

TABLE S6-4

Value added of medium-high R&D intensive industries, by region, country, or economy: 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
World	2,115,990	2,355,213	2,624,159	2,788,709	3,012,468	3,419,844	3,768,250	3,405,254	3,979,571	4,498,171	4,601,325	4,754,042	4,949,749	4,808,112	4,965,841	5,289,404	5,778,935
North America	673,113	682,608	708,271	739,178	789,980	807,662	829,869	750,840	881,336	962,955	1,010,858	1,071,014	1,107,620	1,159,226	1,205,170	1,276,851	1,395,292
Canada	46,169	50,203	53,207	56,455	59,275	64,179	60,493	53,138	64,355	74,758	77,792	77,635	74,782	68,867	63,402	67,999	71,411
Mexico	35,704	32,151	35,870	38,802	46,359	48,514	50,865	37,917	49,965	55,780	63,307	66,664	67,714	67,597	63,793	68,584	71,864
United States	591,240	600,254	619,194	643,921	684,346	694,969	718,511	659,785	767,015	832,417	869,758	926,715	965,123	1,022,762	1,077,975	1,140,267	1,251,693
Central and South America	48,225	53,718	67,162	83,332	99,028	129,135	162,878	149,090	189,133	218,583	201,889	203,213	183,420	148,539	129,419	146,951	143,678
Argentina	4,327	5,559	7,108	8,881	10,874	13,889	18,075	17,191	20,196	22,569	22,354	22,064	15,636	15,356	14,101	16,275	13,653
Bolivia	112	111	115	118	126	137	182	208	217	237	258	284	301	323	357	379	418
Brazil	31,699	36,143	45,857	56,604	68,122	91,146	115,662	101,007	138,806	161,984	141,296	141,719	129,821	90,305	86,454	97,686	94,826
Chile	1,381	1,603	1,965	3,256	3,253	3,683	4,079	4,261	5,522	6,166	6,460	7,112	7,260	6,991	6,804	7,020	7,624
Colombia	3,271	3,255	3,932	4,783	5,444	6,863	7,627	7,272	8,699	9,439	10,267	10,458	10,391	8,496	8,237	8,737	9,203
Costa Rica	728	717	806	927	1,049	1,199	1,306	1,173	1,440	1,643	1,777	1,830	1,850	1,921	2,019	2,126	2,227
Ecuador	634	524	484	620	650	844	924	987	1,097	952	1,189	1,157	1,220	1,187	1,183	1,152	1,221
Honduras	478	489	482	572	687	752	827	746	877	1,051	1,180	1,177	1,192	1,187	1,251	1,325	1,403
Jamaica	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Panama	214	226	243	256	283	304	343	383	428	473	545	629	662	713	753	813	897
Peru	1,555	1,670	1,802	2,027	2,310	2,672	3,303	3,267	3,947	4,469	5,161	5,770	5,676	5,393	5,072	5,725	6,081
Uruguay	364	309	327	380	425	494	715	679	1,001	1,129	1,259	1,388	1,445	1,375	1,363	1,481	1,513
Venezuela	3,460	3,110	4,040	4,906	5,804	7,151	9,836	11,916	6,904	8,470	10,144	9,625	7,966	15,293	1,823	4,232	4,612
Europe	672,032	803,421	927,401	962,997	1,049,112	1,235,625	1,343,028	1,079,955	1,174,844	1,339,458	1,270,434	1,339,888	1,406,622	1,254,502	1,275,034	1,331,741	1,446,487
EU	622,536	747,214	857,667	880,226	953,028	1,114,808	1,188,910	971,180	1,048,486	1,183,183	1,115,613	1,181,035	1,259,398	1,138,553	1,157,932	1,199,642	1,309,099
Austria	13,618	16,762	19,168	20,458	22,658	28,331	31,875	27,669	27,035	31,446	30,263	32,075	33,166	28,535	29,503	30,279	33,793
Belgium	17,967	20,950	23,252	24,156	25,054	28,069	30,007	26,500	27,301	30,409	28,463	29,225	30,479	26,325	26,895	28,510	31,362
Bulgaria	434	574	783	935	1,042	1,421	1,458	1,273	1,367	1,796	1,595	1,739	1,966	1,897	2,132	2,534	2,863
Czechia	6,681	7,931	10,414	12,562	15,293	19,643	23,512	19,688	21,526	25,482	23,175	23,569	25,779	23,526	24,990	27,551	30,406
Denmark	9,444	10,361	11,981	11,582	13,495	16,033	18,566	16,804	16,515	17,595	16,631	18,412	18,000	16,835	17,747	17,610	19,211
Finland	7,662	9,232	11,091	11,933	13,020	16,342	18,630	15,099	15,419	17,928	16,676	17,368	18,485	16,672	16,917	17,953	19,903
France	76,710	90,776	102,820	102,651	106,726	122,778	132,868	116,817	114,525	123,272	115,942	122,145	126,523	110,338	115,021	121,279	130,523
Germany	222,842	269,801	305,098	308,950	337,760	397,008	418,340	336,834	388,253	452,351	426,501	454,058	489,394	426,845	437,020	450,581	487,743
Greece	1,794	2,495	3,123	3,183	3,648	3,934	4,416	3,589	3,538	3,308	3,180	3,447	3,492	3,090	3,196	3,256	3,702
Hungary	4,290	5,619	6,931	7,946	8,854	11,578	12,447	9,847	10,947	11,937	11,244	12,654	14,129	13,559	13,166	14,056	14,904
Ireland	5,497	6,310	7,213	8,220	8,412	11,331	12,716	10,667	9,508	12,108	14,602	14,168	15,186	24,313	22,701	22,705	27,779
Italy	75,430	90,693	103,061	104,278	111,354	129,795	137,646	115,872	119,676	128,094	116,376	122,346	129,135	110,905	113,443	115,929	125,110
Netherlands	24,884	30,688	36,547	37,699	42,203	50,535	54,848	43,279	45,852	51,855	46,408	48,448	50,090	45,934	48,232	51,744	57,925
Poland	7,440	9,444	11,588	13,642	15,714	18,905	24,269	20,365	21,908	25,983	25,724	27,087	29,936	28,309	27,977	30,240	33,286
Portugal	4,196	4,859	5,415	5,427	5,693	6,747	7,152	6,441	6,672	6,988	6,188	6,682	7,026	6,199	6,505	6,754	7,414

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(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
Romania	1,535	1,953	2,341	2,953	3,886	5,585	6,898	5,386	5,762	6,897	6,447	7,865	8,636	7,785	8,833	10,770	12,969
Slovakia	1,474	2,181	2,681	3,007	3,646	5,484	7,241	5,516	6,796	8,033	7,744	8,156	8,814	7,823	8,354	8,848	9,955
Spain	36,975	46,346	53,523	55,053	60,741	69,815	76,956	68,207	64,063	68,668	62,058	65,749	69,835	64,054	65,403	68,639	75,433
Sweden	21,221	25,989	29,922	30,582	32,805	38,829	40,026	27,856	37,069	43,846	40,124	41,514	40,671	41,774	42,480	44,206	48,243
United Kingdom	82,443	94,250	110,714	115,011	121,022	132,647	129,037	93,470	104,753	115,186	116,274	124,327	138,657	133,836	127,418	126,196	136,577
Other Europe	49,496	56,208	69,734	82,771	96,084	120,817	154,118	108,775	126,358	156,275	154,820	158,853	147,225	115,949	117,102	132,099	137,388
Norway	5,297	5,886	6,750	7,810	8,896	11,439	14,369	12,344	13,425	15,161	15,046	15,929	15,686	12,172	11,406	12,357	13,364
Russia	15,389	16,547	23,574	31,373	39,445	53,920	74,097	41,805	50,611	67,202	70,015	68,668	59,292	35,203	36,193	41,991	44,884
Switzerland	20,002	22,147	24,666	25,409	27,134	29,948	34,873	32,791	35,940	42,343	38,234	39,806	40,739	39,195	39,509	40,614	42,701
Turkey	7,441	9,807	12,307	15,040	16,703	20,195	23,931	17,045	19,741	22,748	22,043	25,729	24,395	24,722	24,667	30,059	26,883
Ukraine	1,368	1,820	2,436	3,139	3,906	5,315	6,848	4,790	6,641	8,821	9,481	8,721	7,114	4,657	5,327	7,079	9,557
Middle East	21,344	23,979	28,436	32,733	40,107	53,869	64,559	64,882	72,247	79,490	80,384	81,598	88,126	82,980	90,238	97,246	99,331
Bahrain	227	244	269	345	444	557	687	575	655	726	764	805	842	739	836	879	977
Iran	6,457	7,805	9,246	10,556	14,135	17,552	19,601	23,702	25,010	24,699	19,479	14,044	16,617	14,724	16,859	18,794	13,993
Israel	3,702	3,685	3,993	4,441	5,276	6,249	8,287	8,223	8,504	9,643	8,968	12,679	13,338	13,954	15,071	16,726	17,707
Jordan	536	495	583	595	720	888	1,135	1,148	1,022	940	976	1,093	1,091	1,179	1,286	1,222	1,482
Kuwait	794	901	1,171	1,358	1,179	1,574	2,038	1,961	2,291	2,646	3,355	3,194	2,784	1,690	2,199	2,457	3,012
Qatar	722	1,091	1,856	2,323	2,642	5,923	8,159	5,822	7,431	10,340	12,641	13,075	13,808	8,643	7,512	7,983	9,557
Saudi Arabia	6,210	6,718	7,716	8,776	10,108	14,364	16,740	17,168	20,581	22,626	25,737	27,819	30,079	32,532	33,551	35,445	38,189
United Arab Emirates	2,697	3,041	3,601	4,338	5,602	6,761	7,911	6,282	6,753	7,871	8,464	8,889	9,568	9,518	12,924	13,740	14,414
Africa	14,840	18,684	23,396	27,467	29,423	34,085	39,650	39,499	45,298	48,715	53,088	58,563	62,182	55,347	52,079	50,940	56,968
Cameroon	96	112	134	145	157	176	236	238	241	271	266	286	301	262	289	312	358
Egypt	1,710	1,400	1,779	2,102	2,340	2,893	3,647	4,038	4,544	5,358	5,973	5,630	5,363	5,139	5,376	5,462	6,862
Kenya	214	259	298	311	448	547	631	601	516	572	736	749	803	897	944	921	1,017
Morocco	2,391	2,708	2,984	3,498	3,604	4,388	5,058	4,869	5,506	5,417	5,159	6,044	6,632	5,443	5,870	6,528	7,244
Nigeria	3,380	3,931	5,350	7,388	10,249	12,823	16,974	17,431	19,744	22,523	25,749	31,636	35,405	30,915	27,248	24,715	27,776
Senegal	142	172	190	191	182	194	237	227	231	286	252	244	249	232	237	274	312
South Africa	6,355	9,441	11,899	13,000	11,472	11,743	11,208	10,543	12,717	12,486	13,092	12,128	11,593	10,840	10,311	10,756	11,510
Tunisia	552	662	761	832	972	1,321	1,659	1,551	1,801	1,803	1,861	1,845	1,838	1,618	1,804	1,971	1,889
Zimbabwe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asia	669,029	750,724	842,732	914,378	975,084	1,122,335	1,288,839	1,281,534	1,568,076	1,792,589	1,928,312	1,946,876	2,049,708	2,064,901	2,172,440	2,341,269	2,593,296
Bangladesh	906	897	914	919	994	1,099	1,216	1,594	1,672	1,642	1,661	1,957	2,348	2,669	3,162	3,716	4,124
China	139,172	165,452	186,878	222,003	272,974	364,454	484,493	531,146	666,898	819,709	907,243	1,017,220	1,110,559	1,144,562	1,180,309	1,322,095	1,515,010
India	20,600	24,610	31,292	37,566	43,097	54,889	60,069	66,357	82,304	99,067	96,846	96,479	106,744	116,324	118,978	134,817	148,221
Indonesia	10,994	13,813	15,455	14,955	16,008	19,937	25,616	25,346	32,817	39,923	43,406	47,826	46,996	44,090	45,749	48,791	49,465
Japan	399,673	437,393	479,565	492,585	478,950	498,940	542,970	493,937	576,801	600,833	642,854	529,273	517,019	487,559	551,769	531,050	557,675

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(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
Malaysia	6,392	7,038	8,534	8,335	10,444	10,566	12,122	10,214	13,171	14,350	15,616	15,755	15,880	17,319	16,089	17,519	20,124
Pakistan	1,639	2,172	3,113	3,845	4,200	4,515	4,974	4,030	4,826	6,007	6,235	6,035	6,501	6,815	6,747	7,458	7,076
Philippines	2,270	2,304	2,520	2,601	2,791	3,332	3,965	4,055	4,702	4,992	5,282	5,369	6,795	7,360	8,216	8,468	8,051
Singapore	4,498	4,889	6,093	6,429	7,011	8,854	7,924	8,743	11,347	14,031	12,875	15,403	16,909	16,069	18,944	19,761	21,923
South Korea	53,257	59,453	70,105	82,574	93,587	105,353	94,001	87,298	114,321	130,897	133,023	143,079	152,741	152,093	149,475	167,752	175,925
Sri Lanka	343	405	480	631	1,833	744	615	634	895	965	801	845	736	718	686	765	795
Taiwan	20,188	21,271	24,473	26,484	24,274	26,807	24,393	24,200	32,245	33,454	32,208	33,077	34,669	36,869	37,967	42,535	44,588
Thailand	8,226	10,000	12,029	13,753	16,582	19,707	22,616	18,940	20,829	21,179	24,412	27,985	23,285	24,202	25,036	25,969	28,823
Vietnam	870	1,028	1,282	1,698	2,338	3,138	3,865	5,040	5,250	5,540	5,849	6,573	8,525	8,253	9,312	10,572	11,497
Oceania	17,407	22,078	26,763	28,624	29,733	37,133	39,427	39,453	48,638	56,381	56,361	52,891	52,071	42,616	41,461	44,407	43,883
Australia	15,215	19,320	23,488	25,020	26,513	33,191	35,861	36,122	44,726	52,038	51,691	47,887	46,781	37,867	36,749	39,093	38,329
New Zealand	2,193	2,759	3,275	3,604	3,220	3,943	3,566	3,332	3,912	4,343	4,670	5,004	5,290	4,750	4,712	5,314	5,553

EU = European Union.

Note(s):

Value added is the amount contributed by a country, firm, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. Medium-high R&D intensive industries include weapons and ammunition; motor vehicles; medical and dental instruments; machinery and equipment; chemicals and chemical products; electrical equipment; railroad, military vehicles, and transport; and IT and other information services classified by the Organisation for Economic Co-operation and Development. Data on medical and dental instruments and military vehicles are not available. Detail may not add to total because of rounding or minor discrepancies. World total does not include all countries and economies due to limitations in data availability. See Table S6-1 for a full list of countries and economies in each region.

Source(s):

IHS Markit, special tabulations (2019) of Comparative Industry Service.

Science and Engineering Indicators