

Table SINV-37

## International patent families granted in transport, 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	16,017	19,051	15,971	15,511	16,595	18,168	18,857	20,162	20,590	20,868	22,085	21,108	22,525	23,003	26,573	30,405	30,564	31,145	37,323	39,214	39,052	40,879	43,383
North America	na	3,250	3,048	3,430	3,422	3,246	3,159	3,029	2,704	2,681	2,477	2,293	2,207	2,710	2,517	2,685	2,935	3,264	3,804	4,032	4,458	4,660	5,301	5,147
Canada	High	160	160	186	194	178	198	197	181	172	169	165	161	160	176	180	191	201	219	219	231	242	274	252
Mexico	Upper middle	4	1	3	10	5	3	3	3	4	2	5	2	4	3	2	9	10	18	26	57	87	85	64
United States	High	3,086	2,885	3,241	3,216	3,063	2,958	2,828	2,520	2,504	2,305	2,122	2,044	2,546	2,338	2,502	2,735	3,052	3,567	3,787	4,170	4,331	4,943	4,831
Central America and Caribbean	na	1	2	0	2	0	3	2	1	3	1	2	2	2	0	2	3	0	0	2	0	1	4	1
Puerto Rico	High	1	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	15	10	18	23	16	27	24	11	17	14	18	27	30	48	48	43	43	42	53	43	78	90	102
Argentina	Upper middle	3	1	2	5	2	6	0	1	2	3	2	0	2	3	1	4	2	1	5	2	4	7	1
Brazil	Upper middle	10	5	14	14	13	18	20	8	14	10	15	26	28	44	44	36	34	40	47	39	70	82	99
Europe	na	5,218	5,011	5,332	5,013	5,352	5,677	6,322	6,030	6,565	6,168	6,460	6,657	6,699	5,937	6,690	6,967	7,103	7,325	7,765	8,726	9,094	9,867	9,616
EU-27 + UK <sup>a</sup>	na	4,324	4,225	4,655	4,379	4,620	4,727	5,198	5,012	5,486	5,212	5,380	5,461	5,566	5,084	5,668	5,856	5,921	5,996	6,754	7,556	7,634	8,497	8,219
United Kingdom	High	279	268	291	341	387	330	374	300	296	186	206	186	178	218	208	243	223	281	274	318	382	448	474
EU-27 <sup>b</sup>	na	4,044	3,957	4,364	4,038	4,233	4,398	4,824	4,712	5,190	5,026	5,173	5,276	5,387	4,865	5,461	5,613	5,698	5,716	6,480	7,238	7,252	8,049	7,744
Austria	High	91	88	83	70	94	102	70	88	96	64	79	91	96	85	107	123	120	138	143	141	200	187	201
Belgium	High	33	31	26	32	35	40	26	47	54	48	40	43	46	53	46	55	43	79	136	100	81	77	93
Denmark	High	19	8	16	17	25	20	15	16	11	19	18	21	16	21	18	31	24	34	32	34	26	40	35
Finland	High	40	29	25	29	55	50	49	47	23	22	31	24	33	32	34	49	45	70	49	59	45	45	73
France	High	1,034	998	1,030	964	928	1,073	963	864	1,435	1,408	1,516	2,000	1,769	1,435	1,735	1,628	1,667	1,644	1,794	1,889	1,921	2,027	1,958
Germany	High	1,777	1,641	1,930	2,057	2,204	2,309	2,381	2,602	2,853	2,682	2,630	2,295	2,475	2,217	2,492	2,776	2,857	2,887	3,279	3,369	3,377	4,189	4,078
Hungary	High	6	2	6	9	8	8	9	11	14	9	14	8	13	14	9	15	19	17	14	26	40	35	29
Ireland	High	7	3	6	7	4	8	5	5	2	1	5	6	3	6	9	9	10	7	16	8	9	14	19
Italy	High	406	544	617	260	256	181	565	307	79	94	112	131	192	247	179	112	90	74	109	634	555	459	339
Netherlands	High	170	172	206	182	179	152	193	184	160	160	171	158	178	186	177	185	161	143	164	187	187	162	158
Spain	High	108	105	94	112	68	108	122	153	138	194	162	131	154	181	188	219	260	187	214	184	200	174	111
Sweden	High	186	184	166	137	195	190	273	206	162	138	191	157	217	181	229	209	184	224	234	309	299	306	335
Other Europe	na	894	786	677	634	732	950	1,124	1,017	1,079	956	1,081	1,195	1,134	854	1,021	1,111	1,182	1,329	1,011	1,171	1,461	1,370	1,397
Other Europe-2020 <sup>b</sup>	na	1,174	1,054	968	976	1,119	1,280	1,497	1,318	1,375	1,142	1,287	1,381	1,312	1,072	1,229	1,354	1,405	1,609	1,285	1,489	1,842	1,818	1,871

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Belarus	Upper middle	3	6	3	2	5	4	11	7	6	12	13	9	12	10	11	13	7	5	10	11	13	14	7
Moldova	Lower middle	1	1	7	8	0	7	2	3	3	2	3	0	5	0	3	0	4	5	3	1	0	1	2
Norway	High	61	47	40	58	54	51	34	45	42	32	32	38	32	44	58	42	50	72	53	49	53	65	59
Russia	Upper middle	763	665	556	492	570	743	786	808	917	762	847	969	905	636	818	886	948	1,085	774	967	1,211	1,098	1,176
Switzerland	High	42	47	52	52	60	55	51	57	64	54	66	65	73	67	63	71	77	57	69	75	80	98	93
Ukraine	Lower middle	22	13	17	15	35	80	237	89	40	87	108	93	90	80	54	77	78	80	74	50	54	38	18
Asia	na	7,266	10,651	6,853	6,758	7,681	8,939	8,748	10,777	10,936	11,970	13,091	11,997	12,866	14,307	16,925	20,219	19,901	19,720	25,226	25,748	24,998	25,346	28,296
China	Upper middle	19	38	66	72	100	152	178	196	279	494	830	1,055	1,398	1,906	2,753	3,183	2,933	6,416	9,684	10,640	10,899	11,241	14,658
India	Lower middle	0	1	0	1	2	0	2	6	3	9	6	8	13	10	17	18	25	30	44	61	73	88	110
Japan	High	4,740	5,799	4,979	5,272	5,298	5,588	5,854	6,098	6,186	7,464	8,301	8,451	8,542	9,037	9,855	10,861	10,522	7,932	9,639	9,245	8,746	8,678	8,216
Malaysia	Upper middle	0	2	2	1	2	0	5	3	5	12	1	8	8	10	4	12	9	10	7	12	12	3	6
Singapore	High	1	2	3	3	3	2	2	2	3	4	4	4	3	5	5	3	7	8	8	14	12	16	10
South Korea	High	2,306	4,606	1,561	1,129	2,005	2,903	2,410	4,110	3,981	3,524	3,510	2,086	2,469	2,936	3,787	5,594	5,977	4,831	5,176	5,086	4,663	4,836	4,893
Taiwan	High	197	202	240	279	267	290	294	354	477	456	427	372	423	395	498	540	414	482	653	668	572	462	388
Middle East	na	18	22	37	21	17	29	17	26	20	25	19	17	24	21	32	35	38	49	50	54	48	69	53
Israel	High	12	17	14	11	8	19	13	9	4	10	7	16	17	12	21	18	22	28	36	35	35	47	36
Africa	na	85	77	72	73	63	71	61	64	52	47	70	46	51	31	49	44	36	16	19	12	23	13	12
South Africa	Upper middle	74	71	61	65	53	56	48	59	49	40	67	46	42	23	34	33	28	13	14	10	14	6	5
Australia and Oceania	na	119	112	129	193	209	263	309	211	199	163	127	153	143	141	144	158	175	184	172	169	149	188	145
Australia	High	109	102	121	189	200	252	293	198	187	152	117	139	129	125	127	136	149	163	150	147	131	166	129
New Zealand	High	9	9	8	4	9	11	15	13	12	11	11	14	14	15	17	22	27	20	22	21	19	22	16
Unclassified	na	45	120	100	6	12	1	347	339	117	3	6	2	0	1	1	1	3	5	4	3	1	1	10

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

EU = European Union; UK = United Kingdom.

<sup>a</sup> The United Kingdom was a part of the EU for data purposes from 1973 to 2019.

<sup>b</sup> 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*