

Table SINV-5

International patent families granted, by region, country, or economy: 1998–2020

(Number)

Region, country, or economy	Economy by income status	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
World	na	317,247	360,357	312,599	314,699	321,099	352,993	374,215	359,715	428,149	445,346	435,701	452,963	505,723	579,170	663,940	698,375	722,747	724,539	811,636	831,796	830,975	869,399	938,038
North America	na	65,118	67,277	66,399	66,600	65,473	70,187	68,340	55,272	65,500	59,449	58,982	62,869	77,905	76,062	85,681	90,987	98,078	96,366	96,409	96,329	91,195	104,239	100,615
Canada	High	2,770	3,005	3,013	3,192	3,053	3,289	3,362	2,792	3,266	3,151	3,398	3,559	4,189	4,197	4,709	5,188	5,684	5,347	5,276	5,135	4,803	5,361	4,962
Mexico	Upper middle	65	72	65	79	97	93	100	95	65	64	72	82	93	103	137	154	186	211	606	634	724	694	306
United States	High	62,283	64,199	63,321	63,329	62,323	66,806	64,878	52,386	62,169	56,234	55,513	59,228	73,622	71,762	80,835	85,645	92,206	90,807	90,527	90,560	85,666	98,184	95,347
Central America and Caribbean	na	48	49	35	39	26	45	41	39	48	37	55	63	42	38	58	62	58	53	56	45	49	60	72
Puerto Rico	High	15	4	0	0	0	0	0	0	1	0	1	1	1	0	1	0	2	1	2	1	2	7	2
South America	na	214	248	327	324	360	422	472	312	390	311	430	687	664	833	786	872	872	924	1,026	1,133	1,490	1,607	2,227
Argentina	Upper middle	59	53	57	48	61	70	61	33	49	60	58	65	71	70	64	79	75	78	88	82	77	111	84
Brazil	Upper middle	105	133	227	224	246	295	347	224	294	201	305	555	538	678	617	669	685	710	813	910	1,272	1,365	2,011
Europe	na	79,953	77,901	75,088	75,526	79,534	91,149	100,883	85,856	89,373	90,214	95,510	97,367	95,985	95,039	104,088	104,139	108,265	103,691	103,680	111,601	109,987	113,331	103,516
EU-27 + UK ^a	na	57,626	59,499	57,705	57,351	60,021	63,679	70,865	61,459	64,886	65,702	66,688	64,526	67,842	68,693	75,715	76,521	78,269	74,442	77,242	83,962	82,932	86,508	79,560
United Kingdom	High	5,704	5,363	5,147	5,376	6,115	7,073	7,144	6,405	5,967	4,877	5,216	5,113	5,814	6,313	7,070	6,779	7,216	7,271	7,478	7,341	7,163	7,888	8,224
EU-27 ^b	na	51,922	54,136	52,558	51,975	53,906	56,605	63,721	55,054	58,919	60,826	61,471	59,413	62,028	62,380	68,645	69,742	71,053	67,171	69,764	76,621	75,769	78,620	71,336
Austria	High	1,217	1,243	1,211	1,326	1,414	1,599	1,277	1,297	2,013	1,553	1,682	1,560	1,722	1,869	2,088	1,959	1,922	2,274	2,311	2,439	2,467	2,454	2,413
Belgium	High	804	693	681	710	750	804	839	705	854	812	830	922	958	996	1,106	1,159	1,166	1,617	2,417	1,939	1,823	1,852	1,868
Denmark	High	449	474	442	548	548	644	620	561	593	585	702	707	809	820	946	1,081	1,095	1,163	1,184	1,154	1,086	1,235	1,148
Finland	High	1,185	1,134	1,198	1,254	1,349	1,666	1,677	1,527	1,345	1,339	1,455	1,467	1,558	1,353	1,475	1,546	1,703	1,933	1,870	1,822	1,564	1,661	1,654
France	High	10,226	10,106	9,536	9,809	9,163	10,773	10,621	9,185	11,943	10,919	10,718	11,080	11,056	11,166	13,858	12,825	13,302	13,528	13,580	13,298	13,471	14,725	14,445
Germany	High	19,599	19,392	18,821	20,460	22,778	24,407	24,299	23,756	25,978	23,731	23,414	21,532	23,192	22,512	25,193	26,504	27,303	27,265	29,523	28,883	29,050	31,713	29,942
Hungary	High	190	188	179	207	230	263	192	172	205	191	186	157	255	256	231	245	248	291	271	279	249	322	260
Ireland	High	379	246	178	154	208	278	241	217	235	207	220	241	293	326	425	542	523	545	547	512	597	707	770
Italy	High	6,774	9,660	10,195	7,211	7,318	5,826	13,059	6,984	5,738	10,568	10,833	9,920	9,887	10,313	9,728	9,717	9,104	5,191	2,118	10,538	10,387	8,827	4,932
Netherlands	High	3,162	2,997	2,928	2,962	2,936	2,978	3,043	2,766	2,909	2,952	3,112	2,999	3,056	3,315	3,243	3,536	3,282	2,974	3,612	3,875	3,522	3,694	3,460
Spain	High	1,636	1,786	1,679	1,734	1,197	1,796	1,893	2,422	2,109	2,484	2,261	2,537	2,784	2,953	3,001	3,196	3,449	2,820	2,841	2,613	2,533	2,123	1,539
Sweden	High	2,542	2,750	2,388	2,524	2,781	2,791	3,150	2,248	1,975	1,912	2,096	2,116	2,490	2,379	2,715	2,581	2,640	2,734	3,029	3,201	3,111	3,240	3,520
Other Europe	na	22,327	18,402	17,383	18,175	19,513	27,470	30,018	24,397	24,487	24,512	28,822	32,841	28,143	26,346	28,373	27,618	29,996	29,248	26,439	27,639	27,055	26,823	23,956
Other Europe-2020 ^b	na	28,032	23,765	22,531	23,551	25,628	34,544	37,162	30,802	30,454	29,388	34,038	37,954	33,956	32,658	35,443	34,397	37,212	36,519	33,916	34,980	34,218	34,711	32,180

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Belarus	Upper middle	111	73	55	62	65	109	155	136	193	172	186	205	208	165	183	151	118	113	171	259	182	193	157
Moldova	Lower middle	188	203	193	195	196	234	241	265	282	258	244	388	347	200	166	202	186	183	164	172	107	146	122
Norway	High	544	520	471	587	622	653	492	634	664	549	568	550	680	689	667	742	793	799	835	873	859	831	846
Russia	Upper middle	18,982	15,383	14,453	12,797	15,220	20,713	19,155	19,574	19,656	18,896	22,676	26,579	21,976	20,701	22,865	21,559	23,559	22,986	20,190	21,497	21,023	20,542	17,946
Switzerland	High	1,784	1,726	1,744	1,880	1,996	2,095	1,981	1,779	2,236	2,012	2,373	2,362	2,434	2,236	2,456	2,658	2,978	2,876	3,014	3,000	3,000	3,248	3,161
Ukraine	Lower middle	628	396	354	2,537	1,275	3,534	7,874	1,896	1,342	2,445	2,521	2,509	2,210	2,069	1,690	1,936	1,980	1,843	1,520	1,281	1,320	1,200	1,053
Asia	na	165,737	205,588	161,982	163,663	166,020	178,606	190,489	208,199	263,640	288,302	273,683	285,552	324,590	401,245	466,582	495,388	508,502	516,352	603,242	615,754	621,685	642,365	723,968
China	Upper middle	2,039	2,635	6,200	6,866	6,045	11,714	18,478	20,542	26,637	31,969	46,567	67,334	80,556	114,208	153,606	162,995	175,459	255,708	316,527	337,197	357,573	375,301	456,088
India	Lower middle	96	119	150	197	264	414	490	457	577	702	790	823	1,186	1,307	1,772	2,318	2,765	3,079	3,362	3,610	3,705	4,601	5,102
Japan	High	137,189	146,500	121,938	120,079	118,316	123,752	123,351	120,722	133,351	150,436	152,520	162,039	176,306	196,738	207,049	210,198	205,870	151,734	171,485	157,623	149,624	145,080	141,286
Malaysia	Upper middle	33	34	49	48	67	93	134	172	275	416	350	393	365	503	498	526	634	599	647	672	612	248	251
Singapore	High	186	201	281	417	435	508	478	365	413	401	420	471	563	582	703	666	786	804	804	838	811	863	804
South Korea	High	21,555	50,697	25,992	25,762	31,657	31,959	36,126	53,737	87,615	90,595	63,009	43,502	52,661	73,381	85,170	96,063	98,986	80,610	86,193	93,695	91,041	97,715	104,490
Taiwan	High	4,503	5,284	7,281	10,189	9,088	9,998	11,289	12,049	14,608	13,605	9,874	10,793	12,766	14,322	17,546	22,349	23,660	23,427	23,780	21,603	17,848	18,095	15,565
Middle East	na	734	798	1,020	1,100	1,165	1,467	1,299	1,087	1,237	1,131	1,281	1,312	1,573	1,716	2,330	2,623	2,867	3,107	3,189	3,419	3,339	3,896	3,917
Israel	High	659	707	704	857	935	1,260	1,144	822	949	869	1,011	1,183	1,363	1,416	1,906	2,125	2,349	2,483	2,510	2,664	2,566	2,926	2,906
Africa	na	1,293	1,371	1,085	1,165	1,131	1,290	1,215	1,104	1,077	1,041	1,460	1,318	1,146	815	953	793	814	591	659	687	508	975	558
South Africa	Upper middle	1,144	1,176	851	937	798	951	966	949	798	765	1,232	1,065	941	579	691	505	479	461	475	526	315	772	374
Australia and Oceania	na	3,373	3,870	4,261	5,904	7,125	9,693	10,587	5,887	5,574	4,692	4,094	3,656	3,685	3,289	3,231	3,206	3,139	3,304	3,066	2,751	2,636	2,849	3,070
Australia	High	3,117	3,597	4,024	5,645	6,785	9,328	10,189	5,499	5,140	4,266	3,585	3,123	3,100	2,698	2,614	2,550	2,485	2,687	2,492	2,266	2,263	2,472	2,776
New Zealand	High	254	264	236	259	340	363	397	388	434	425	507	534	582	589	616	652	651	615	571	480	366	371	289
Unclassified	na	776	3,254	2,402	377	265	134	889	1,959	1,311	169	206	139	132	133	231	306	153	150	308	77	86	77	95

na = not applicable, metric not calculated at this level.

EU = European Union; UK = United Kingdom.

^a The United Kingdom was a part of the EU for data purposes from 1973 to 2019.

^b Beginning in 2020, the United Kingdom was no longer a member of the EU.

Note(s):

International Patent Documentation (INPADOC) patent families across all patent offices covered in the Worldwide Patent Statistical Database (PATSTAT) are counted according to the year of the first granted patent in the patent family. Patent families are allocated according to patent inventorship information found on the priority patent of the INPADOC patent families. To account for missing ownership information in PATSTAT for some offices, a method designed by de Rassenfosse et al. (2013) is used to fill missing information on priority patents using information in successive filings within the families. Priority patents not indexed in PATSTAT are replaced by the next utility patent(s) in the families according to filing dates. Patent families are fractionally allocated among regions, countries, or economies based on the proportion of residences of all named inventors. Patents are classified under the World Intellectual Property Organization (WIPO) classification of patents, which classifies International Patent Classification (IPC) codes under 35 technical fields. IPC reformed codes take into account changes that were made to the WIPO classification in 2006 under the eighth version of the classification and were used to prepare these data. China includes Hong Kong. Data were extracted in June 2021. Because of data coverage issues for some patent offices in PATSTAT, statistics for some countries may be underestimated partially for some years or across the whole trend. Countries with identified issues include India (missing data) and South Africa (no data for 2018). For Italy, because of data gaps regarding information on granted patents, patent applications are used instead, which slightly overestimates Italy's output and creates a small shift in year for which its output is accounted. As patent authorities become more involved with the European Patent Organisation, these gaps should disappear in the future, strengthening the robustness of statistics for these countries.

Source(s):

National Center for Science and Engineering Statistics; Science-Metrix; PATSTAT, accessed October 2021.

Science and Engineering Indicators