



NATIONAL SCIENCE BOARD  
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Industry Activities

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

### Supplemental Tables

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Table SKTI-1

## U.S. KTI industry value added: 2002–22

(Billions of dollars and percent share)

Industry	ISIC, Rev.4 code	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
		Billions of dollars																				
GDP		10,929	11,457	12,217	13,039	13,816	14,474	14,770	14,478	15,049	15,600	16,254	16,881	17,608	18,295	18,805	19,612	20,657	21,521	21,323	23,594	25,744
All manufacturing		1,495	1,551	1,637	1,721	1,823	1,877	1,833	1,730	1,829	1,906	1,968	2,032	2,089	2,167	2,139	2,236	2,373	2,409	2,279	2,541	2,894
Total private services		5,930	6,171	6,541	7,038	7,416	7,769	7,887	7,742	8,056	8,355	8,815	9,132	9,578	10,094	10,454	10,867	11,483	12,074	11,998	13,357	14,320
All KTI industries		1,080	1,115	1,167	1,215	1,301	1,353	1,386	1,352	1,483	1,566	1,614	1,698	1,769	1,856	1,933	2,029	2,181	2,287	2,338	2,584	2,886
KTI manufacturing		767	799	827	857	926	962	939	904	991	1,028	1,055	1,099	1,129	1,171	1,195	1,236	1,295	1,335	1,300	1,402	1,595
Chemicals and chemical products	20	110	110	121	119	136	145	142	144	172	175	181	188	190	186	199	201	211	213	202	222	258
Pharmaceuticals, medicinal chemical, and botanical products	21	97	101	106	104	118	123	124	144	131	131	124	133	140	148	158	162	166	184	199	218	234
Weapons and ammunition	252	2	3	3	3	4	3	4	4	4	5	6	6	6	6	7	6	6	7	8	8	9
Computer, electronic, and optical products	26	173	193	201	212	225	230	233	226	241	240	244	247	254	269	271	283	308	313	320	338	380
Electrical equipment	27	44	46	42	43	51	50	56	51	51	48	52	58	54	64	58	61	65	65	61	68	74
Machinery and equipment nec	28	107	105	112	123	131	139	141	127	137	156	164	170	173	164	155	165	174	181	172	186	226
Motor vehicles, trailers, and semi-trailers	29	135	143	139	136	134	125	90	48	89	105	116	123	133	146	155	158	158	158	144	159	172
Air and spacecraft and related machinery	303	58	57	59	71	77	92	91	95	100	104	103	108	115	124	122	129	135	141	124	129	157
Railroad, military vehicles, and transport equipment nec	30X	8	8	9	10	10	13	15	12	12	13	13	14	14	13	14	12	12	13	11	12	13
Medical and dental instruments and supplies	325	33	34	35	37	40	41	44	53	54	50	52	50	50	51	55	58	61	62	59	62	73
KTI services		313	316	340	357	375	391	447	448	492	539	559	599	640	685	739	793	886	952	1,038	1,182	1,292
IT and other information services	62–63	183	183	195	203	223	225	267	267	298	328	338	366	394	422	462	496	556	587	614	695	773
Software publishing	582	58	61	72	79	77	92	97	96	105	116	125	135	143	148	163	180	202	226	268	314	339
Scientific R&D services	72	72	71	73	75	75	74	84	85	89	95	96	98	103	115	114	116	128	139	156	173	180
		Analytical ratios (%)																				
All KTI/GDP		9.9	9.7	9.6	9.3	9.4	9.4	9.4	9.3	9.9	10.0	9.9	10.1	10.0	10.1	10.3	10.3	10.6	10.6	11.0	11.0	11.2
KTI manufacturing/GDP		7.0	7.0	6.8	6.6	6.7	6.6	6.4	6.2	6.6	6.6	6.5	6.5	6.4	6.4	6.4	6.3	6.3	6.2	6.1	5.9	6.2
KTI services/GDP		2.9	2.8	2.8	2.7	2.7	2.7	3.0	3.1	3.3	3.5	3.4	3.5	3.6	3.7	3.9	4.0	4.3	4.4	4.9	5.0	5.0
		GDP structure (selected sectors) (%)																				
Manufacturing/GDP		13.7	13.5	13.4	13.2	13.2	13.0	12.4	11.9	12.2	12.2	12.1	12.0	11.9	11.8	11.4	11.4	11.5	11.2	10.7	10.8	11.2
Total private services/GDP		54.3	53.9	53.5	54.0	53.7	53.7	53.4	53.5	53.5	53.6	54.2	54.1	54.4	55.2	55.6	55.4	55.6	56.1	56.3	56.6	55.6
KTI structure																						
KTI manufacturing/all KTI		71.0	71.7	70.9	70.6	71.2	71.1	67.8	66.9	66.8	65.6	65.4	64.7	63.8	63.1	61.8	60.9	59.4	58.4	55.6	54.2	55.2
KTI services/all KTI		29.0	28.3	29.1	29.4	28.8	28.9	32.2	33.1	33.2	34.4	34.6	35.3	36.2	36.9	38.2	39.1	40.6	41.6	44.4	45.8	44.8
Intrasector shares																						
KTI manufacturing/manufacturing		51.3	51.5	50.6	49.8	50.8	51.3	51.2	52.3	54.2	53.9	53.6	54.1	54.0	54.0	55.9	55.3	54.6	55.4	57.0	55.2	55.1
KTI services/total private services		5.3	5.1	5.2	5.1	5.1	5.0	5.7	5.8	6.1	6.4	6.3	6.6	6.7	6.8	7.1	7.3	7.7	7.9	8.7	8.9	9.0

GDP = gross domestic product; 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 the value of goods and services (gross output) minus the cost of intermediate inputs (energy, materials, and purchased services). *Industry value added* is a measure of an industry's contribution to overall GDP. 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. Total private services corresponds to main services in ISIC, Rev.4.

**Source(s):**

GDP data are from the Bureau of Economic Analysis, Industry Economic Accounts, accessed November 2023 (available at <https://www.bea.gov/itable/national-gdp-and-personal-income>); value-added data are from S&P Global IHS Markit, Comparative Industry Service special tabulations, October 2023.

*Science and Engineering Indicators*

Table SKTI-2

## Value added, by industry, for the world and for selected economies: 2002–22

(Millions of current U.S. dollars, percent KTI shares)

Industry	Economy	ISIC, Rev.4, industry codes	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Millions of current U.S. dollars																							
All ISIC, Rev.4, industries	World (75)	A to U	32,297,883	36,163,924	40,550,700	43,802,880	47,269,665	53,041,164	57,933,180	55,400,804	60,317,236	67,029,752	68,189,227	70,206,619	72,110,177	68,520,870	69,908,875	74,247,554	79,084,302	80,470,247	78,728,503	89,248,692	94,811,409
All manufacturing	World (75)	C (10–33)	5,558,390	6,221,091	6,985,730	7,542,582	8,148,070	9,159,801	9,870,391	9,032,916	10,224,710	11,422,949	11,592,891	11,871,820	12,255,809	11,841,348	11,952,702	12,815,571	13,926,074	13,808,605	13,456,782	15,881,774	17,038,528
Total private services	World (75)	G to N	15,908,966	17,741,453	19,763,717	21,305,368	22,849,606	25,656,899	27,698,311	26,594,724	28,617,845	31,522,594	32,208,170	33,236,522	34,335,252	33,046,000	33,932,230	35,832,141	37,954,130	38,724,790	37,791,498	42,484,749	44,297,731
All KTI industries	World (75)		3,425,923	3,819,787	4,241,315	4,494,433	4,855,642	5,458,518	5,945,369	5,528,571	6,302,297	7,034,753	7,153,230	7,370,458	7,690,667	7,532,478	7,741,689	8,380,363	9,085,075	9,093,984	9,055,296	10,486,860	11,079,014
KTI manufacturing industries	World (75)		2,603,969	2,913,361	3,225,580	3,403,308	3,683,119	4,128,065	4,417,167	4,016,089	4,657,186	5,182,790	5,243,087	5,363,161	5,561,042	5,472,152	5,567,676	6,028,582	6,497,567	6,388,958	6,310,852	7,345,881	7,820,964
Chemicals and chemical products	World (75)	C20	391,552	430,214	493,438	513,783	557,109	644,899	701,593	667,802	793,620	918,241	908,870	936,278	941,946	935,324	931,621	991,734	1,072,221	1,040,445	1,017,728	1,172,896	1,405,789
Pharmaceuticals, medicinal chemical, and botanical products	World (75)	C21	269,638	300,154	323,865	338,160	369,171	403,242	429,152	451,514	458,261	490,602	486,054	495,959	513,559	542,848	579,058	611,550	663,460	682,537	736,094	867,901	873,662
Weapons and ammunition	World (75)	C252	15,070	17,238	19,590	21,414	24,225	27,013	30,898	27,057	30,468	33,644	36,119	37,920	36,364	35,138	36,484	37,097	38,642	40,149	40,882	46,679	53,709
Computer, electronic, and optical products	World (75)	C26	541,650	618,213	689,850	721,009	775,364	837,846	863,762	782,008	900,277	957,114	965,394	999,162	1,057,349	1,055,356	1,064,033	1,166,197	1,285,242	1,249,585	1,281,462	1,478,183	1,539,262
Electrical equipment	World (75)	C27	240,575	268,261	294,655	313,701	351,529	394,180	450,834	416,332	469,454	514,242	524,844	545,986	561,699	546,078	552,340	609,600	661,285	658,307	669,097	793,869	837,491
Machinery and equipment nec	World (75)	C28	444,028	498,616	570,569	616,180	673,537	775,717	875,357	736,187	855,887	1,006,789	1,023,916	1,030,301	1,055,399	983,939	978,865	1,073,913	1,168,605	1,144,606	1,144,934	1,354,805	1,427,041
Motor vehicles, trailers, and semi-trailers	World (75)	C29	481,597	543,729	579,544	599,813	628,426	694,549	682,223	551,858	743,990	820,583	856,622	874,668	940,579	914,002	959,632	1,039,633	1,074,212	1,029,293	921,801	1,071,028	1,073,795
Railroad, military vehicles, and transport equipment nec	World (75)	C30X	40,344	44,667	47,595	52,175	56,122	66,713	79,048	80,351	89,282	102,135	102,582	95,591	96,545	97,184	100,325	102,526	111,902	114,073	103,187	124,463	137,378
Air and spacecraft and related machinery	World (75)	C303	106,154	111,071	121,268	138,414	152,095	178,359	187,254	181,964	191,918	207,928	206,684	211,855	219,237	220,862	219,463	237,059	247,390	256,611	225,915	246,474	276,821
Medical and dental instruments and supplies	World (75)	C325	73,360	81,198	85,206	88,659	95,541	105,547	117,046	121,014	124,029	131,512	132,001	135,441	138,364	141,420	145,853	159,273	174,608	173,352	169,751	189,583	196,016
KTI service industries	World (75)		821,954	906,426	1,015,735	1,091,125	1,172,524	1,330,453	1,528,202	1,512,482	1,645,111	1,851,963	1,910,143	2,007,298	2,129,626	2,060,326	2,174,014	2,351,781	2,587,509	2,705,026	2,744,444	3,140,979	3,258,050
Software publishing	World (75)	J582	87,775	94,031	110,606	121,827	123,193	143,181	152,209	152,808	166,800	190,239	198,502	212,995	226,706	223,928	242,489	264,804	300,563	333,045	381,780	442,984	462,761
IT and other information services	World (75)	J62–63	519,408	570,917	632,362	676,096	731,007	823,095	938,611	915,924	986,602	1,110,549	1,137,779	1,195,327	1,265,749	1,234,312	1,311,703	1,420,210	1,569,211	1,632,407	1,654,316	1,883,978	1,970,875
Scientific R&D	World (75)	M72	214,771	241,478	272,768	293,202	318,324	364,177	437,382	443,750	491,709	551,175	573,862	598,976	637,171	602,085	619,822	666,766	717,734	739,574	708,349	814,017	824,414
KTI shares (%)																							
Analytical ratios (%)																							
KTI/all ISIC, Rev.4, industries (%)	World (75)		10.6	10.6	10.5	10.3	10.3	10.3	10.3	10.0	10.4	10.5	10.5	10.5	10.7	11.0	11.1	11.3	11.5	11.3	11.5	11.8	11.7
KTI manufacturing industries/all KTI (%)	World (75)		76.0	76.3	76.1	75.7	75.9	75.6	74.3	72.6	73.9	73.7	73.3	72.8	72.3	72.6	71.9	71.9	71.5	70.3	69.7	70.0	70.6
KTI service industries/all KTI (%)	World (75)		24.0	23.7	23.9	24.3	24.1	24.4	25.7	27.4	26.1	26.3	26.7	27.2	27.7	27.4	28.1	28.1	28.5	29.7	30.3	30.0	29.4
Millions of current U.S. dollars																							
All ISIC, Rev.4, industries	Canada	A to U	703,718	831,869	954,242	1,092,839	1,230,567	1,371,505	1,457,280	1,286,975	1,513,478	1,680,410	1,711,527	1,729,799	1,690,662	1,452,009	1,422,812	1,534,376	1,607,441	1,626,468	1,536,979	1,858,713	2,096,357
All manufacturing	Canada	C (10–33)	121,178	134,270	149,445	159,833	170,020	179,447	169,505	142,698	167,016	184,232	189,304	183,264	176,164	160,515	156,570	164,964	175,681	173,326	163,187	198,030	224,946
Total private services	Canada	G to N	330,024	387,800	444,856	507,817	578,884	648,019	674,043	623,308	723,274	790,279	811,426	820,602	804,015	714,667	712,268	761,112	791,716	806,032	759,606	917,609	1,012,080
All KTI industries	Canada		63,105	70,435	75,707	81,518	87,539	93,387	89,772	79,775	94,236	106,617	110,414	109,644	108,027	97,711	97,089	102,617	109,346	111,497	99,454	118,282	130,679
KTI manufacturing industries	Canada		50,250	55,029	57,688	60,881	63,654	66,929	62,175	52,781	63,625	71,417	73,724	71,503	69,240	62,665	61,072	63,268	66,114	66,243	57,605	68,151	75,359
Chemicals and chemical products	Canada	C20	6,603	7,174	7,826	7,899	7,861	8,456	8,508	8,130	10,630	13,435	13,321	13,670	11,944	11,527	11,256	11,908	13,132	12,057	10,532	12,870	13,810
Pharmaceuticals, medicinal chemical, and botanical products	Canada	C21	2,941	3,588	3,523	3,735	4,998	4,450	4,176	4,116	4,540	4,283	4,693	3,800	4,465	3,994	4,109	4,077	4,274	4,283	4,938	6,061	6,417
Weapons and ammunition	Canada	C252	1,449	1,683	1,783	1,916	2,012	2,260	2,271	1,671	2,107	2,362	2,640	2,508	2,451	2,097	2,002	2,060	2,163	2,197	2,130	2,394	2,902
Computer, electronic, and optical products	Canada	C26	4,003	4,967	5,778	6,506	6,873	7,317	7,086	6,716	7,725	7,691	6,728	5,895	5,646	4,925	4,709	5,036	5,334	5,714	5,310	6,296	6,758
Electrical equipment	Canada	C27	2,445	2,302	2,746	3,059	3,146	3,478	3,540	3,232	3,513	4,061	3,997	3,789	3,007	2,893	3,002	3,129	3,198	3,231	3,055	3,208	3,680
Machinery and equipment nec	Canada	C28	7,632	8,390	9,699	10,739	11,987	13,035	12,722	10,155	11,440	14,507	15,253	14,717	13,899	11,613	10,720	12,145	13,265	12,929	11,810	14,824	16,887



Table SKTI-2

## Value added, by industry, for the world and for selected economies: 2002–22

(Millions of current U.S. dollars, percent KTI shares)

Industry	Economy	ISIC, Rev.4, industry codes	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Millions of current U.S. dollars																							
All ISIC, Rev.4, industries	EU-27	A to U	7,111,375	8,743,468	10,044,537	10,447,924	11,118,192	12,866,924	14,242,952	12,979,765	12,783,261	13,815,066	12,838,854	13,417,361	13,709,459	11,872,438	12,155,643	12,879,693	13,937,911	13,675,924	13,430,919	14,944,568	14,967,442
All manufacturing	EU-27	C (10–33)	1,327,437	1,591,740	1,808,477	1,854,995	1,975,961	2,293,872	2,436,609	2,011,377	2,071,071	2,286,303	2,095,771	2,176,178	2,258,235	2,037,336	2,101,122	2,218,891	2,381,342	2,282,953	2,191,928	2,468,009	2,469,985
Total private services	EU-27	G to N	3,465,830	4,279,595	4,924,357	5,150,899	5,483,605	6,390,130	7,092,366	6,518,164	6,370,253	6,890,874	6,423,036	6,738,870	6,912,417	5,984,951	6,134,466	6,509,716	7,068,742	6,972,223	6,801,625	7,568,542	7,612,050
All KTI industries	EU-27		805,287	969,724	1,103,186	1,135,954	1,223,518	1,430,722	1,545,302	1,317,634	1,384,080	1,543,135	1,440,429	1,523,000	1,594,486	1,461,079	1,519,567	1,633,394	1,792,786	1,757,157	1,724,139	1,933,664	1,883,117
KTI manufacturing industries	EU-27		607,862	730,974	826,763	845,062	910,172	1,058,192	1,124,947	922,020	988,981	1,101,360	1,017,892	1,061,035	1,110,569	1,034,535	1,069,701	1,140,100	1,229,143	1,180,955	1,132,679	1,278,076	1,241,852
Chemicals and chemical products	EU-27	C20	88,427	102,657	117,039	119,841	124,014	144,540	152,840	131,430	139,693	155,449	142,279	147,127	149,410	148,206	148,734	158,767	163,391	153,339	156,332	178,818	177,196
Pharmaceuticals, medicinal chemical, and botanical products	EU-27	C21	69,318	83,100	89,193	94,723	98,238	111,480	120,537	119,132	116,192	121,947	114,281	118,958	121,668	133,886	140,542	144,724	166,300	170,819	190,074	218,059	216,420
Weapons and ammunition	EU-27	C252	3,861	4,701	4,903	5,012	5,601	6,569	6,867	6,390	6,297	6,785	6,859	7,052	7,187	6,160	6,785	7,016	7,632	7,552	7,709	8,789	9,336
Computer, electronic, and optical products	EU-27	C26	80,724	96,519	111,436	113,590	119,507	137,443	135,854	105,243	107,740	114,495	101,884	106,895	109,660	104,784	107,046	112,480	123,408	117,924	113,713	116,378	108,211
Electrical equipment	EU-27	C27	65,356	78,235	90,425	89,711	99,098	112,641	126,814	105,145	110,570	119,722	109,746	112,534	114,567	97,654	100,563	105,765	112,894	104,955	102,705	108,024	104,435
Machinery and equipment nec	EU-27	C28	130,248	156,731	182,713	188,526	207,974	249,547	275,088	209,177	224,157	261,721	243,376	252,055	262,851	225,924	228,872	247,573	268,708	257,087	250,401	287,158	278,177
Motor vehicles, trailers, and semi-trailers	EU-27	C29	120,354	150,942	170,279	167,994	184,339	214,685	211,636	157,473	198,197	228,450	208,292	221,500	245,732	223,320	242,152	258,776	272,643	256,077	210,650	247,030	236,985
Railroad, military vehicles, and transport equipment nec	EU-27	C30X	7,809	9,333	7,842	10,131	11,424	13,201	15,846	14,738	13,262	13,155	12,768	12,990	13,835	12,317	12,104	11,996	13,495	13,078	11,869	14,829	15,306
Air and spacecraft and related machinery	EU-27	C303	16,054	17,904	19,166	21,262	22,994	26,706	32,615	29,537	29,826	32,482	34,452	37,843	41,037	36,638	38,160	43,129	44,190	44,957	34,832	38,839	39,002
Medical and dental instruments and supplies	EU-27	C325	25,710	30,852	33,765	34,273	36,983	41,380	46,849	43,755	43,048	47,152	43,956	44,081	44,621	45,646	44,743	49,874	56,483	55,168	54,394	60,152	56,785
KTI service industries	EU-27		197,425	238,751	276,424	290,892	313,347	372,530	420,356	395,614	395,098	441,775	422,537	461,965	483,918	426,544	449,866	493,295	563,643	576,203	591,460	655,587	641,265
Software publishing	EU-27	J582	13,899	15,821	18,813	20,409	22,228	26,363	33,247	32,677	34,872	41,677	37,249	39,106	42,025	38,009	40,565	45,304	58,426	64,870	69,566	77,820	74,325
IT and other information services	EU-27	J62–63	125,374	150,173	173,329	182,719	197,847	237,867	267,488	248,419	244,767	276,280	267,572	293,005	309,357	273,507	291,317	320,538	368,512	375,568	383,513	425,781	425,157
Scientific R&D	EU-27	M72	58,153	72,757	84,281	87,764	93,272	108,300	119,620	114,518	115,459	123,818	117,715	129,854	132,536	115,028	117,984	127,452	136,705	135,765	138,381	151,987	141,784
KTI shares (%)																							
Analytical ratios (%)																							
KTI/all ISIC, Rev.4, industries (%)	EU-27		11.3	11.1	11.0	10.9	11.0	11.1	10.8	10.2	10.8	11.2	11.2	11.4	11.6	12.3	12.5	12.7	12.9	12.8	12.8	12.9	12.6
KTI manufacturing industries/all KTI (%)	EU-27		75.5	75.4	74.9	74.4	74.4	74.0	72.8	70.0	71.5	71.4	70.7	69.7	69.7	70.8	70.4	69.8	68.6	67.2	65.7	66.1	65.9
KTI service industries/all KTI (%)	EU-27		24.5	24.6	25.1	25.6	25.6	26.0	27.2	30.0	28.5	28.6	29.3	30.3	30.3	29.2	29.6	30.2	31.4	32.8	34.3	33.9	34.1
Millions of current U.S. dollars																							
All ISIC, Rev.4, industries	France	A to U	1,347,198	1,658,644	1,903,677	1,971,242	2,075,602	2,384,929	2,623,752	2,432,094	2,380,895	2,570,329	2,409,590	2,522,486	2,556,921	2,182,051	2,208,753	2,306,041	2,480,962	2,428,378	2,357,709	2,623,448	2,483,076
All manufacturing	France	C (10–33)	203,188	241,044	268,472	268,839	271,908	309,011	323,790	284,972	272,891	297,538	278,094	291,069	293,217	254,394	254,123	262,435	278,183	273,093	249,737	267,445	264,876
Total private services	France	G to N	684,639	849,495	979,752	1,021,814	1,087,546	1,258,159	1,395,186	1,282,966	1,260,392	1,355,827	1,269,396	1,325,174	1,345,721	1,155,422	1,179,585	1,232,838	1,333,243	1,310,259	1,267,124	1,421,215	1,348,545
All KTI industries	France		140,970	166,078	185,086	186,813	195,739	221,822	240,372	216,575	212,369	227,280	216,187	228,367	234,788	204,669	209,644	220,623	238,777	237,324	229,584	248,920	243,125
KTI manufacturing industries	France		85,183	99,229	109,190	109,284	112,043	125,483	132,161	114,492	111,811	118,440	111,550	118,050	119,663	105,346	105,206	108,206	115,361	115,034	101,097	108,255	104,080
Chemicals and chemical products	France	C20	12,071	14,369	16,189	17,077	17,185	20,043	22,206	20,489	19,231	21,970	20,561	23,490	24,151	21,732	20,962	23,145	23,528	23,395	22,767	28,079	30,728
Pharmaceuticals, medicinal chemical, and botanical products	France	C21	10,814	13,786	14,639	15,342	17,112	17,995	18,137	16,587	15,596	16,657	15,140	15,937	15,281	13,766	13,841	14,048	14,861	14,361	14,771	13,920	11,828
Weapons and ammunition	France	C252	821	925	925	941	1,159	1,319	1,184	1,116	1,102	1,171	1,110	1,211	1,197	1,007	998	772	667	1,090	1,145	1,339	1,263
Computer, electronic, and optical products	France	C26	14,779	16,273	17,881	16,540	16,566	18,050	18,001	15,026	15,177	15,376	14,122	14,731	14,757	12,751	13,086	13,528	14,266	14,876	14,019	13,512	12,788
Electrical equipment	France	C27	7,641	8,589	9,863	9,275	9,019	10,634	11,282	9,938	9,372	9,665	9,109	9,396	9,181	7,533	7,600	7,847	8,374	8,006	7,338	7,621	6,502
Machinery and equipment nec	France	C28	11,370	13,626	15,437	15,434	16,232	18,666	20,053	15,753	14,932	17,216	16,111	16,058	16,567	13,503	13,091	13,071	13,839	13,784	13,432	15,241	12,068



Table SKTI-2

## Value added, by industry, for the world and for selected economies: 2002–22

(Millions of current U.S. dollars, percent KTI shares)

Industry	Economy	ISIC, Rev.4, industry codes	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Motor vehicles, trailers, and semi-trailers	France	C29	17,499	20,362	23,638	21,600	20,360	22,195	21,834	17,249	19,011	19,641	16,490	16,668	16,697	14,678	14,879	15,503	15,755	15,340	11,671	12,549	12,725
Railroad, military vehicles, and transport equipment nec	France	C30X	1,189	1,174	1,555	1,444	1,590	1,834	2,366	2,490	2,500	1,123	1,868	1,970	2,140	1,892	1,845	1,719	1,969	2,033	1,588	1,895	2,009
Air and spacecraft and related machinery	France	C303	6,316	6,915	5,573	8,208	9,338	10,821	12,955	11,699	10,872	11,371	13,150	14,225	15,316	14,909	15,139	15,199	18,350	18,513	10,731	10,500	10,609
Medical and dental instruments and supplies	France	C325	2,684	3,209	3,491	3,423	3,483	3,927	4,143	4,144	4,020	4,250	3,889	4,363	4,376	3,575	3,765	3,373	3,752	3,635	3,636	3,599	3,560
KTI service industries	France		55,787	66,850	75,896	77,529	83,696	96,339	108,211	102,083	100,558	108,841	104,637	110,317	115,125	99,323	104,437	112,417	123,416	122,290	128,487	140,664	139,045
Software publishing	France	J582	3,089	3,527	4,070	4,399	4,844	5,465	7,272	7,098	7,070	7,737	8,097	8,160	8,486	7,446	8,179	8,925	9,787	9,427	12,559	13,817	9,599
IT and other information services	France	J62–63	30,769	36,753	41,779	42,703	46,914	54,395	60,602	55,141	53,986	58,366	56,061	58,740	62,127	54,691	58,483	62,786	70,826	71,370	73,632	81,429	94,118
Scientific R&D	France	M72	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	40,707	42,803	41,492	42,296	45,419	35,329
Analytical ratios (%)																							
			KTI shares (%)																				
KTI/all ISIC, Rev.4, industries (%)	France		10.5	10.0	9.7	9.5	9.4	9.3	9.2	8.9	8.9	8.8	9.0	9.1	9.2	9.4	9.5	9.6	9.6	9.8	9.7	9.5	9.8
KTI manufacturing industries/all KTI (%)	France		60.4	59.7	59.0	58.5	57.2	56.6	55.0	52.9	52.6	52.1	51.6	51.7	51.0	51.5	50.2	49.0	48.3	48.5	44.0	43.5	42.8
KTI service industries/all KTI (%)	France		39.6	40.3	41.0	41.5	42.8	43.4	45.0	47.1	47.4	47.9	48.4	48.3	49.0	48.5	49.8	51.0	51.7	51.5	56.0	56.5	57.2
			Millions of current U.S. dollars																				
All ISIC, Rev.4, industries	Germany	A to U	1,871,775	2,253,912	2,545,797	2,572,244	2,706,003	3,076,546	3,350,738	3,047,310	3,053,522	3,362,202	3,168,286	3,356,359	3,496,465	3,018,902	3,122,050	3,309,742	3,570,075	3,477,173	3,492,633	3,825,552	3,647,833
All manufacturing	Germany	C (10–33)	409,755	495,331	562,984	570,782	618,180	713,435	747,199	601,013	668,879	757,769	711,004	743,753	785,499	682,923	716,450	750,250	795,597	737,918	704,182	779,512	686,115
Total private services	Germany	G to N	900,945	1,086,751	1,225,011	1,243,843	1,304,166	1,484,256	1,617,214	1,498,677	1,442,073	1,586,018	1,481,113	1,579,213	1,643,352	1,422,227	1,457,633	1,543,032	1,668,790	1,633,789	1,651,802	1,802,999	1,761,133
All KTI industries	Germany		283,545	346,348	393,357	400,834	434,410	511,471	538,056	439,176	494,391	572,577	541,391	574,402	615,809	535,225	564,033	601,113	647,939	610,357	582,710	649,358	580,213
KTI manufacturing industries	Germany		236,440	290,713	329,748	333,906	363,903	425,517	445,149	351,871	409,011	469,209	439,270	458,921	493,532	429,432	454,011	482,493	512,488	472,150	439,342	491,938	436,500
Chemicals and chemical products	Germany	C20	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	50,396	52,589	56,013	55,110	50,668	52,164	58,151	46,863
Pharmaceuticals, medicinal chemical, and botanical products	Germany	C21	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	25,289	28,134	24,755	29,948	29,015	30,480	33,768	32,074
Weapons and ammunition	Germany	C252	613	793	816	868	1,003	1,112	1,185	1,299	1,259	1,290	1,443	1,500	1,400	1,196	1,397	1,260	1,671	1,613	1,717	1,879	1,821
Computer, electronic, and optical products	Germany	C26	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	42,296	44,600	45,542	51,107	48,332	45,205	46,172	39,499
Electrical equipment	Germany	C27	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	45,775	47,500	50,361	53,751	48,135	46,681	49,611	43,237
Machinery and equipment nec	Germany	C28	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	104,038	106,663	115,580	125,134	114,261	109,598	122,165	104,727
Motor vehicles, trailers, and semi-trailers	Germany	C29	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	133,959	146,622	155,809	162,985	149,166	123,875	145,696	134,915
Railroad, military vehicles, and transport equipment nec	Germany	C30X	1,855	2,257	89	2,610	2,820	2,767	2,800	3,002	2,854	3,162	2,852	2,695	3,446	3,382	3,250	3,049	3,377	2,803	2,883	3,903	3,668
Air and spacecraft and related machinery	Germany	C303	5,046	5,685	7,583	6,734	6,744	8,123	9,397	8,278	9,715	9,892	10,617	10,935	11,824	10,446	10,802	14,730	12,424	12,775	11,834	14,556	14,514
Medical and dental instruments and supplies	Germany	C325	7,310	9,169	9,860	10,117	11,187	12,365	12,556	11,290	12,706	15,684	14,272	14,355	15,041	12,656	12,455	15,393	16,980	15,382	14,903	16,037	15,182
KTI service industries	Germany		47,106	55,635	63,609	66,928	70,507	85,955	92,907	87,305	85,380	103,368	102,120	115,481	122,277	105,793	110,022	118,621	135,451	138,208	143,368	157,420	143,713
Software publishing	Germany	J582	892	1,001	1,163	1,252	1,348	1,657	599	594	768	2,783	2,699	2,966	3,288	2,747	2,648	2,880	1,766	1,927	3,304	3,545	3,201
IT and other information services	Germany	J62–63	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	77,813	81,999	88,463	103,707	105,151	108,055	118,637	106,036
Scientific R&D	Germany	M72	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	25,232	25,375	27,279	29,979	31,131	32,009	35,238	34,477
Analytical ratios (%)																							
			KTI shares (%)																				
KTI/all ISIC, Rev.4, industries (%)	Germany		15.1	15.4	15.5	15.6	16.1	16.6	16.1	14.4	16.2	17.0	17.1	17.1	17.6	17.7	18.1	18.2	18.1	17.6	16.7	17.0	15.9
KTI manufacturing industries/all KTI (%)	Germany		83.4	83.9	83.8	83.3	83.8	83.2	82.7	80.1	82.7	81.9	81.1	79.9	80.1	80.2	80.5	80.3	79.1	77.4	75.4	75.8	75.2
KTI service industries/all KTI (%)	Germany		16.6	16.1	16.2	16.7	16.2	16.8	17.3	19.9	17.3	18.1	18.9	20.1	19.9	19.8	19.5	19.7	20.9	22.6	24.6	24.2	24.8

Table SKTI-2

## Value added, by industry, for the world and for selected economies: 2002–22

(Millions of current U.S. dollars, percent KTI shares)

Industry	Economy	ISIC, Rev.4, industry codes	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Millions of current U.S. dollars																							
All ISIC, Rev.4, industries	India	A to U	471,275	550,941	640,893	754,403	861,874	1,085,936	1,189,016	1,234,350	1,549,162	1,737,061	1,674,016	1,726,274	1,855,274	1,910,291	2,019,455	2,314,643	2,457,613	2,569,301	2,380,045	2,801,144	3,065,950
All manufacturing	India	C (10–33)	79,781	93,442	111,286	131,556	162,493	199,799	216,721	225,478	284,335	302,115	288,709	286,400	301,913	322,108	339,628	380,720	406,497	389,825	355,088	448,373	455,137
Total private services	India	G to N	161,847	192,827	226,047	270,580	312,016	395,638	435,830	439,655	553,096	625,831	629,472	660,189	724,016	753,923	800,073	910,742	969,801	1,036,088	920,992	1,081,863	1,217,847
All KTI industries	India		30,780	36,441	44,773	53,546	60,954	77,286	83,642	90,583	110,918	133,361	124,954	127,453	141,772	159,472	168,745	189,884	199,593	200,744	173,806	208,935	227,668
KTI manufacturing industries	India		19,702	23,381	28,737	34,317	38,693	48,481	50,327	54,044	65,093	79,892	70,453	64,418	70,149	80,650	80,773	88,561	94,809	90,334	75,608	92,192	94,960
Chemicals and chemical products	India	C20	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	22,137	23,384	23,555	23,028	27,170	29,247
Pharmaceuticals, medicinal chemical, and botanical products	India	C21	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	15,691	17,247	17,377	16,229	18,549	17,380
Weapons and ammunition	India	C252	6	8	10	8	9	12	13	28	25	29	20	43	40	42	62	49	68	49	36	44	41
Computer, electronic, and optical products	India	C26	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	4,968	5,116	4,578	3,226	4,146	3,947
Electrical equipment	India	C27	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	8,236	8,436	7,727	6,070	7,933	7,036
Machinery and equipment nec	India	C28	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	14,213	13,819	12,989	9,993	12,625	13,206
Motor vehicles, trailers, and semi-trailers	India	C29	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	15,987	18,492	15,296	10,482	14,137	16,119
Railroad, military vehicles, and transport equipment nec	India	C30X	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	5,515	6,299	6,645	4,984	5,988	6,309
Air and spacecraft and related machinery	India	C303	34	49	71	62	73	85	87	27	43	44	153	166	254	203	248	308	455	450	339	407	426
Medical and dental instruments and supplies	India	C325	197	234	328	347	375	487	511	656	759	978	843	958	1,207	1,083	1,286	1,456	1,492	1,668	1,221	1,194	1,248
KTI service industries	India		11,078	13,060	16,037	19,229	22,261	28,805	33,315	36,539	45,825	53,469	54,501	63,035	71,623	78,822	87,972	101,323	104,784	110,410	98,197	116,743	132,708
Software publishing	India	J582	472	579	558	839	987	1,260	1,304	1,361	1,194	1,395	1,287	1,351	1,311	1,312	1,402	1,556	1,546	1,667	1,383	1,621	1,887
IT and other information services	India	J62–63	7,789	9,165	11,367	13,505	15,624	20,228	23,543	25,740	32,688	38,233	35,560	40,904	45,115	50,313	54,445	61,893	62,373	65,899	53,576	63,873	75,283
Scientific R&D	India	M72	2,817	3,315	4,111	4,885	5,651	7,316	8,468	9,438	11,943	13,840	17,654	20,780	25,197	27,198	32,125	37,874	40,865	42,844	43,239	51,249	55,539
KTI shares (%)																							
Analytical ratios (%)																							
KTI/all ISIC, Rev.4, industries (%)	India		6.5	6.6	7.0	7.1	7.1	7.1	7.0	7.3	7.2	7.7	7.5	7.4	7.6	8.3	8.4	8.2	8.1	7.8	7.3	7.5	7.4
KTI manufacturing industries/all KTI (%)	India		64.0	64.2	64.2	64.1	63.5	62.7	60.2	59.7	58.7	59.9	56.4	50.5	49.5	50.6	47.9	46.6	47.5	45.0	43.5	44.1	41.7
KTI service industries/all KTI (%)	India		36.0	35.8	35.8	35.9	36.5	37.3	39.8	40.3	41.3	40.1	43.6	49.5	50.5	49.4	52.1	53.4	52.5	55.0	56.5	55.9	58.3
Millions of current U.S. dollars																							
All ISIC, Rev.4, industries	Italy	A to U	1,146,637	1,424,106	1,627,449	1,672,987	1,745,307	1,984,190	2,161,969	1,980,494	1,919,546	2,059,055	1,873,381	1,927,227	1,940,673	1,650,346	1,684,397	1,755,677	1,876,360	1,803,823	1,711,838	1,889,715	1,960,795
All manufacturing	Italy	C (10–33)	213,755	253,974	286,744	288,639	303,980	352,645	370,784	300,587	303,638	325,854	289,059	297,214	301,766	264,285	277,450	291,892	313,851	299,356	275,927	314,249	325,440
Total private services	Italy	G to N	582,951	731,115	834,281	860,522	892,230	1,017,521	1,107,626	1,030,106	997,716	1,074,518	982,593	1,011,448	1,029,441	879,766	898,330	937,450	1,000,666	966,132	906,374	989,667	1,001,679
All KTI industries	Italy		106,147	127,100	143,987	145,249	155,070	179,009	192,825	165,777	169,323	181,122	164,938	171,900	172,637	153,616	161,853	172,516	184,338	176,265	170,967	187,443	185,207
KTI manufacturing industries	Italy		74,874	88,822	101,772	101,639	109,181	126,333	134,958	109,840	115,149	123,764	111,880	116,368	116,215	104,810	110,997	118,033	125,333	119,975	115,287	127,517	128,315
Chemicals and chemical products	Italy	C20	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	14,516	13,303	13,514	14,943	15,375
Pharmaceuticals, medicinal chemical, and botanical products	Italy	C21	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	10,836	11,314	11,746	12,260	12,328
Weapons and ammunition	Italy	C252	561	696	694	632	701	837	899	881	846	923	974	850	938	794	626	679	763	811	804	1,129	1,232
Computer, electronic, and optical products	Italy	C26	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	9,978	9,797	9,772	9,135	9,078
Electrical equipment	Italy	C27	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	13,309	12,821	12,861	13,213	13,175
Machinery and equipment nec	Italy	C28	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	45,824	44,008	42,555	49,143	50,377



Table SKTI-2

## Value added, by industry, for the world and for selected economies: 2002–22

(Millions of current U.S. dollars, percent KTI shares)

Industry	Economy	ISIC, Rev.4, industry codes	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Millions of current U.S. dollars																							
All ISIC Rev.4, industries	South Korea	A to U	579,990	650,327	737,127	865,869	974,706	1,082,820	965,767	873,915	1,058,212	1,166,316	1,186,851	1,271,653	1,374,616	1,344,559	1,372,834	1,485,299	1,577,874	1,512,911	1,501,446	1,651,457	1,696,026
All manufacturing	South Korea	C (10–33)	152,119	167,488	203,063	236,537	261,888	294,948	267,206	242,521	314,027	353,792	355,877	381,418	402,352	389,984	395,396	437,574	459,449	416,725	407,607	461,241	470,298
Total private services	South Korea	G to N	262,609	291,209	319,631	377,871	427,503	474,982	426,645	378,627	452,345	497,431	506,254	537,152	583,418	568,800	577,629	616,926	662,267	652,564	644,355	708,376	735,476
All KTI industries	South Korea		103,540	115,664	141,440	163,696	187,164	212,074	187,232	177,490	230,713	264,723	272,780	295,693	322,319	301,741	308,770	353,720	382,183	357,115	362,122	409,823	401,049
KTI manufacturing industries	South Korea		77,470	86,298	107,579	122,119	137,123	155,500	135,518	129,803	174,512	200,584	206,870	223,695	234,676	227,381	231,437	269,236	287,049	261,421	264,103	300,767	294,565
Chemicals and chemical products	South Korea	C20	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	33,153	33,267	42,862	44,518
Pharmaceuticals, medicinal chemical, and botanical products	South Korea	C21	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	7,922	8,931	9,865	10,470
Weapons and ammunition	South Korea	C252	186	262	334	559	626	758	757	709	1,037	1,084	973	1,037	1,350	1,763	2,065	2,057	2,107	1,808	1,647	2,042	2,544
Computer, electronic, and optical products	South Korea	C26	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	115,112	118,502	134,167	122,918
Electrical equipment	South Korea	C27	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	30,149	29,537	28,866	29,264
Machinery and equipment nec	South Korea	C28	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	37,510	39,813	45,285	46,505
Motor vehicles, trailers, and semi-trailers	South Korea	C29	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	31,097	28,532	33,370	33,745
Railroad, military vehicles, and transport equipment nec	South Korea	C30X	978	915	891	857	864	881	749	910	1,149	1,094	1,083	946	872	795	837	700	775	688	605	766	865
Air and spacecraft and related machinery	South Korea	C303	283	281	345	396	570	679	572	577	920	834	946	1,272	1,318	1,348	1,942	1,377	1,842	2,040	1,297	1,317	1,574
Medical and dental instruments and supplies	South Korea	C325	824	878	878	991	1,097	1,265	1,166	1,154	1,180	1,520	1,593	1,730	1,774	1,479	1,548	1,545	1,819	1,941	1,971	2,227	2,162
KTI service industries	South Korea		26,070	29,366	33,861	41,577	50,041	56,574	51,714	47,686	56,201	64,138	65,910	71,999	87,643	74,360	77,333	84,484	95,134	95,694	98,019	109,056	106,484
Software publishing	South Korea	J582	3,966	4,034	4,645	5,747	6,774	7,415	6,803	7,098	8,183	10,530	10,197	12,118	13,619	11,676	12,934	13,172	17,914	18,595	19,575	21,646	20,673
IT and other information services	South Korea	J62–63	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	29,023	29,422	32,614	31,032
Scientific R&D	South Korea	M72	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	48,076	49,022	54,796	54,779
KTI shares (%)																							
Analytical ratios (%)																							
KTI/all ISIC, Rev.4, industries (%)	South Korea		17.9	17.8	19.2	18.9	19.2	19.6	19.4	20.3	21.8	22.7	23.0	23.3	23.4	22.4	22.5	23.8	24.2	23.6	24.1	24.8	23.6
KTI manufacturing industries/all KTI (%)	South Korea		74.8	74.6	76.1	74.6	73.3	73.3	72.4	73.1	75.6	75.8	75.8	75.7	72.8	75.4	75.0	76.1	75.1	73.2	72.9	73.4	73.4
KTI service industries/all KTI (%)	South Korea		25.2	25.4	23.9	25.4	26.7	26.7	27.6	26.9	24.4	24.2	24.2	24.3	27.2	24.6	25.0	23.9	24.9	26.8	27.1	26.6	26.6
Millions of current U.S. dollars																							
All ISIC, Rev.4, industries	United Kingdom	A to U	1,605,241	1,852,374	2,177,983	2,292,394	2,448,286	2,797,259	2,660,413	2,209,773	2,244,579	2,390,078	2,439,735	2,503,579	2,756,423	2,640,651	2,429,393	2,410,811	2,591,689	2,574,673	2,461,238	2,831,321	2,905,289
All manufacturing	United Kingdom	C (10–33)	216,673	238,772	265,929	267,635	277,024	299,637	279,402	220,906	236,593	249,882	253,599	266,444	288,042	272,523	244,925	241,599	256,641	255,589	242,408	282,740	280,107
Total private services	United Kingdom	G to N	887,276	1,026,851	1,211,432	1,274,413	1,356,694	1,575,079	1,485,912	1,235,610	1,246,999	1,333,362	1,368,284	1,408,950	1,568,284	1,512,353	1,410,296	1,394,437	1,496,630	1,476,638	1,421,856	1,624,463	1,652,756
All KTI industries	United Kingdom		142,099	162,498	185,917	193,563	203,591	226,379	217,469	171,691	185,885	202,909	201,181	203,605	223,313	213,267	199,283	197,450	214,980	214,644	208,038	240,154	225,176
KTI manufacturing industries	United Kingdom		93,872	102,812	115,454	116,706	124,369	129,065	125,068	96,263	105,557	116,641	115,086	121,101	129,754	123,352	113,416	112,302	118,589	117,278	111,401	129,450	118,535
Chemicals and chemical products	United Kingdom	C20	14,012	15,965	14,905	16,667	17,494	16,229	14,573	12,048	11,882	14,789	13,959	16,477	18,378	18,554	15,341	13,874	14,702	15,622	16,261	18,978	18,775
Pharmaceuticals, medicinal chemical, and botanical products	United Kingdom	C21	14,937	16,133	18,812	19,671	22,954	24,007	25,459	21,838	21,649	21,845	19,656	18,070	18,541	17,830	17,601	16,653	17,214	17,292	19,693	22,632	20,511
Weapons and ammunition	United Kingdom	C252	794	1,019	1,538	1,740	2,075	1,995	1,870	1,522	1,723	1,801	2,186	1,988	1,995	1,694	1,454	1,436	1,564	1,677	1,468	1,647	1,441
Computer, electronic, and optical products	United Kingdom	C26	13,601	13,183	17,099	15,602	16,449	17,178	17,990	15,628	16,847	17,943	17,378	17,540	18,365	16,234	16,101	16,331	17,592	17,808	13,700	14,158	13,552
Electrical equipment	United Kingdom	C27	7,546	7,974	8,792	8,329	8,493	9,438	8,664	6,756	7,095	6,857	7,239	6,854	7,922	6,770	6,330	6,190	6,314	6,349	6,524	7,451	6,606
Machinery and equipment nec	United Kingdom	C28	17,042	19,238	21,295	21,311	21,699	24,141	21,266	12,875	17,976	20,764	21,964	23,740	24,810	22,609	18,835	19,175	21,503	19,244	19,605	25,771	23,017

Table SKTI-2

## Value added, by industry, for the world and for selected economies: 2002–22

(Millions of current U.S. dollars, percent KTI shares)

Industry	Economy	ISIC, Rev.4, industry codes	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Motor vehicles, trailers, and semi-trailers	United Kingdom	C29	12,261	13,117	13,953	13,933	14,195	15,013	15,310	10,518	14,277	15,133	16,104	21,039	24,741	23,815	22,724	22,349	22,903	22,207	16,918	18,481	16,573
Railroad, military vehicles, and transport equipment nec	United Kingdom	C30X	818	931	1,223	1,175	1,222	1,028	1,250	690	990	1,157	1,333	1,612	1,248	1,356	995	1,024	1,122	1,147	1,620	1,918	1,735
Air and spacecraft and related machinery	United Kingdom	C303	9,761	11,602	14,120	14,516	15,728	15,445	14,141	10,550	9,430	12,570	11,372	10,354	10,482	11,165	10,853	12,064	12,173	12,260	12,568	15,220	13,555
Medical and dental instruments and supplies	United Kingdom	C325	3,099	3,650	3,716	3,762	4,059	4,591	4,546	3,837	3,685	3,782	3,896	3,426	3,271	3,326	3,182	3,205	3,502	3,672	3,044	3,193	2,769
KTI service industries	United Kingdom		48,227	59,685	70,463	76,856	79,222	97,313	92,401	75,428	80,329	86,268	86,095	82,504	93,558	89,915	85,867	85,149	96,392	97,366	96,636	110,704	106,641
Software publishing	United Kingdom	J582	961	1,016	1,218	1,298	1,325	1,578	1,070	1,070	966	1,763	1,696	1,874	2,104	1,969	1,952	2,029	2,405	2,221	2,230	2,460	2,270
IT and other information services	United Kingdom	J62–63	35,892	45,516	52,281	57,786	59,624	73,355	69,376	56,521	58,786	64,653	65,697	65,387	73,767	70,025	67,530	67,148	74,760	75,370	74,612	85,329	81,721
Scientific R&D	United Kingdom	M72	11,374	13,153	16,963	17,773	18,273	22,380	21,955	17,837	20,577	19,852	18,702	15,242	17,687	17,921	16,385	15,972	19,226	19,775	19,795	22,915	22,650
Analytical ratios (%)																							
			KTI shares (%)																				
KTI/all ISIC, Rev.4, industries (%)	United Kingdom		8.9	8.8	8.5	8.4	8.3	8.1	8.2	7.8	8.3	8.5	8.2	8.1	8.1	8.1	8.2	8.2	8.3	8.3	8.5	8.5	7.8
KTI manufacturing industries/all KTI (%)	United Kingdom		66.1	63.3	62.1	60.3	61.1	57.0	57.5	56.1	56.8	57.5	57.2	59.5	58.1	57.8	56.9	56.9	55.2	54.6	53.5	53.9	52.6
KTI service industries/all KTI (%)	United Kingdom		33.9	36.7	37.9	39.7	38.9	43.0	42.5	43.9	43.2	42.5	42.8	40.5	41.9	42.2	43.1	43.1	44.8	45.4	46.5	46.1	47.4
			Millions of current U.S. dollars																				
All ISIC, Rev.4, industries	United States	A to U	10,929,108	11,456,450	12,217,196	13,039,197	13,815,583	14,474,228	14,769,862	14,478,067	15,048,970	15,599,731	16,253,970	16,843,196	17,550,687	18,206,023	18,695,106	19,477,337	20,533,058	21,380,976	21,060,474	23,315,081	25,462,722
All manufacturing	United States	C (10–33)	1,495,330	1,551,146	1,636,584	1,720,602	1,823,040	1,876,609	1,832,885	1,730,030	1,829,026	1,905,503	1,968,063	2,031,521	2,089,111	2,167,434	2,138,778	2,236,181	2,373,269	2,408,523	2,279,324	2,541,080	2,894,306
Total private services	United States	G to N	5,930,106	6,170,652	6,540,682	7,037,596	7,416,479	7,769,284	7,887,043	7,741,946	8,055,636	8,355,455	8,815,132	9,132,479	9,578,451	10,094,471	10,454,465	10,867,096	11,483,464	12,074,469	11,997,724	13,357,078	14,320,233
All KTI industries	United States		1,079,896	1,114,515	1,167,000	1,214,518	1,300,843	1,353,359	1,385,785	1,352,382	1,483,064	1,566,262	1,613,864	1,698,133	1,768,972	1,856,462	1,933,350	2,029,033	2,181,448	2,287,032	2,337,649	2,583,894	2,886,486
KTI manufacturing industries	United States		766,922	798,972	827,424	857,348	925,827	961,963	939,018	904,199	991,291	1,027,559	1,054,897	1,098,880	1,128,607	1,171,276	1,194,659	1,236,248	1,295,239	1,335,020	1,299,695	1,401,523	1,594,509
Chemicals and chemical products	United States	C20	110,416	110,060	121,101	119,214	135,907	144,842	141,607	144,212	172,147	175,458	180,983	188,356	190,056	185,619	198,603	201,449	211,081	213,108	201,639	221,906	258,376
Pharmaceuticals, medicinal chemical, and botanical products	United States	C21	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	162,249	165,598	183,950	198,865	217,687	233,666
Weapons and ammunition	United States	C252	2,224	2,770	3,203	3,165	3,722	3,332	3,504	4,075	4,337	4,929	5,645	6,430	5,719	5,794	6,735	6,209	5,906	6,697	8,105	8,163	8,797
Computer, electronic, and optical products	United States	C26	173,304	193,192	201,463	211,521	224,800	229,858	233,113	226,025	241,381	240,229	243,512	246,891	253,763	269,486	270,668	283,085	308,048	312,714	320,267	338,221	379,996
Electrical equipment	United States	C27	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	60,781	65,079	64,614	61,429	67,654	73,633
Machinery and equipment nec	United States	C28	106,534	105,177	112,169	122,885	130,837	139,164	141,198	127,189	137,328	156,315	164,414	170,444	172,956	164,288	155,410	165,083	173,958	180,544	171,678	186,442	225,752
Motor vehicles, trailers, and semi-trailers	United States	C29	135,222	143,137	139,116	135,929	134,040	124,994	90,344	47,773	88,805	104,516	115,766	123,096	132,751	146,342	155,480	158,471	157,822	158,211	143,898	158,687	171,597
Railroad, military vehicles, and transport equipment nec	United States	C30X	7,878	8,293	8,902	9,974	10,482	12,610	14,680	12,427	11,952	13,324	13,210	14,294	13,699	13,378	14,264	11,851	11,919	12,537	10,735	11,639	13,436
Air and spacecraft and related machinery	United States	C303	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	129,229	134,918	140,938	124,223	129,299	156,731
Medical and dental instruments and supplies	United States	C325	32,500	33,512	34,796	36,514	39,523	41,379	44,480	52,705	53,887	50,380	52,475	50,309	50,376	50,622	55,006	57,841	60,910	61,707	58,856	61,825	72,525
KTI service industries	United States		312,974	315,543	339,576	357,170	375,016	391,396	446,767	448,183	491,773	538,703	558,967	599,253	640,365	685,186	738,691	792,785	886,209	952,012	1,037,954	1,182,371	1,291,977
Software publishing	United States	J582	58,310	61,346	71,549	79,187	77,034	91,742	96,732	96,178	105,025	115,542	125,085	135,495	142,728	147,742	162,909	179,977	201,561	225,524	267,943	314,301	339,281
IT and other information services	United States	J62–63	183,155	182,877	195,494	203,397	222,980	225,238	266,520	266,983	297,530	328,413	338,308	365,994	394,497	422,016	462,275	496,356	556,264	587,326	613,637	695,142	772,813
Scientific R&D	United States	M72	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	116,452	128,384	139,162	156,374	172,928	179,883
Analytical ratios (%)																							
			KTI shares (%)																				
KTI/all ISIC, Rev.4, industries (%)	United States		9.9	9.7	9.6	9.3	9.4	9.4	9.4	9.3	9.9	10.0	9.9	10.1	10.1	10.2	10.3	10.4	10.6	10.7	11.1	11.1	11.3
KTI manufacturing industries/all KTI (%)	United States		71.0	71.7	70.9	70.6	71.2	71.1	67.8	66.9	66.8	65.6	65.4	64.7	63.8	63.1	61.8	60.9	59.4	58.4	55.6	54.2	55.2

Table SKTI-2

**Value added, by industry, for the world and for selected economies: 2002–22**

(Millions of current U.S. dollars, percent KTI shares)

Industry	Economy	ISIC, Rev.4, industry codes	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
KTI service industries/all KTI (%)	United States		29.0	28.3	29.1	29.4	28.8	28.9	32.2	33.1	33.2	34.4	34.6	35.3	36.2	36.9	38.2	39.1	40.6	41.6	44.4	45.8	44.8

EU-27 = European Union; IT = information technology; KTI = knowledge and technology intensive; ISIC, Rev.4 = International Standard Industrial Classification, Revision 4; nec = not elsewhere classified.

**Note(s):**

KTI industries include high R&amp;D intensive and medium-high R&amp;D intensive industries based on a classification by the Organisation for Economic Co-operation and Development.

**Source(s):**Value-added data are from S&P Global IHS Markit, Comparative Industry Service special tabulations, October 2023; GDP data are from International Monetary Fund World Economic Outlook, accessed November 2023 (available at <https://www.imf.org/en/Publications/WEO/weo-database/2023/October>), and Bureau of Economic Analysis, Industry Economic Accounts, accessed November 2023 (available at <https://www.bea.gov/itable/national-gdp-and-personal-income>).

Science and Engineering Indicators

Table SKTI-3

## Gross exports of goods trade, for the world and for selected economies: 2002–22

(Millions of U.S. current dollars)

Economy	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
All ISIC, Rev.4, industries																					
Canada	237,616	248,781	290,723	320,954	351,376	382,509	420,219	298,279	368,369	433,735	442,469	448,236	456,126	390,261	371,810	405,380	437,937	442,516	379,780	489,915	602,455
China	436,119	566,241	753,230	956,905	1,181,503	1,461,362	1,685,215	1,433,081	1,836,536	2,156,103	2,278,102	2,415,281	2,539,689	2,467,374	2,352,379	2,524,102	2,741,979	2,679,857	2,711,015	3,399,643	3,749,532
EU-27	2,174,631	2,626,848	3,137,490	3,384,166	3,853,080	4,568,019	5,048,592	3,900,461	4,382,225	5,125,098	4,900,666	5,072,523	5,197,335	4,556,474	4,590,392	5,018,529	5,493,799	5,344,153	4,976,898	5,956,681	6,205,171
France	305,353	360,013	412,647	436,365	488,317	553,206	602,746	473,672	517,850	578,644	549,626	563,867	569,237	500,022	491,609	525,149	562,119	557,819	473,622	557,658	582,812
Germany	590,708	717,705	874,864	961,388	1,097,644	1,304,482	1,419,034	1,093,889	1,238,802	1,447,797	1,377,258	1,414,927	1,468,891	1,305,744	1,311,339	1,415,931	1,525,105	1,458,667	1,359,154	1,595,863	1,600,931
India	53,575	63,963	84,720	106,210	131,031	163,539	208,772	169,940	235,995	309,471	303,220	321,611	328,576	279,217	274,350	310,314	336,314	337,684	286,047	403,036	473,915
Italy	243,025	287,650	335,625	358,961	405,076	486,217	532,832	399,030	432,596	506,480	486,871	501,341	516,316	448,244	452,512	497,574	539,285	521,881	479,050	585,843	624,238
Japan	425,290	480,436	575,080	619,229	667,963	737,030	802,795	600,438	785,194	841,530	825,304	740,874	714,027	648,736	662,670	716,307	757,688	726,022	658,714	774,073	776,655
South Korea	165,233	198,336	260,177	291,353	334,920	377,075	430,375	369,300	470,082	556,286	553,948	564,754	576,173	528,713	503,116	576,552	612,716	554,487	520,362	651,857	702,041
United Kingdom	286,532	310,220	353,601	405,646	455,229	454,203	501,817	363,265	432,935	548,534	499,267	550,631	507,539	451,993	400,278	422,187	471,155	441,776	376,408	439,929	505,891
United States	690,971	721,753	811,081	896,021	1,021,532	1,142,476	1,279,678	1,050,474	1,269,923	1,471,860	1,536,787	1,565,630	1,603,906	1,491,494	1,437,981	1,524,381	1,637,023	1,614,709	1,395,040	1,685,873	1,965,961
World (75)	6,046,414	7,051,806	8,535,483	9,638,058	11,147,013	12,873,251	14,755,037	11,495,410	14,020,196	16,684,119	16,703,789	17,090,816	17,209,923	15,199,763	14,845,656	16,335,999	17,938,154	17,453,804	16,198,785	20,138,526	22,255,294
Manufacturing industries																					
Canada	205,315	212,734	244,321	266,706	285,136	306,415	309,282	226,239	276,890	310,687	315,475	314,965	314,721	296,777	290,979	302,141	320,380	324,227	282,705	337,830	407,044
China	420,400	546,793	728,910	929,448	1,153,910	1,431,386	1,646,205	1,409,953	1,807,737	2,121,275	2,246,594	2,381,688	2,504,004	2,433,697	2,318,929	2,488,354	2,703,279	2,642,265	2,675,689	3,357,925	3,702,844
EU-27	2,072,792	2,505,478	2,993,210	3,231,261	3,684,349	4,366,574	4,785,898	3,691,833	4,143,824	4,843,347	4,614,169	4,772,983	4,902,198	4,314,418	4,350,383	4,759,978	5,213,488	5,077,358	4,725,876	5,636,878	5,881,078
France	292,865	344,852	395,778	419,859	470,929	532,406	576,312	452,609	494,921	550,452	524,208	535,912	542,581	476,124	469,202	502,313	536,822	533,116	449,219	530,259	551,281
Germany	580,833	706,220	861,353	947,740	1,081,602	1,284,331	1,392,032	1,070,162	1,213,055	1,416,869	1,349,464	1,384,551	1,437,644	1,277,497	1,282,995	1,387,158	1,494,789	1,429,059	1,328,795	1,560,742	1,564,328
India	41,313	49,761	66,433	82,582	107,933	134,531	172,327	138,275	192,918	254,424	253,245	266,307	278,802	236,850	230,611	261,229	286,379	291,415	243,971	342,457	412,179
Italy	237,263	280,714	327,779	350,297	395,427	474,185	518,042	386,860	420,194	492,230	473,005	487,114	501,621	434,756	438,796	482,518	523,929	507,250	464,013	567,929	605,962
Japan	423,884	478,887	573,283	617,240	665,868	734,698	799,940	598,396	782,448	838,464	822,179	737,944	711,021	645,761	659,468	712,979	754,166	722,589	655,639	769,764	771,967
South Korea	164,349	197,380	259,097	290,241	333,839	375,851	428,930	368,082	468,502	554,161	551,954	562,774	574,232	526,897	501,301	574,555	610,431	552,165	518,123	648,322	698,182
United Kingdom	262,138	283,559	324,984	372,843	420,244	418,559	460,228	335,448	395,719	507,072	456,159	509,174	469,912	427,036	378,250	394,110	434,536	409,759	353,127	412,509	471,505
United States	650,985	677,267	759,991	840,608	958,815	1,062,159	1,175,619	969,020	1,168,539	1,346,195	1,410,856	1,438,368	1,462,914	1,372,386	1,316,096	1,382,494	1,466,483	1,436,329	1,237,936	1,480,140	1,691,117
World (75)	5,446,276	6,322,549	7,616,722	8,505,777	9,794,950	11,338,583	12,647,910	10,057,718	12,148,263	14,212,517	14,264,894	14,651,125	14,872,105	13,571,099	13,334,421	14,548,679	15,835,620	15,468,968	14,554,119	17,829,762	19,420,010
KTI manufacturing industries: 20, 21, 26, 27, 28, 29, 302, 304 and 309, 303																					
Canada	112,963	116,479	131,595	144,962	151,249	160,218	154,501	115,294	137,982	154,668	162,448	160,052	162,848	157,293	153,983	154,954	162,038	164,349	137,022	150,789	177,370
China	196,886	273,734	388,290	515,592	647,110	801,260	923,924	805,684	1,061,895	1,243,111	1,326,232	1,423,470	1,473,308	1,468,603	1,407,811	1,545,591	1,686,516	1,637,531	1,692,149	2,179,488	2,374,864
EU-27	1,299,505	1,568,079	1,874,285	1,969,849	2,217,370	2,611,227	2,873,409	2,269,225	2,532,695	2,912,575	2,770,166	2,881,966	2,995,279	2,710,366	2,755,577	2,985,291	3,269,089	3,205,696	3,006,278	3,479,243	3,553,669
France	193,747	226,547	260,696	271,623	302,524	336,388	365,371	293,909	320,841	348,288	333,668	342,688	350,043	313,366	309,982	326,898	348,239	348,520	290,338	329,691	335,331
Germany	412,804	501,794	610,687	642,918	723,505	850,198	919,747	724,970	827,591	966,100	929,915	957,691	995,908	899,951	905,504	977,160	1,053,691	1,010,143	930,764	1,082,518	1,069,971
India	11,727	14,720	19,511	25,076	31,556	39,390	52,966	47,262	60,379	78,311	79,745	83,817	89,755	84,797	86,349	94,438	111,998	118,443	107,317	138,004	160,955
Italy	118,761	140,144	165,914	176,914	199,668	240,163	265,539	200,257	215,406	248,956	237,456	250,393	262,459	231,448	236,899	258,967	281,947	268,416	246,799	290,713	307,076
Japan	340,223	386,478	459,301	488,701	520,394	565,174	598,595	432,089	573,453	611,338	607,806	544,675	527,246	480,260	495,188	534,073	567,508	541,558	491,411	571,616	560,452
South Korea	109,524	136,192	181,202	205,754	232,549	261,593	275,327	239,136	312,096	352,763	359,134	378,566	386,554	369,577	352,509	404,830	442,994	394,223	382,431	478,457	500,653

Table SKTI-3

**Gross exports of goods trade, for the world and for selected economies: 2002–22**

(Millions of U.S. current dollars)

Economy	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
United Kingdom	181,224	192,499	214,220	242,537	288,760	260,744	268,885	211,724	234,642	263,837	264,711	266,050	273,189	257,246	247,337	255,017	267,456	255,387	214,739	240,411	251,156
United States	478,712	495,145	559,690	615,417	691,321	756,699	803,585	672,179	789,584	872,489	920,444	936,866	967,147	942,221	912,621	943,443	989,543	982,965	839,342	977,645	1,078,319
World (75)	3,377,484	3,907,078	4,693,904	5,176,923	5,869,031	6,691,271	7,310,381	5,936,417	7,144,695	8,129,793	8,172,302	8,377,657	8,632,701	8,157,853	8,090,645	8,808,563	9,570,917	9,374,102	8,891,346	10,694,815	11,385,780

EU-27 = European Union; ISIC, Rev.4 = International Standard Industrial Classification, Revision 4; KTI = knowledge and technology intensive.

**Note(s):**

KTI manufacturing exports include exports from the following industries: chemicals and chemical products; pharmaceuticals; computer, electronic, and optical products; electrical equipment; machinery and equipment not elsewhere classified (nec); motor vehicles, trailers, and semi-trailers; air and spacecraft and related machinery; weapons and ammunition; and other transport equipment (the latter comprises railway locomotives and rolling stock manufacturing and transport equipment nec and military equipment manufacturing).

**Source(s):**

S&amp;P Global IHS Markit, Comparative Industry Service special tabulations, October 2023.

*Science and Engineering Indicators*



Table SKTI-4

## Domestic and imported value-added content of gross exports and U.S. gross exports, by exporting industry: 2007–21

(Millions of U.S. current dollars)

Industry	Exporting industry NAICS code	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
U.S. gross exports to all economies																
All industries	Total	1,509,591	1,671,302	1,433,083	1,669,248	1,900,197	1,982,383	2,037,816	2,111,188	1,991,463	1,947,445	2,085,548	2,211,375	2,203,540	1,851,596	2,179,415
Semiconductor and other electronic components manufacturing	3344	49,460	50,087	36,098	42,966	43,743	36,936	35,575	37,767	36,182	34,758	34,652	34,597	33,698	33,721	38,535
Computer and electronic products (excluding semiconductors) manufacturing	334, excluding semiconductors	72,163	70,533	59,048	62,005	64,927	68,589	68,757	67,219	64,667	63,890	62,767	65,513	62,454	55,159	57,435
Aerospace product and parts manufacturing	3364	76,257	72,227	71,903	68,972	74,707	89,418	100,166	109,965	112,055	113,861	108,853	115,280	110,067	64,566	67,254
Transportation equipment (excluding aerospace)	336, excluding aerospace	99,781	98,939	68,603	92,475	107,750	113,643	117,987	123,092	117,146	115,389	115,481	113,181	111,184	87,156	98,099
Pharmaceutical and medicines	3254	27,704	28,303	30,335	31,710	32,333	31,184	31,573	30,910	36,739	39,870	38,625	42,528	41,459	41,031	54,570
Software publishers	5112	26,737	27,569	26,936	29,435	31,237	32,120	33,540	31,501	38,297	31,174	31,353	31,046	30,044	29,888	32,030
IT and other information services	5415, 518, and 519	12,641	14,513	15,557	16,930	18,879	21,905	23,916	27,158	32,310	35,637	41,773	45,370	53,468	56,105	61,975
Scientific R&D services	5417	14,406	15,915	16,531	20,198	23,222	25,164	26,240	29,268	30,906	53,889	39,889	41,903	43,513	39,471	41,824
Domestic value-added content of gross exports																
All industries	Total	1,288,047	1,395,590	1,260,730	1,441,833	1,603,658	1,685,503	1,745,031	1,807,215	1,753,481	1,730,661	1,848,305	1,951,706	1,967,644	1,668,091	1,938,219
Semiconductor and other electronic components manufacturing	3344	41,598	42,768	32,710	39,582	40,703	32,687	30,770	33,136	32,604	31,334	32,370	32,529	31,827	31,808	36,213
Computer and electronic products (excluding semiconductors) manufacturing	334, excluding semiconductors	58,370	57,318	51,610	54,030	55,596	62,115	63,010	61,741	60,014	59,426	59,332	62,558	59,904	53,017	54,410
Aerospace product and parts manufacturing	3364	61,421	57,210	59,288	56,635	60,693	69,323	76,960	83,245	88,112	90,782	85,965	90,444	89,166	55,410	57,034
Transportation equipment (excluding aerospace)	336, excluding aerospace	73,703	70,885	50,354	67,106	76,060	81,460	84,496	86,481	84,326	85,270	85,114	82,780	82,310	65,218	70,505
Pharmaceutical and medicines	3254	25,628	25,896	28,973	29,649	29,817	27,588	27,001	27,151	29,838	31,910	30,735	32,963	32,656	32,054	42,538
Software publishers	5112	25,993	26,686	26,233	28,634	30,325	31,212	32,640	30,620	37,353	30,382	30,617	30,359	29,491	29,551	31,629
IT and other information services	5415, 518, and 519	12,148	13,947	15,037	16,273	18,109	21,001	23,018	26,116	31,302	34,578	40,409	43,847	51,853	54,519	60,165
Scientific R&D services	5417	13,887	15,321	15,970	19,495	22,381	24,257	25,308	28,210	29,882	52,387	38,199	40,092	41,551	37,530	39,882
Imported value-added content of gross exports																
All industries	Total	221,556	275,735	172,372	227,427	296,556	296,893	292,807	303,990	237,999	216,807	237,258	259,692	235,914	183,517	241,213
Semiconductor and other electronic components manufacturing	3344	7,861	7,320	3,389	3,383	3,039	4,250	4,805	4,631	3,578	3,425	2,282	2,069	1,873	1,913	2,322
Computer and electronic products (excluding semiconductors) manufacturing	334, excluding semiconductors	13,794	13,216	7,439	7,975	9,333	6,475	5,751	5,481	4,656	4,467	3,438	2,957	2,554	2,142	3,026
Aerospace product and parts manufacturing	3364	14,835	15,018	12,616	12,339	14,013	20,094	23,206	26,720	23,943	23,080	22,889	24,838	20,901	9,156	10,222

Table SKTI-4

**Domestic and imported value-added content of gross exports and U.S. gross exports, by exporting industry: 2007–21**

(Millions of U.S. current dollars)

Industry	Exporting industry NAICS code	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Transportation equipment (excluding aerospace)	336, excluding aerospace	26,077	28,057	18,252	25,370	31,691	32,184	33,492	36,613	32,821	30,122	30,368	30,403	28,875	21,939	27,593
Pharmaceutical and medicines	3254	2,076	2,407	1,362	2,062	2,517	3,596	4,572	3,759	6,901	7,960	7,890	9,566	8,804	8,978	12,033
Software publishers	5112	743	884	704	800	913	908	901	881	944	792	736	686	553	338	401
IT and other information services	5415, 518, and 519	493	567	521	657	770	904	898	1,042	1,008	1,059	1,364	1,522	1,616	1,587	1,811
Scientific R&D services	5417	519	594	561	703	841	907	931	1,058	1,024	1,502	1,689	1,811	1,962	1,941	1,942

IT = information technology; NAICS = North American Industry Classification System.

**Note(s):**

These are preliminary statistics and are subject to revision. The industry data are based on NAICS.

**Source(s):**Bureau of Economic Analysis, Trade in Value Added Data, available at <https://www.bea.gov/data/special-topics/global-value-chains>, accessed 8 April 2023.*Science and Engineering Indicators*