

Table SINV-10

International patent families granted in basic communication processes, 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	4,716	5,389	4,810	5,138	5,102	5,306	5,151	4,734	5,541	5,547	5,027	5,390	6,179	6,243	6,374	6,661	6,448	5,952	6,498	6,503	5,898	5,986	5,995
North America	na	1,183	1,239	1,356	1,515	1,546	1,659	1,598	1,276	1,662	1,618	1,406	1,396	1,634	1,364	1,361	1,522	1,521	1,386	1,403	1,254	1,000	1,256	1,220
Canada	High	31	40	53	60	50	59	60	49	51	60	60	50	76	62	72	92	92	91	69	68	50	71	63
Mexico	Upper middle	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4	0	2	4	6	4	1	2
United States	High	1,152	1,198	1,303	1,455	1,496	1,600	1,538	1,227	1,611	1,557	1,346	1,346	1,558	1,301	1,288	1,426	1,429	1,292	1,330	1,180	947	1,184	1,155
Central America and Caribbean	na	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0
Puerto Rico	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South America	na	1	1	1	1	1	0	0	0	4	1	1	3	5	3	4	2	7	4	4	4	8	7	6
Argentina	Upper middle	0	0	0	0	0	0	0	0	3	1	0	2	0	1	1	1	1	1	0	0	2	1	0
Brazil	Upper middle	0	0	1	1	1	0	0	0	1	0	1	1	5	2	3	1	6	3	3	4	6	6	5
Europe	na	736	643	666	732	763	942	910	874	990	842	910	833	920	890	923	999	1,042	958	949	874	887	972	985
EU-27 + UK ^a	na	561	551	569	626	655	759	720	678	786	636	634	595	646	628	643	711	749	682	711	638	671	695	725
United Kingdom	High	69	65	74	86	97	120	99	110	108	75	64	62	73	75	65	99	109	94	106	75	83	77	89
EU-27 ^b	na	492	486	496	539	558	639	621	568	678	561	570	533	572	553	578	612	641	588	605	563	588	619	636
Austria	High	5	10	4	11	28	26	32	41	50	33	36	33	52	40	32	25	47	42	41	51	37	47	48
Belgium	High	1	2	6	9	8	5	6	10	10	9	8	9	13	8	10	8	10	16	15	13	17	17	25
Denmark	High	2	4	4	4	10	7	9	8	17	10	9	14	5	10	13	10	11	4	8	8	15	13	13
Finland	High	26	17	25	41	32	33	35	30	29	26	15	17	23	14	13	21	22	17	26	13	17	11	14
France	High	94	89	96	104	86	117	115	105	116	96	99	93	101	111	129	151	100	111	92	86	118	106	110
Germany	High	183	184	193	215	235	277	270	262	312	257	262	227	230	204	219	221	249	256	237	199	236	258	263
Hungary	High	0	0	0	0	0	2	1	1	0	2	0	0	1	0	1	1	2	1	1	1	1	4	1
Ireland	High	10	5	3	5	5	16	11	11	12	12	14	7	11	14	11	11	25	17	20	17	16	24	28
Italy	High	72	83	75	40	40	33	40	24	30	27	32	29	32	30	23	22	30	23	36	67	39	33	24
Netherlands	High	30	30	36	41	51	46	45	31	43	38	36	35	37	45	38	58	42	38	48	33	28	37	51
Spain	High	10	5	3	5	3	7	7	6	8	11	10	12	17	10	14	13	13	8	8	10	10	11	8
Sweden	High	35	35	35	48	43	56	37	22	27	16	28	34	33	46	49	40	33	31	37	29	24	28	30
Other Europe	na	175	92	96	106	108	183	190	196	204	206	276	238	274	262	280	288	292	277	237	236	216	277	259
Other Europe-2020 ^b	na	244	157	170	192	205	303	289	306	312	280	340	300	347	337	345	388	401	370	343	311	299	353	348
Belarus	Upper middle	0	0	0	0	0	2	0	0	5	1	0	0	0	3	1	0	7	1	4	5	2	2	3
Moldova	Lower middle	0	0	0	0	0	1	0	0	1	3	1	2	3	2	1	2	2	1	0	0	0	0	1
Norway	High	1	3	2	4	5	5	2	3	7	9	2	2	6	2	7	10	4	7	9	5	6	5	4
Russia	Upper middle	157	75	79	90	93	149	134	158	158	162	230	186	212	205	231	219	208	226	182	186	169	231	227
Switzerland	High	11	11	13	10	9	19	16	18	32	14	27	30	21	27	20	30	36	29	29	21	19	28	20

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Ukraine	Lower middle	5	3	2	1	3	8	38	16	1	15	14	17	30	18	19	25	31	9	5	10	18	1	1
Asia	na	2,736	3,440	2,692	2,815	2,702	2,566	2,513	2,470	2,800	3,009	2,644	3,094	3,562	3,937	4,028	4,064	3,802	3,531	4,076	4,307	3,945	3,683	3,720
China	Upper middle	9	7	28	22	35	85	137	123	130	198	264	679	733	891	1,110	1,083	1,064	1,278	1,735	2,282	2,083	1,675	1,867
India	Lower middle	1	3	3	8	9	19	17	34	42	41	41	51	69	48	56	92	91	86	128	90	68	107	135
Japan	High	2,119	2,231	2,046	2,147	2,081	1,907	1,726	1,376	1,658	1,805	1,610	1,713	1,891	2,042	1,932	1,918	1,692	1,318	1,217	1,113	1,065	1,101	989
Malaysia	Upper middle	0	1	4	2	4	1	3	5	8	11	8	8	13	9	9	12	19	15	11	21	17	12	7
Singapore	High	13	6	19	10	11	8	16	9	15	27	17	26	27	16	18	13	22	23	16	24	15	21	20
South Korea	High	514	1,124	511	469	426	380	383	617	736	679	485	322	385	525	526	490	489	420	546	509	431	468	434
Taiwan	High	79	67	80	157	136	167	229	306	211	246	218	296	443	402	376	453	423	387	421	264	262	295	267
Middle East	na	25	23	25	23	22	37	30	34	29	33	32	42	42	39	47	63	59	56	55	54	44	53	52
Israel	High	25	23	24	23	21	36	29	33	29	33	32	40	42	34	41	53	52	49	46	47	41	47	43
Africa	na	4	2	3	2	4	2	4	4	2	3	4	1	3	2	2	3	6	5	1	4	5	3	4
South Africa	Upper middle	3	1	2	2	1	1	2	3	2	2	3	1	3	0	2	2	3	1	0	0	1	3	1
Australia and Oceania	na	14	15	19	32	59	98	93	55	45	42	30	20	12	8	7	6	10	11	8	6	8	12	8
Australia	High	11	15	18	31	57	96	89	52	44	38	29	18	8	5	5	5	8	9	8	5	8	11	8
New Zealand	High	2	1	1	1	2	1	3	2	1	4	0	2	4	3	2	1	1	2	0	1	1	1	1
Unclassified	na	14	26	49	19	4	1	2	21	9	0	0	1	0	1	1	1	1	1	2	0	0	0	0

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.