

Table SINV-7

International patent families granted in audio-visual technology, 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	17,618	21,026	16,067	14,633	15,120	16,734	17,880	18,417	24,114	24,619	21,331	22,189	24,314	26,602	28,388	27,216	26,091	23,113	24,670	25,264	25,437	27,442	29,028
North America	na	2,727	2,704	2,827	2,783	2,772	3,198	3,224	2,579	3,058	2,581	2,370	2,521	2,893	2,917	3,729	3,781	4,434	4,207	3,973	3,696	3,288	3,420	3,248
Canada	High	94	85	88	74	82	93	107	75	117	114	120	115	141	137	168	196	220	214	223	168	144	140	116
Mexico	Upper middle	0	1	1	0	2	2	1	3	3	2	2	1	2	2	6	3	4	4	11	8	14	7	8
United States	High	2,633	2,619	2,738	2,708	2,688	3,103	3,116	2,500	2,938	2,466	2,248	2,405	2,750	2,777	3,556	3,581	4,211	3,989	3,738	3,521	3,130	3,273	3,123
Central America and Caribbean	na	0	0	0	1	0	0	0	1	0	1	1	0	0	0	0	0	0	1	1	2	0	0	1
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	2	5	6	9	8	4	9	6	7	10	5	5	4	8	7	9	12	10	12	9	15	13	16
Argentina	Upper middle	0	2	0	1	0	1	0	0	1	1	1	0	0	0	0	1	0	2	1	1	0	3	0
Brazil	Upper middle	1	2	5	6	7	3	7	4	5	9	3	4	4	7	6	6	10	7	10	9	13	8	15
Europe	na	1,390	1,437	1,372	1,343	1,518	1,832	1,810	1,704	1,672	1,511	1,570	1,534	1,550	1,573	1,740	1,595	1,621	1,663	1,754	1,838	1,815	1,801	1,657
EU-27 + UK ^a	na	1,195	1,272	1,210	1,218	1,363	1,596	1,578	1,482	1,438	1,290	1,305	1,275	1,328	1,326	1,522	1,393	1,387	1,408	1,519	1,603	1,572	1,554	1,440
United Kingdom	High	165	168	179	177	188	272	264	211	193	187	147	144	170	182	177	173	185	193	176	151	154	175	165
EU-27 ^b	na	1,030	1,103	1,031	1,041	1,175	1,324	1,315	1,271	1,246	1,103	1,159	1,131	1,158	1,144	1,345	1,220	1,202	1,216	1,343	1,451	1,418	1,379	1,275
Austria	High	14	17	15	19	14	30	24	18	33	19	25	26	26	41	40	39	35	40	39	49	48	48	50
Belgium	High	15	16	13	15	20	18	14	19	17	16	20	19	15	21	22	22	33	40	45	45	42	34	36
Denmark	High	11	8	4	10	13	14	28	28	23	21	29	29	43	37	63	58	60	56	89	78	84	75	63
Finland	High	16	21	22	28	30	47	49	57	39	39	52	57	48	42	54	44	61	71	93	79	84	77	62
France	High	246	242	223	205	258	335	277	276	302	273	266	279	269	251	326	281	272	276	279	275	290	267	260
Germany	High	404	445	424	431	526	525	491	531	527	476	454	445	462	443	529	479	454	421	489	521	533	569	535
Hungary	High	7	10	6	7	6	4	2	2	6	1	2	3	5	4	4	3	4	5	1	3	3	2	2
Ireland	High	12	10	6	4	9	8	7	5	8	5	4	6	5	7	7	10	16	12	15	15	14	17	16
Italy	High	66	85	91	50	45	40	89	45	20	18	16	19	32	37	32	21	16	21	20	96	82	56	37
Netherlands	High	131	127	123	155	157	168	188	146	148	144	177	146	123	121	105	101	86	88	90	84	67	77	64
Spain	High	30	49	28	36	14	39	43	42	34	35	31	33	34	37	40	44	30	34	24	34	27	24	13
Sweden	High	46	50	47	45	55	57	68	49	46	28	38	34	57	62	83	79	85	104	103	111	92	82	85
Other Europe	na	195	165	162	125	155	236	231	222	234	221	264	258	222	247	218	202	234	255	235	236	243	246	218
Other Europe-2020 ^b	na	361	334	341	302	343	509	495	433	426	408	411	402	392	429	395	375	418	448	411	387	397	422	383

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Belarus	Upper middle	2	4	1	0	0	1	0	1	2	2	3	0	1	1	1	3	1	1	2	3	1	1	1
Moldova	Lower middle	1	1	3	3	1	1	3	2	5	2	1	2	5	0	1	1	2	1	1	1	1	0	0
Norway	High	16	17	14	17	10	17	7	22	18	10	14	12	11	14	20	11	18	27	22	15	20	14	13
Russia	Upper middle	143	112	107	65	89	143	126	139	126	153	165	166	120	119	105	110	116	123	117	112	140	131	98
Switzerland	High	25	27	32	35	46	55	49	45	52	45	60	59	67	84	69	60	75	75	68	77	66	80	77
Ukraine	Lower middle	9	3	4	5	7	17	45	14	29	8	16	14	7	14	10	5	12	10	10	10	8	4	6
Asia	na	13,381	16,734	11,703	10,305	10,553	11,290	12,397	13,838	19,124	20,280	17,187	17,965	19,717	21,967	22,755	21,655	19,865	17,066	18,767	19,555	20,155	22,056	23,955
China	Upper middle	33	43	99	96	84	229	443	565	763	978	1,860	2,845	3,274	3,805	4,422	4,036	3,743	4,897	5,847	7,486	9,312	11,141	12,985
India	Lower middle	0	1	2	2	2	4	9	6	14	12	17	16	31	37	53	73	98	96	96	98	103	127	121
Japan	High	10,172	9,786	8,192	7,906	8,006	8,460	8,858	8,350	9,494	10,558	10,387	11,836	12,281	12,763	12,647	11,250	9,761	6,709	7,177	6,664	6,171	6,045	5,724
Malaysia	Upper middle	4	4	5	3	3	5	4	12	19	23	20	18	16	12	18	21	26	19	24	17	19	20	14
Singapore	High	16	19	31	35	38	73	89	46	49	36	48	51	62	45	60	53	67	67	54	44	40	40	40
South Korea	High	2,974	6,681	3,099	1,867	1,891	1,830	2,179	3,811	7,413	7,427	3,919	2,241	2,686	3,730	3,662	3,904	4,141	3,552	3,815	3,870	3,478	3,641	3,918
Taiwan	High	180	200	274	394	520	688	814	1,044	1,369	1,241	932	952	1,362	1,563	1,881	2,307	2,014	1,703	1,731	1,361	1,017	1,026	1,141
Middle East	na	29	23	26	37	35	41	45	28	31	33	33	38	39	50	77	103	87	95	91	94	82	75	75
Israel	High	28	22	24	32	32	39	45	28	30	29	33	36	37	46	73	96	81	91	81	86	76	69	69
Africa	na	19	18	18	26	27	27	30	36	12	18	25	20	22	12	19	10	9	4	3	6	5	3	1
South Africa	Upper middle	15	11	9	18	11	17	23	32	10	18	23	20	19	7	10	6	3	2	1	3	3	2	0
Australia and Oceania	na	62	80	104	127	207	340	357	200	205	184	140	106	88	75	59	62	62	66	66	63	76	72	74
Australia	High	59	76	98	122	197	336	351	195	200	177	135	100	83	70	53	53	55	59	60	56	71	66	68
New Zealand	High	2	3	6	5	10	4	6	5	5	7	4	5	5	5	5	9	6	7	6	7	5	6	6
Unclassified	na	9	25	11	3	1	2	7	26	6	1	2	0	0	1	1	1	2	2	4	0	1	1	1

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