   | 123.4   | 112.2   | 117.3   | 126.3   | 136.7   |
| Sweden                      | 44.9    | 55.5    | 65.7    | 68.8    | 76.6    | 85.9    | 88.1    | 57.6    | 66.7    | 81.4    | 75.8    | 76.1    | 75.4    | 66.8    | 67.1    | 72.6    | 79.4    |
| Switzerland                 | 54.9    | 63.2    | 76.0    | 82.0    | 91.9    | 109.4   | 131.3   | 107.4   | 126.6   | 157.0   | 141.1   | 159.6   | 160.6   | 142.7   | 147.6   | 147.2   | 151.1   |
| Taiwan                      | 90.6    | 101.3   | 123.1   | 134.2   | 150.7   | 165.1   | 166.1   | 133.6   | 186.8   | 205.2   | 199.4   | 204.9   | 213.8   | 195.0   | 194.2   | 220.0   | 229.9   |
| Thailand                    | 30.7    | 36.9    | 45.6    | 51.2    | 61.9    | 70.9    | 82.0    | 69.8    | 86.0    | 102.1   | 106.9   | 107.6   | 107.0   | 98.3    | 101.7   | 111.2   | 119.0   |
| United Kingdom              | 110.8   | 120.1   | 133.6   | 140.0   | 157.9   | 159.7   | 160.2   | 124.3   | 142.0   | 166.6   | 159.3   | 154.6   | 161.6   | 155.9   | 145.0   | 152.5   | 164.2   |
| United States               | 356.1   | 361.2   | 403.9   | 446.7   | 502.7   | 554.3   | 579.4   | 464.3   | 532.4   | 580.8   | 615.3   | 618.7   | 643.2   | 628.8   | 611.3   | 624.2   | 659.9   |
| Vietnam                     | 2.0     | 2.6     | 3.4     | 4.4     | 5.7     | 7.2     | 10.5    | 10.5    | 13.5    | 18.0    | 22.4    | 26.4    | 31.0    | 33.7    | 37.2    | 44.6    | 50.8    |
| Rest of the world           | 199.4   | 240.8   | 300.5   | 353.5   | 423.2   | 517.9   | 617.5   | 483.4   | 550.0   | 649.2   | 636.4   | 654.1   | 679.7   | 601.1   | 611.2   | 678.7   | 754.0   |
| Imports                     |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| World                       | 2,560.6 | 2,926.1 | 3,516.8 | 3,856.8 | 4,360.1 | 5,047.3 | 5,594.5 | 4,423.6 | 5,398.0 | 6,276.0 | 6,253.6 | 6,410.0 | 6,692.1 | 6,302.8 | 6,182.8 | 6,797.2 | 7,405.7 |
| Austria                     | 26.7    | 32.3    | 38.7    | 39.2    | 42.1    | 50.5    | 53.6    | 41.6    | 54.0    | 61.6    | 58.9    | 61.2    | 63.8    | 54.6    | 57.6    | 65.5    | 73.0    |
| Belgium                     | 39.3    | 47.1    | 58.6    | 60.5    | 61.2    | 72.3    | 74.4    | 57.0    | 60.5    | 68.8    | 60.9    | 63.7    | 66.1    | 55.3    | 66.7    | 73.6    | 83.1    |

Table SKTI-20  
Exports and imports of KTI industries for select countries: 2002–18

(Millions of current dollars)

| Region, country, or economy | 2002  | 2003  | 2004  | 2005  | 2006  | 2007   | 2008   | 2009   | 2010   | 2011   | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   |
|-----------------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Brazil                      | 28.0  | 27.8  | 36.4  | 42.4  | 51.0  | 65.8   | 101.8  | 73.3   | 104.1  | 126.4  | 127.4  | 134.2  | 125.2  | 98.6   | 83.4   | 93.5   | 104.9  |
| Canada                      | 93.4  | 101.4 | 115.4 | 132.1 | 146.7 | 158.6  | 174.9  | 136.0  | 165.1  | 182.7  | 191.7  | 194.1  | 195.9  | 182.7  | 175.8  | 192.9  | 206.2  |
| China                       | 156.8 | 212.6 | 279.7 | 302.9 | 361.1 | 425.0  | 503.0  | 434.7  | 583.8  | 724.9  | 697.9  | 777.2  | 852.0  | 776.2  | 721.2  | 843.4  | 921.9  |
| France                      | 130.8 | 153.7 | 179.0 | 191.8 | 205.9 | 241.0  | 251.6  | 198.4  | 216.4  | 254.2  | 231.5  | 238.5  | 247.2  | 227.1  | 235.8  | 259.3  | 284.7  |
| Germany                     | 160.4 | 193.9 | 231.6 | 245.7 | 284.9 | 320.6  | 349.0  | 275.6  | 345.1  | 391.4  | 354.4  | 360.1  | 379.7  | 348.4  | 359.7  | 400.3  | 455.4  |
| India                       | 24.2  | 30.5  | 45.0  | 57.3  | 70.1  | 95.4   | 111.9  | 95.4   | 120.0  | 157.8  | 151.9  | 132.6  | 140.7  | 145.3  | 147.4  | 167.8  | 191.3  |
| Indonesia                   | 16.3  | 16.5  | 23.1  | 26.4  | 29.8  | 35.1   | 54.1   | 46.8   | 62.9   | 76.6   | 83.9   | 75.8   | 71.4   | 61.8   | 59.0   | 63.9   | 79.4   |
| Ireland                     | 17.9  | 19.6  | 23.0  | 25.6  | 29.3  | 35.0   | 35.8   | 30.4   | 31.3   | 33.3   | 40.9   | 40.8   | 50.9   | 49.5   | 59.7   | 67.2   | 76.0   |
| Israel                      | 11.0  | 11.8  | 13.8  | 14.8  | 15.4  | 18.4   | 19.7   | 14.5   | 17.7   | 22.5   | 22.8   | 22.3   | 23.2   | 20.8   | 23.1   | 24.4   | 28.0   |
| Italy                       | 103.1 | 123.5 | 143.3 | 148.4 | 162.2 | 188.6  | 194.2  | 151.7  | 176.8  | 192.2  | 155.5  | 151.4  | 156.4  | 148.4  | 152.9  | 170.3  | 192.2  |
| Japan                       | 99.6  | 113.4 | 134.0 | 127.1 | 158.9 | 165.1  | 185.2  | 145.1  | 187.8  | 226.9  | 240.4  | 233.1  | 258.8  | 239.0  | 238.7  | 252.9  | 274.0  |
| Malaysia                    | 37.3  | 37.9  | 45.8  | 48.7  | 51.0  | 59.5   | 68.6   | 53.0   | 68.3   | 75.9   | 78.2   | 78.2   | 77.8   | 64.2   | 61.5   | 70.1   | 75.8   |
| Mexico                      | 83.6  | 84.5  | 97.4  | 109.5 | 125.8 | 139.1  | 149.1  | 113.8  | 148.4  | 173.1  | 182.4  | 188.0  | 198.4  | 196.3  | 191.7  | 208.5  | 230.1  |
| Netherlands                 | 33.3  | 43.7  | 48.5  | 50.4  | 56.6  | 70.4   | 75.0   | 57.9   | 62.5   | 73.8   | 66.7   | 68.7   | 70.4   | 88.2   | 88.1   | 96.8   | 108.0  |
| Philippines                 | 14.7  | 15.6  | 17.7  | 18.7  | 20.4  | 22.2   | 21.1   | 21.1   | 27.8   | 25.5   | 30.1   | 30.9   | 32.2   | 39.4   | 47.0   | 51.4   | 58.8   |
| Russia                      | 28.1  | 35.0  | 45.2  | 58.0  | 74.8  | 101.7  | 134.5  | 89.1   | 118.2  | 152.4  | 166.7  | 163.2  | 148.0  | 94.3   | 96.7   | 131.5  | 136.5  |
| Singapore                   | 22.5  | 19.3  | 26.8  | 24.4  | 29.1  | 37.9   | 43.4   | 32.8   | 41.4   | 50.0   | 48.3   | 46.9   | 53.3   | 57.3   | 59.8   | 69.5   | 76.0   |
| South Korea                 | 48.9  | 58.0  | 72.6  | 84.3  | 101.5 | 117.6  | 137.5  | 102.2  | 137.9  | 175.0  | 168.2  | 165.1  | 167.9  | 164.2  | 163.1  | 193.2  | 196.9  |
| Spain                       | 73.7  | 93.3  | 116.3 | 123.0 | 133.9 | 163.1  | 159.5  | 110.8  | 119.5  | 128.5  | 109.6  | 113.5  | 124.9  | 119.7  | 121.4  | 133.3  | 148.6  |
| Sweden                      | 31.3  | 37.9  | 44.3  | 47.4  | 52.7  | 60.9   | 60.6   | 41.0   | 47.5   | 58.8   | 54.7   | 55.2   | 58.2   | 56.9   | 58.2   | 64.0   | 70.1   |
| Switzerland                 | 39.5  | 45.5  | 50.7  | 58.6  | 61.4  | 68.4   | 82.9   | 69.7   | 75.5   | 91.0   | 84.8   | 97.0   | 89.7   | 89.9   | 94.6   | 93.9   | 94.9   |
| Taiwan                      | 58.2  | 65.8  | 86.6  | 91.4  | 100.6 | 108.2  | 118.5  | 84.0   | 122.8  | 137.8  | 131.7  | 129.8  | 133.0  | 109.3  | 106.1  | 116.8  | 122.6  |
| Thailand                    | 26.7  | 31.0  | 38.6  | 47.1  | 48.9  | 51.4   | 64.1   | 47.2   | 65.9   | 84.5   | 93.6   | 95.2   | 90.0   | 81.3   | 75.3   | 85.4   | 97.8   |
| United Kingdom              | 144.2 | 154.7 | 179.4 | 187.9 | 207.2 | 222.5  | 209.6  | 159.4  | 188.6  | 196.1  | 191.1  | 197.2  | 221.4  | 212.7  | 202.5  | 202.7  | 211.2  |
| United States               | 563.2 | 579.5 | 649.6 | 718.6 | 782.4 | 817.3  | 813.9  | 643.8  | 790.4  | 882.4  | 942.3  | 957.0  | 1024.0 | 1079.5 | 1065.9 | 1131.8 | 1210.2 |
| Vietnam                     | 6.9   | 8.5   | 10.7  | 12.4  | 14.6  | 20.7   | 26.9   | 24.8   | 29.1   | 32.6   | 32.0   | 37.8   | 44.3   | 50.2   | 53.8   | 65.3   | 72.6   |
| Rest of the world           | 441.0 | 531.7 | 665.0 | 762.3 | 880.5 | 1115.0 | 1320.1 | 1072.4 | 1228.8 | 1419.3 | 1455.3 | 1501.3 | 1527.3 | 1391.9 | 1316.2 | 1408.1 | 1525.5 |

EU = European Union; KTI = knowledge and technology intensive; nec = not elsewhere classified.

**Note(s):**  
Data are available for the following KTI industries: chemicals and chemical products; pharmaceuticals; computer, electronic, and optical products; electrical equipment; machinery and equipment nec; motor vehicles, trailers, and semi-trailers; other transport equipment; and information technology and other information services. China includes Hong Kong.

**Source(s):**  
Organisation for Economic Co-operation and Development, Trade in Value Added Principal Indicators (2021 edition), accessed 27 November 2021.

Table SKTI-21

**Total AI venture capital raised, by selected country and region: 2000–20**

(Millions of dollars)

| Country or region | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011  | 2012  | 2013  | 2014  | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| Total             | 311  | 362  | 108  | 146  | 196  | 252  | 403  | 323  | 777  | 532  | 726  | 1,779 | 1,760 | 3,251 | 9,844 | 12,664 | 22,117 | 26,972 | 46,015 | 38,151 | 54,194 |
| North America     | 272  | 320  | 89   | 126  | 160  | 192  | 191  | 221  | 654  | 497  | 610  | 1,412 | 1,347 | 2,674 | 8,319 | 8,908  | 14,873 | 10,249 | 20,074 | 22,443 | 28,492 |
| United States     | 272  | 310  | 89   | 125  | 160  | 190  | 180  | 197  | 614  | 484  | 598  | 1,374 | 1,292 | 2,595 | 8,240 | 8,701  | 14,525 | 9,745  | 19,110 | 21,288 | 27,599 |
| Canada            | NA   | 10   | NA   | 1    | NA   | 2    | 11   | 24   | 40   | 14   | 12   | 38    | 55    | 78    | 77    | 202    | 310    | 492    | 955    | 1,147  | 877    |
| Asia              | 2    | 20   | 1    | 12   | 9    | 3    | 148  | 6    | 31   | 13   | 55   | 226   | 117   | 188   | 1,007 | 2,764  | 5,709  | 14,050 | 21,873 | 9,901  | 18,884 |
| China             | 2    | 7    | 1    | 12   | 2    | 3    | 134  | 1    | 19   | 5    | 47   | 187   | 44    | 109   | 869   | 2,358  | 5,323  | 13,393 | 20,527 | 7,689  | 16,923 |
| Japan             | NA   | NA   | 1    | NA   | NA   | NA   | NA   | 1    | 7    | 2    | 0    | 8     | 7     | 26    | 34    | 81     | 165    | 255    | 360    | 793    | 457    |
| India             | NA   | 6    | NA   | NA   | 7    | 0    | 10   | NA   | 2    | 5    | 7    | 15    | 13    | 3     | 28    | 62     | 99     | 64     | 227    | 439    | 427    |
| Europe            | 36   | 21   | 14   | 2    | 27   | 46   | 41   | 90   | 60   | 22   | 55   | 101   | 236   | 287   | 398   | 715    | 1,112  | 1,941  | 2,925  | 4,264  | 4,900  |
| Central America   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA    | NA    | NA    | NA    | NA     | 1      | 0      | NA     | 0      | 3      |
| South America     | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | 0     | 1     | 0     | 0     | 1      | 4      | 113    | 54     | 110    | 146    |
| Africa            | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | 0     | NA    | NA    | 0     | 2      | 13     | 6      | 80     | 192    | 58     |
| Middle East       | 0    | 1    | 2    | 3    | NA   | 4    | 23   | 7    | 32   | 1    | 2    | 34    | 57    | 101   | 114   | 264    | 380    | 577    | 920    | 1,118  | 1,545  |
| Oceania           | NA   | NA   | 2    | 3    | NA   | 6    | NA   | NA   | NA   | NA   | 4    | 6     | 2     | 1     | 5     | 10     | 27     | 36     | 90     | 123    | 166    |

NA = not available.

AI = artificial intelligence.

**Note(s):**

Countries receiving venture capital in AI are determined by the headquarters location of firms receiving venture capital financing.

**Source(s):**

PitchBook, venture capital and private equity database, accessed 27 September 2021.

*Science and Engineering Indicators*

Table SKTI-22

**AI-related venture capital funding, by U.S. state and region: 2010–20**

(Millions of dollars)

| Region               | 2010   | 2011   | 2012   | 2013   | 2014   | 2015     | 2016     | 2017     | 2018     | 2019     | 2020     |
|----------------------|--------|--------|--------|--------|--------|----------|----------|----------|----------|----------|----------|
| Midwest              | 5.62   | 12.37  | 18.92  | 83.74  | 348.58 | 514.79   | 107.46   | 570.56   | 563.02   | 653.60   | 1,512.80 |
| Illinois             | NA     | 11.15  | 1.23   | 42.26  | 317.74 | 396.56   | 38.52    | 385.85   | 257.64   | 269.73   | 674.05   |
| Indiana              | NA     | NA     | NA     | NA     | 1.63   | 2.55     | 13.54    | 10.92    | 36.13    | 22.23    | 40.27    |
| Iowa                 | 1.37   | NA     | NA     | 1.25   | NA     | 0.02     | 5.15     | 2.36     | 33.10    | 3.55     | 30.41    |
| Kansas               | NA     | NA     | NA     | NA     | 0.95   | 7.56     | 1.78     | 53.06    | 0.84     | 21.00    | 2.40     |
| Michigan             | NA     | NA     | NA     | NA     | 3.99   | 0.28     | 1.65     | 35.48    | 52.01    | 167.85   | 16.80    |
| Minnesota            | NA     | 1.12   | 11.39  | 25.14  | 8.08   | 3.10     | 2.28     | 28.91    | 76.49    | 49.04    | 267.76   |
| Missouri             | NA     | NA     | 1.40   | 2.71   | 7.54   | 1.66     | 6.67     | 7.90     | 45.25    | 28.99    | 34.34    |
| Nebraska             | 1.50   | NA     | 1.20   | NA     | 0.74   | 72.94    | NA       | 30.10    | 0.01     | 0.95     | 1.33     |
| North Dakota         | NA     | NA     | NA     | NA     | NA     | NA       | NA       | NA       | NA       | NA       | NA       |
| Ohio                 | 0.25   | NA     | 3.70   | 10.00  | 4.21   | 27.01    | 27.00    | 8.36     | 48.11    | 64.43    | 423.35   |
| South Dakota         | NA     | NA     | NA     | NA     | NA     | NA       | NA       | NA       | NA       | NA       | NA       |
| Wisconsin            | 2.50   | 0.10   | NA     | 2.38   | 3.70   | 3.11     | 10.87    | 7.62     | 13.44    | 25.83    | 22.09    |
| Northeast            | 100.50 | 255.97 | 214.33 | 483.48 | 733.73 | 1,162.97 | 1,941.26 | 2,320.76 | 4,388.45 | 5,271.26 | 5,928.71 |
| Connecticut          | NA     | 0.50   | 0.59   | 10.05  | 0.95   | 8.68     | 20.63    | 87.64    | 53.47    | 72.03    | 66.09    |
| Maine                | NA     | NA     | NA     | NA     | NA     | NA       | NA       | NA       | NA       | 3.60     | 0.25     |
| Massachusetts        | 40.29  | 56.52  | 87.34  | 182.77 | 190.58 | 383.25   | 686.73   | 884.13   | 1,519.20 | 1,481.11 | 2,728.12 |
| New Hampshire        | 1.02   | NA     | 1.62   | 1.71   | NA     | 0.01     | 3.85     | 0.03     | 2.73     | 1.91     | 1.69     |
| New Jersey           | NA     | 84.32  | 28.19  | 38.74  | 38.50  | 2.47     | 27.80    | 14.92    | 58.87    | 40.96    | 134.26   |
| New York             | 40.57  | 111.56 | 80.06  | 205.39 | 478.50 | 734.45   | 1,060.34 | 1,190.19 | 2,637.90 | 2,543.01 | 2,805.82 |
| Pennsylvania         | 18.62  | 3.07   | 16.53  | 44.82  | 23.32  | 34.11    | 141.90   | 141.37   | 114.17   | 1,128.29 | 190.51   |
| Rhode Island         | NA     | NA     | NA     | NA     | NA     | NA       | 0.01     | NA       | 0.11     | NA       | NA       |
| Vermont              | NA     | NA     | NA     | NA     | 1.88   | NA       | NA       | 2.48     | 2.00     | 0.35     | 1.97     |
| South                | 131.27 | 175.55 | 101.15 | 235.59 | 479.54 | 353.33   | 452.97   | 715.72   | 1,025.10 | 2,237.87 | 1,698.39 |
| Alabama              | NA     | NA     | NA     | NA     | NA     | NA       | 0.17     | 0.30     | 1.26     | 2.40     | 4.90     |
| Arkansas             | NA     | NA     | NA     | 1.30   | NA     | 0.30     | 0.54     | 2.28     | 0.21     | 16.92    | NA       |
| Delaware             | NA     | NA     | 0.08   | 9.00   | 0.02   | 0.90     | 4.77     | 4.55     | 28.95    | 9.37     | 27.25    |
| District of Columbia | NA     | NA     | 1.01   | 2.33   | 8.20   | 29.60    | 12.20    | 34.69    | 19.11    | 60.39    | 215.30   |
| Florida              | 10.00  | NA     | 6.79   | 2.12   | 22.91  | 8.02     | 51.75    | 46.63    | 182.38   | 248.96   | 237.60   |
| Georgia              | 23.92  | 34.37  | 24.73  | 49.60  | 89.20  | 8.70     | 11.59    | 45.17    | 69.36    | 547.68   | 122.63   |
| Kentucky             | NA     | NA     | 0.10   | 1.01   | 0.33   | 1.18     | 5.66     | 1.08     | 69.58    | 114.97   | 7.21     |
| Louisiana            | NA     | 0.50   | NA     | NA     | NA     | 3.86     | NA       | NA       | 1.15     | 14.90    | NA       |
| Maryland             | 11.33  | 0.22   | 1.05   | 2.85   | 44.94  | 13.10    | 12.75    | 25.95    | 65.93    | 56.02    | 57.34    |
| Mississippi          | NA     | NA     | NA     | NA     | NA     | NA       | NA       | NA       | NA       | NA       | NA       |
| North Carolina       | 6.38   | 21.67  | 3.42   | 12.13  | 26.90  | 35.95    | 35.67    | 21.73    | 146.60   | 190.40   | 52.83    |

Table SKTI-22

**AI-related venture capital funding, by U.S. state and region: 2010–20**

(Millions of dollars)

| Region         | 2010   | 2011     | 2012     | 2013     | 2014     | 2015     | 2016      | 2017     | 2018      | 2019      | 2020      |
|----------------|--------|----------|----------|----------|----------|----------|-----------|----------|-----------|-----------|-----------|
| Oklahoma       | NA     | NA       | NA       | NA       | 1.40     | 10.00    | 0.05      | 1.85     | NA        | NA        | 1.00      |
| South Carolina | NA     | NA       | NA       | 0.28     | 0.14     | 0.22     | 5.42      | 6.03     | 14.01     | 14.10     | NA        |
| Tennessee      | 4.50   | 5.71     | 5.07     | 10.86    | 26.30    | 8.37     | 42.63     | 7.32     | 30.53     | 78.36     | 55.55     |
| Texas          | 20.04  | 59.86    | 33.80    | 23.93    | 98.91    | 172.58   | 164.77    | 423.81   | 280.57    | 718.19    | 790.08    |
| Virginia       | 55.10  | 53.22    | 25.10    | 120.18   | 160.29   | 60.55    | 105.00    | 94.33    | 115.46    | 165.21    | 126.70    |
| West Virginia  | NA     | NA       | NA       | NA       | NA       | NA       | NA        | NA       | NA        | NA        | NA        |
| West           | 360.74 | 930.11   | 957.58   | 1,792.05 | 6,678.18 | 6,669.44 | 12,023.68 | 6,137.93 | 13,133.65 | 13,125.04 | 18,459.48 |
| Alaska         | NA     | NA       | NA       | NA       | NA       | NA       | NA        | NA       | NA        | NA        | 2.37      |
| Arizona        | NA     | NA       | 0.02     | 20.67    | NA       | 37.75    | 7.62      | 9.64     | 67.69     | 22.74     | 85.72     |
| California     | 245.40 | 636.40   | 762.27   | 1,446.74 | 5,358.44 | 6,335.31 | 10,797.20 | 5,499.49 | 12,299.95 | 11,645.28 | 16,719.53 |
| Colorado       | 90.00  | 268.75   | 178.53   | 268.96   | 1,207.05 | 146.87   | 959.23    | 102.71   | 139.88    | 155.49    | 701.91    |
| Hawaii         | NA     | NA       | NA       | NA       | NA       | NA       | 0.08      | NA       | NA        | 54.61     | NA        |
| Idaho          | NA     | NA       | 0.40     | NA       | NA       | NA       | 0.01      | 0.30     | NA        | NA        | 0.91      |
| Montana        | NA     | NA       | NA       | NA       | NA       | NA       | 3.50      | 22.00    | 0.10      | NA        | 0.08      |
| Nevada         | NA     | NA       | NA       | 0.04     | NA       | 2.54     | 5.71      | 2.02     | 86.50     | 202.05    | 41.50     |
| New Mexico     | NA     | 4.60     | NA       | 0.43     | 0.08     | 9.49     | 0.02      | 31.52    | 8.64      | 20.20     | 20.50     |
| Oregon         | NA     | 5.26     | 8.81     | 8.23     | 11.69    | 8.70     | 48.58     | 23.55    | 82.61     | 63.00     | 37.22     |
| Utah           | 3.00   | NA       | 1.25     | 0.11     | 3.87     | 25.22    | 43.25     | 135.41   | 144.33    | 299.74    | 292.90    |
| Washington     | 22.34  | 15.10    | 6.30     | 46.87    | 97.05    | 103.56   | 158.48    | 311.29   | 293.74    | 661.62    | 556.34    |
| Wyoming        | NA     | NA       | NA       | NA       | NA       | NA       | NA        | NA       | 10.21     | 0.31      | 0.50      |
| United States  | 598.13 | 1,374.00 | 1,291.98 | 2,594.86 | 8,240.13 | 8,700.53 | 14,525.38 | 9,745.15 | 19,110.42 | 21,287.96 | 27,599.43 |

NA = not available.

AI = artificial intelligence.

**Note(s):**

Data not available for all states for all years. States are grouped into regions according to the groupings of the Geography Division of the U.S. Census Bureau.

**Source(s):**

PitchBook, venture capital and private equity database, accessed 27 September 2021.

*Science and Engineering Indicators*

Table SKTI-23

## Unique AI-related job postings as a share of all unique job postings, by state: October 2016–September 2021

(Number and percent)

| State                | Total unique AI-related job postings | Total unique job postings | Percent of all unique job postings that are AI-related |
|----------------------|--------------------------------------|---------------------------|--------------------------------------------------------|
| Alabama              | 24,531                               | 2,770,968                 | 0.89                                                   |
| Alaska               | 6,018                                | 475,521                   | 1.27                                                   |
| Arizona              | 63,577                               | 3,343,964                 | 1.90                                                   |
| Arkansas             | 19,008                               | 2,059,626                 | 0.92                                                   |
| California           | 685,998                              | 17,827,088                | 3.85                                                   |
| Colorado             | 91,198                               | 4,069,643                 | 2.24                                                   |
| Connecticut          | 44,109                               | 2,149,345                 | 2.05                                                   |
| Delaware             | 16,694                               | 718,979                   | 2.32                                                   |
| District of Columbia | 64,115                               | 1,390,626                 | 4.61                                                   |
| Florida              | 116,986                              | 8,625,104                 | 1.36                                                   |
| Georgia              | 96,084                               | 5,697,887                 | 1.69                                                   |
| Hawaii               | 5,388                                | 454,259                   | 1.19                                                   |
| Idaho                | 11,579                               | 987,540                   | 1.17                                                   |
| Illinois             | 164,296                              | 8,384,859                 | 1.96                                                   |
| Indiana              | 31,966                               | 4,246,109                 | 0.75                                                   |
| Iowa                 | 26,723                               | 2,717,540                 | 0.98                                                   |
| Kansas               | 24,270                               | 2,213,575                 | 1.10                                                   |
| Kentucky             | 19,664                               | 2,755,659                 | 0.71                                                   |
| Louisiana            | 15,071                               | 2,246,998                 | 0.67                                                   |
| Maine                | 8,434                                | 931,436                   | 0.91                                                   |
| Maryland             | 97,644                               | 4,026,884                 | 2.42                                                   |
| Massachusetts        | 169,238                              | 5,115,881                 | 3.31                                                   |
| Michigan             | 69,008                               | 5,347,399                 | 1.29                                                   |
| Minnesota            | 68,688                               | 4,163,393                 | 1.65                                                   |
| Mississippi          | 8,083                                | 1,527,234                 | 0.53                                                   |
| Missouri             | 53,496                               | 4,264,348                 | 1.25                                                   |
| Montana              | 6,880                                | 709,650                   | 0.97                                                   |
| Nebraska             | 14,643                               | 1,456,123                 | 1.01                                                   |
| Nevada               | 17,353                               | 1,397,034                 | 1.24                                                   |
| New Hampshire        | 15,154                               | 1,087,345                 | 1.39                                                   |
| New Jersey           | 122,873                              | 5,041,387                 | 2.44                                                   |
| New Mexico           | 15,147                               | 1,105,194                 | 1.37                                                   |
| New York             | 309,182                              | 9,864,638                 | 3.13                                                   |
| North Carolina       | 106,490                              | 5,737,720                 | 1.86                                                   |
| North Dakota         | 7,156                                | 634,223                   | 1.13                                                   |

Table SKTI-23

## Unique AI-related job postings as a share of all unique job postings, by state: October 2016–September 2021

(Number and percent)

| State          | Total unique AI-related job postings | Total unique job postings | Percent of all unique job postings that are AI-related |
|----------------|--------------------------------------|---------------------------|--------------------------------------------------------|
| Ohio           | 87,520                               | 7,458,853                 | 1.17                                                   |
| Oklahoma       | 14,220                               | 2,210,086                 | 0.64                                                   |
| Oregon         | 45,371                               | 2,445,498                 | 1.86                                                   |
| Pennsylvania   | 126,313                              | 8,794,619                 | 1.44                                                   |
| Rhode Island   | 16,355                               | 760,158                   | 2.15                                                   |
| South Carolina | 21,601                               | 2,758,078                 | 0.78                                                   |
| South Dakota   | 6,561                                | 632,103                   | 1.04                                                   |
| Tennessee      | 41,137                               | 3,962,863                 | 1.04                                                   |
| Texas          | 268,357                              | 13,657,677                | 1.96                                                   |
| Utah           | 35,218                               | 1,954,017                 | 1.80                                                   |
| Vermont        | 8,834                                | 597,382                   | 1.48                                                   |
| Virginia       | 189,320                              | 6,497,229                 | 2.91                                                   |
| Washington     | 186,966                              | 4,641,732                 | 4.03                                                   |
| West Virginia  | 8,534                                | 1,433,391                 | 0.60                                                   |
| Wisconsin      | 36,408                               | 3,882,506                 | 0.94                                                   |
| Wyoming        | 4,574                                | 461,915                   | 0.99                                                   |
| Total          | 3,714,033                            | 187,693,286               | 1.98                                                   |

AI = artificial intelligence.

**Source(s):**

Emsi Burning Glass, Job Posting Analytics, accessed 15 October 2021.

*Science and Engineering Indicators*

Table SKTI-24  
Total biotechnology venture capital raised, by selected country and region: 2000–20

(Millions of dollars)

| Country or region | 2000     | 2001     | 2002     | 2003     | 2004     | 2005     | 2006     | 2007     | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | 2014     | 2015      | 2016      | 2017      | 2018      | 2019      | 2020      |
|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Total             | 1,642.77 | 1,631.77 | 1,835.81 | 1,691.99 | 2,932.42 | 2,218.45 | 3,123.91 | 4,347.49 | 3,857.17 | 3,765.81 | 4,513.17 | 4,149.37 | 5,924.00 | 7,106.06 | 9,888.77 | 13,639.96 | 13,483.33 | 17,149.00 | 26,498.91 | 24,390.90 | 44,036.83 |
| North America     | 1,205.59 | 1,188.58 | 1,388.75 | 1,314.32 | 2,064.00 | 1,469.37 | 2,242.36 | 3,125.05 | 2,576.74 | 2,834.38 | 3,111.33 | 2,987.04 | 3,853.92 | 5,188.51 | 6,937.83 | 9,443.50  | 9,452.89  | 13,112.36 | 18,633.84 | 16,849.54 | 27,811.96 |
| United States     | 1,185.87 | 1,176.80 | 1,372.01 | 1,296.26 | 2,033.60 | 1,444.02 | 2,196.63 | 3,051.26 | 2,508.48 | 2,816.07 | 3,097.86 | 2,889.46 | 3,797.13 | 5,124.56 | 6,853.33 | 9,134.88  | 9,290.27  | 12,806.30 | 18,179.73 | 16,260.60 | 27,359.72 |
| Canada            | 19.72    | 11.78    | 16.74    | 18.06    | 30.40    | 25.35    | 45.73    | 73.79    | 68.16    | 18.31    | 13.47    | 97.58    | 56.79    | 63.95    | 84.04    | 307.92    | 162.62    | 305.86    | 253.96    | 588.80    | 438.85    |
| Asia              | 0.60     | 6.00     | 18.85    | 15.95    | 6.90     | 18.89    | 101.79   | 121.95   | 160.59   | 76.27    | 172.95   | 203.74   | 542.55   | 320.33   | 510.32   | 1,220.35  | 1,820.05  | 1,659.49  | 3,432.14  | 3,317.16  | 9,351.44  |
| China             | 0.6      | 6        | 7.43     | NA       | NA       | 2.42     | 78       | 21.4     | 50.9     | 31.65    | 158.78   | 164.64   | 493.09   | 188.76   | 256.99   | 939.69    | 1,487.46  | 1,247.97  | 2,652.20  | 2,642.19  | 8,314.17  |
| Japan             | NA       | NA       | 11.42    | 13       | 0.9      | 9.9      | 10.4     | 10.7     | 42.48    | 8        | 14.16    | 24.02    | 33.87    | 56.46    | 30.93    | 92.5      | 63.13     | 117.58    | 158.07    | 107.26    | 187.96    |
| India             | NA       | NA       | NA       | 2.13     | NA       | 0.87     | 5.89     | 37.5     | 28.71    | 16       | 0.01     | NA       | 6.05     | 8.34     | 0.04     | 43.58     | 5.1       | 54.26     | 12.5      | 34.69     | 10.85     |
| Europe            | 416.73   | 391.74   | 393.35   | 345.92   | 791.95   | 607.45   | 738.18   | 1,044.38 | 1,083.45 | 836.48   | 1,121.54 | 916.16   | 1,325.76 | 1,527.82 | 2,313.64 | 2,827.84  | 2,012.03  | 2,096.57  | 4,085.33  | 3,971.68  | 6,402.29  |
| Central America   | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA       | 5.02     | 0.8      | 4.12      | 0.1       | NA        | 2.6       | NA        | NA        |
| South America     | 0.35     | NA       | NA       | NA       | NA       | NA       | NA       | NA       | 1.82     | 1.37     | 1.87     | 6.5      | 128.57   | 3.93     | 8.17     | 33.82     | 3.42      | 14.42     | 18.53     | 2.25      | 1.35      |
| Africa            | NA       | NA       | NA       | NA       | NA       | NA       | 8.63     | NA       | NA       | 0.4      | NA       | NA       | NA       | 0.01     | NA       | 1.47      | 3.1       | 0.1       | NA        | 4.66      | 16.61     |
| Middle East       | 8.59     | 14.68    | 24.3     | 14.3     | 68.1     | 12.68    | 27       | 29.75    | 10.2     | 8.5      | 84.62    | 25.95    | 69.09    | 28.27    | 105.06   | 67.92     | 148.93    | 247.23    | 235.93    | 155.56    | 351.42    |
| Oceania           | 10.91    | 30.77    | 10.56    | 1.5      | 1.47     | 110.06   | 5.95     | 26.36    | 24.37    | 8.41     | 20.86    | 9.98     | 4.11     | 32.17    | 12.95    | 40.94     | 42.81     | 18.83     | 90.54     | 90.05     | 101.76    |

NA = not available.

**Note(s):**  
Countries receiving venture capital in biotechnology are determined by the headquarters location of firms receiving venture capital financing.

**Source(s):**  
PitchBook, venture capital and private equity database, accessed 27 September 2021.



Table SKTI-25

## Biotechnology-related venture capital funding, by U.S. state and region: 2010–20

(Millions of dollars)

| Region               | 2010     | 2011     | 2012     | 2013     | 2014     | 2015     | 2016     | 2017     | 2018     | 2019     | 2020      |
|----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Midwest              | 122.85   | 122.15   | 151.21   | 136.72   | 220.77   | 362.47   | 218.33   | 398.76   | 555.32   | 630.32   | 541.48    |
| Illinois             | NA       | 54.39    | 9.98     | 16.23    | 25.75    | 143.87   | 67.90    | 119.25   | 10.42    | 220.85   | 12.39     |
| Indiana              | 28.10    | 1.03     | 0.31     | 5.98     | 4.01     | 4.93     | 12.49    | 20.22    | 23.98    | 58.00    | 79.38     |
| Iowa                 | 2.49     | 0.45     | 2.59     | NA       | 25.47    | 0.16     | 1.23     | 0.01     | 0.64     | 2.30     | 0.88      |
| Kansas               | 3.36     | 5.39     | 6.68     | NA       | 0.73     | 4.02     | NA       | 9.57     | 15.96    | 0.01     | 0.05      |
| Michigan             | 20.56    | 7.68     | 60.40    | 24.99    | 37.64    | 91.25    | 52.71    | 31.93    | 85.57    | 48.61    | 99.15     |
| Minnesota            | 2.10     | 18.35    | 12.31    | 0.04     | 11.53    | 7.35     | 11.98    | 78.35    | 68.21    | 56.63    | 42.54     |
| Missouri             | 0.83     | 0.82     | 9.13     | 23.94    | 34.49    | 15.03    | 16.32    | 62.01    | 14.20    | 84.20    | 129.75    |
| Nebraska             | NA       | NA       | NA       | NA       | 6.65     | 4.32     | 0.01     | 3.54     | 5.49     | 4.60     | 21.47     |
| North Dakota         | NA       | NA       | NA       | 0.15     | NA       | NA       | NA       | NA       | 1.63     | NA       | NA        |
| Ohio                 | 12.07    | 2.30     | 37.36    | 58.60    | 46.33    | 25.19    | 31.69    | 48.63    | 226.11   | 95.56    | 102.41    |
| South Dakota         | NA       | NA       | NA       | NA       | 6.62     | NA       | 4.18     | NA       | 22.00    | NA       | 14.00     |
| Wisconsin            | 53.34    | 31.74    | 12.45    | 6.79     | 21.55    | 66.35    | 19.82    | 25.25    | 81.11    | 59.56    | 39.46     |
| Northeast            | 1,183.80 | 1,021.78 | 1,535.38 | 1,422.91 | 2,014.16 | 3,177.42 | 3,673.92 | 5,522.47 | 7,099.16 | 6,238.62 | 10,734.39 |
| Connecticut          | 12.82    | 4.15     | 11.90    | 32.44    | 22.31    | 63.36    | 66.73    | 343.55   | 159.12   | 232.18   | 444.64    |
| Maine                | 0.03     | NA       | 2.12     | NA       | 0.63     | NA       | 0.31     | 3.77     | NA       | 1.08     | NA        |
| Massachusetts        | 847.04   | 860.22   | 966.01   | 971.68   | 1,309.64 | 2,420.96 | 2,964.77 | 4,347.89 | 4,918.24 | 4,339.65 | 8,016.04  |
| New Hampshire        | 4.80     | 5.19     | 20.08    | 1.74     | 2.62     | 112.19   | 4.00     | 17.70    | NA       | NA       | NA        |
| New Jersey           | 55.79    | 48.42    | 246.63   | 93.57    | 211.32   | 175.70   | 155.38   | 194.93   | 462.32   | 286.95   | 254.33    |
| New York             | 94.46    | 65.09    | 90.72    | 126.41   | 213.89   | 204.84   | 229.58   | 308.09   | 571.31   | 636.69   | 1,359.53  |
| Pennsylvania         | 141.53   | 20.58    | 139.26   | 158.66   | 228.20   | 182.57   | 251.80   | 296.42   | 987.85   | 738.08   | 659.85    |
| Rhode Island         | 27.33    | 12.08    | 58.61    | 38.40    | 25.50    | NA       | 1.35     | 10.12    | 0.32     | 3.99     | NA        |
| Vermont              | NA       | 6.05     | 0.05     | 0.01     | 0.05     | 17.80    | NA       | NA       | NA       | NA       | NA        |
| South                | 281.32   | 623.51   | 405.69   | 547.71   | 561.30   | 1,137.23 | 1,016.23 | 633.57   | 1,649.50 | 1,824.14 | 1,898.83  |
| Alabama              | 5.17     | 2.35     | 1.25     | 0.90     | 0.02     | 6.16     | 2.92     | 0.01     | 0.10     | 2.76     | 1.92      |
| Arkansas             | NA       | 0.17     | 4.41     | 1.70     | 3.50     | 0.18     | NA       | 1.50     | 6.44     | 2.23     | NA        |
| Delaware             | NA       | 0.13     | NA       | 2.15     | NA       | 8.10     | 14.27    | 10.29    | 70.69    | 89.35    | 100.54    |
| District of Columbia | 1.20     | 0.50     | NA       | NA       | NA       | NA       | 38.95    | NA       | 0.08     | 23.91    | 23.25     |
| Florida              | 13.44    | 13.95    | 42.17    | 27.17    | 41.93    | 120.26   | 185.51   | 98.12    | 41.26    | 383.60   | 36.87     |
| Georgia              | 0.10     | 0.50     | 4.60     | 9.50     | 22.06    | 78.58    | 4.84     | 84.72    | 49.57    | 36.35    | 21.56     |
| Kentucky             | 17.96    | 9.47     | 0.45     | 3.20     | 3.84     | 1.35     | 1.21     | 7.55     | 66.14    | 208.16   | 115.00    |
| Louisiana            | 0.24     | 3.11     | 1.50     | 1.80     | 0.38     | 0.83     | 0.17     | 3.82     | 2.78     | 1.20     | 5.50      |
| Maryland             | 107.24   | 116.46   | 112.41   | 245.99   | 136.26   | 276.39   | 195.61   | 175.26   | 687.17   | 290.61   | 360.18    |
| Mississippi          | 71.60    | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA        |
| North Carolina       | 32.38    | 58.49    | 116.94   | 123.18   | 142.05   | 435.32   | 329.66   | 76.60    | 447.64   | 494.90   | 381.19    |

Table SKTI-25

**Biotechnology-related venture capital funding, by U.S. state and region: 2010–20**

(Millions of dollars)

| Region         | 2010     | 2011     | 2012     | 2013     | 2014     | 2015     | 2016     | 2017      | 2018      | 2019      | 2020      |
|----------------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|
| Oklahoma       | 4.94     | 7.55     | 35.64    | 1.61     | 17.15    | 61.33    | 2.91     | 0.80      | 50.08     | 0.60      | NA        |
| South Carolina | 3.44     | 0.40     | 12.29    | 4.44     | NA       | 8.13     | 6.99     | 4.05      | 31.21     | 27.68     | 4.12      |
| Tennessee      | NA       | 6.02     | 7.02     | 10.01    | 19.02    | 4.84     | 2.34     | 13.13     | 5.33      | 2.38      | 15.51     |
| Texas          | 21.65    | 403.91   | 52.86    | 91.29    | 153.42   | 130.51   | 224.22   | 109.60    | 157.40    | 130.80    | 639.29    |
| Virginia       | 1.96     | 0.50     | 14.15    | 24.77    | 21.67    | 5.11     | 6.63     | 48.12     | 33.61     | 129.61    | 193.90    |
| West Virginia  | NA       | NA       | NA       | NA       | NA       | 0.14     | NA       | NA        | NA        | NA        | NA        |
| West           | 1,509.42 | 1,122.02 | 1,693.45 | 3,017.22 | 4,057.10 | 4,457.76 | 4,381.79 | 6,251.50  | 8,875.75  | 7,567.35  | 14,184.22 |
| Alaska         | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA        | NA        | NA        | NA        |
| Arizona        | 0.05     | 2.00     | 30.95    | 8.55     | 7.49     | 31.69    | 2.67     | 9.68      | 2.67      | 81.66     | 15.98     |
| California     | 1,371.31 | 988.95   | 1,462.62 | 1,780.09 | 3,431.83 | 3,957.62 | 4,088.22 | 5,825.60  | 8,388.84  | 6,288.30  | 12,377.24 |
| Colorado       | 55.14    | 52.96    | 38.29    | 16.97    | 80.32    | 81.94    | 58.78    | 7.64      | 96.46     | 211.17    | 252.98    |
| Hawaii         | 0.10     | 0.91     | 15.00    | 0.50     | 1.51     | NA       | NA       | NA        | NA        | 1.18      | NA        |
| Idaho          | NA       | NA       | NA       | NA       | NA       | NA       | 0.68     | 0.21      | NA        | 0.03      | NA        |
| Montana        | 0.08     | 3.54     | NA       | 0.72     | 1.63     | 1.42     | NA       | 16.32     | 0.77      | 10.58     | 28.50     |
| Nevada         | NA       | NA       | NA       | NA       | NA       | NA       | NA       | NA        | NA        | NA        | NA        |
| New Mexico     | 2.18     | 0.10     | 0.13     | 13.56    | 2.08     | 9.20     | 0.29     | 15.13     | 2.83      | 12.50     | 6.00      |
| Oregon         | 15.90    | 0.31     | 17.02    | 1,009.41 | 22.58    | 4.67     | 7.05     | 13.09     | 11.30     | 29.83     | 18.21     |
| Utah           | 1.59     | 5.52     | 19.58    | 6.56     | 48.84    | 72.84    | 30.31    | 139.47    | 23.41     | 160.33    | 413.98    |
| Washington     | 63.07    | 67.73    | 109.86   | 180.86   | 460.82   | 298.38   | 193.79   | 213.96    | 349.47    | 771.77    | 1,071.05  |
| Wyoming        | NA       | NA       | NA       | NA       | NA       | NA       | NA       | 10.40     | NA        | NA        | 0.28      |
| United States  | 3,097.86 | 2,889.46 | 3,797.13 | 5,124.56 | 6,853.33 | 9,134.88 | 9,290.27 | 12,806.30 | 18,179.73 | 16,260.60 | 27,359.72 |

NA = not available.

**Note(s):**

Data not available for all states for all years. States are grouped into regions according to the groupings of the Geography Division of the U.S. Census Bureau.

**Source(s):**

PitchBook, venture capital and private equity database, accessed 27 September 2021.

*Science and Engineering Indicators*

Table SKTI-26

## Unique biotechnology-related job postings as a share of all unique job postings, by state: October 2016–September 2021

(Number and percent)

| State                | Total unique biotechnology-related job postings | Total unique job postings | Percent of all unique job postings that are biotechnology-related |
|----------------------|-------------------------------------------------|---------------------------|-------------------------------------------------------------------|
| Alabama              | 27,651                                          | 2,798,383                 | 0.99                                                              |
| Alaska               | 7,162                                           | 479,534                   | 1.49                                                              |
| Arizona              | 61,738                                          | 3,372,203                 | 1.83                                                              |
| Arkansas             | 18,289                                          | 2,078,853                 | 0.88                                                              |
| California           | 536,754                                         | 17,978,379                | 2.99                                                              |
| Colorado             | 61,119                                          | 4,102,477                 | 1.49                                                              |
| Connecticut          | 48,470                                          | 2,169,828                 | 2.23                                                              |
| Delaware             | 18,309                                          | 725,949                   | 2.52                                                              |
| District of Columbia | 36,076                                          | 1,400,820                 | 2.58                                                              |
| Florida              | 143,494                                         | 8,693,059                 | 1.65                                                              |
| Georgia              | 77,074                                          | 5,740,701                 | 1.34                                                              |
| Hawaii               | 5,385                                           | 458,217                   | 1.18                                                              |
| Idaho                | 13,218                                          | 995,887                   | 1.33                                                              |
| Illinois             | 173,694                                         | 8,457,458                 | 2.05                                                              |
| Indiana              | 59,472                                          | 4,283,946                 | 1.39                                                              |
| Iowa                 | 25,201                                          | 2,742,263                 | 0.92                                                              |
| Kansas               | 33,238                                          | 2,236,655                 | 1.49                                                              |
| Kentucky             | 30,230                                          | 2,780,187                 | 1.09                                                              |
| Louisiana            | 27,560                                          | 2,264,732                 | 1.22                                                              |
| Maine                | 14,996                                          | 943,134                   | 1.59                                                              |
| Maryland             | 101,762                                         | 4,063,628                 | 2.50                                                              |
| Massachusetts        | 282,874                                         | 5,156,856                 | 5.49                                                              |
| Michigan             | 76,167                                          | 5,387,184                 | 1.41                                                              |
| Minnesota            | 92,690                                          | 4,200,824                 | 2.21                                                              |
| Mississippi          | 13,117                                          | 1,539,680                 | 0.85                                                              |
| Missouri             | 63,076                                          | 4,296,263                 | 1.47                                                              |
| Montana              | 9,205                                           | 715,459                   | 1.29                                                              |
| Nebraska             | 20,693                                          | 1,472,595                 | 1.41                                                              |
| Nevada               | 19,926                                          | 1,407,690                 | 1.42                                                              |
| New Hampshire        | 19,617                                          | 1,096,306                 | 1.79                                                              |
| New Jersey           | 228,537                                         | 5,083,581                 | 4.50                                                              |
| New Mexico           | 16,191                                          | 1,114,689                 | 1.45                                                              |
| New York             | 237,142                                         | 9,930,733                 | 2.39                                                              |
| North Carolina       | 143,278                                         | 5,780,859                 | 2.48                                                              |
| North Dakota         | 8,315                                           | 639,324                   | 1.30                                                              |

Table SKTI-26

## Unique biotechnology-related job postings as a share of all unique job postings, by state: October 2016–September 2021

(Number and percent)

| State          | Total unique biotechnology-related job postings | Total unique job postings | Percent of all unique job postings that are biotechnology-related |
|----------------|-------------------------------------------------|---------------------------|-------------------------------------------------------------------|
| Ohio           | 105,504                                         | 7,518,800                 | 1.40                                                              |
| Oklahoma       | 22,007                                          | 2,229,226                 | 0.99                                                              |
| Oregon         | 42,624                                          | 2,467,607                 | 1.73                                                              |
| Pennsylvania   | 215,684                                         | 8,861,297                 | 2.43                                                              |
| Rhode Island   | 16,451                                          | 765,814                   | 2.15                                                              |
| South Carolina | 32,835                                          | 2,779,816                 | 1.18                                                              |
| South Dakota   | 8,730                                           | 638,210                   | 1.37                                                              |
| Tennessee      | 56,330                                          | 3,992,903                 | 1.41                                                              |
| Texas          | 200,928                                         | 13,774,605                | 1.46                                                              |
| Utah           | 31,945                                          | 1,969,506                 | 1.62                                                              |
| Vermont        | 8,609                                           | 602,576                   | 1.43                                                              |
| Virginia       | 78,623                                          | 6,556,586                 | 1.20                                                              |
| Washington     | 87,507                                          | 4,679,053                 | 1.87                                                              |
| West Virginia  | 15,992                                          | 1,444,318                 | 1.11                                                              |
| Wisconsin      | 56,800                                          | 3,910,343                 | 1.45                                                              |
| Wyoming        | 5,947                                           | 466,777                   | 1.27                                                              |
| Total          | 3,738,236                                       | 189,245,773               | 1.98                                                              |

**Source(s):**

Emsi Burning Glass, Job Posting Analytics, accessed 15 October 2021.

*Science and Engineering Indicators*