

Table SINV-42

U.S. granted international patent families, by WIPO technical field: 1998–2020

(Number)

WIPO technical field	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
All technical fields	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
Analysis of biological materials	459	439	369	411	370	510	475	285	338	339	357	377	487	442	436	449	495	578	538	638	620	650	628
Audio-visual technology	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
Basic communication processes	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
Basic materials chemistry	1,353	1,368	1,217	1,125	1,088	1,134	1,007	681	819	715	707	768	996	1,029	1,208	1,326	1,521	1,400	1,274	1,236	1,212	1,180	1,152
Biotechnology	1,351	1,331	1,081	1,103	1,060	1,229	1,058	731	907	926	1,005	1,117	1,247	1,274	1,494	1,567	1,736	1,746	1,729	1,814	1,705	1,661	1,522
Chemical engineering	1,502	1,597	1,410	1,327	1,233	1,328	1,240	961	1,118	1,032	1,032	1,046	1,358	1,402	1,419	1,436	1,485	1,501	1,493	1,494	1,377	1,517	1,553
Civil engineering	2,273	2,314	2,334	2,292	2,225	2,149	2,034	1,711	1,793	1,512	1,455	1,644	2,257	1,969	2,209	2,517	2,719	2,948	3,026	3,070	3,016	3,326	3,139
Computer technology	6,059	6,297	5,970	6,222	6,312	7,271	7,886	6,987	9,993	8,834	9,610	11,029	13,718	13,203	15,785	16,706	18,002	16,425	16,146	14,613	13,178	16,302	16,523
Control	1,197	1,208	1,253	1,181	1,116	1,311	1,386	1,075	1,444	1,220	1,361	1,323	1,607	1,580	1,809	1,865	2,019	1,953	1,976	2,375	2,409	2,737	2,678
Digital communication	1,358	1,597	1,854	1,848	2,028	2,438	3,043	2,549	3,002	2,643	2,792	2,986	3,656	3,594	4,475	4,802	6,174	7,019	7,393	7,499	7,459	8,684	8,754
Electrical machinery, apparatus, energy	3,197	3,393	3,460	3,528	3,374	3,408	3,538	2,699	3,257	2,964	2,883	3,071	3,512	3,378	3,506	3,800	4,025	4,319	4,696	4,879	4,501	4,941	4,407
Engines, pumps, turbines	1,289	1,209	1,471	1,722	1,868	1,722	1,622	1,402	1,483	1,229	1,157	1,238	1,496	1,637	1,967	1,947	1,986	2,272	2,378	2,646	2,837	3,178	2,768
Environmental technology	835	783	730	703	694	663	637	515	581	564	613	673	791	731	791	863	911	900	881	849	782	939	867
Food chemistry	527	638	637	567	460	442	497	382	399	440	398	416	506	611	688	717	733	755	708	725	740	1,006	1,034
Furniture, games	2,981	2,926	2,837	2,464	2,410	2,455	2,295	1,838	2,065	1,903	1,672	1,737	2,448	2,306	2,439	2,445	2,732	2,675	2,586	2,562	2,397	2,625	2,608
Handling	1,997	2,146	1,959	1,825	1,698	1,643	1,412	1,283	1,465	1,322	1,287	1,378	1,626	1,678	1,656	1,925	1,879	1,781	1,749	1,725	1,783	2,009	1,933
IT methods for management	314	389	444	386	461	624	644	619	657	689	884	965	1,737	1,694	2,044	2,549	2,432	1,662	1,638	2,115	2,235	3,362	3,135
Machine tools	1,671	1,844	1,787	1,739	1,478	1,632	1,526	1,251	1,548	1,336	1,002	1,032	1,346	1,508	1,688	1,860	1,974	1,755	1,513	1,456	1,279	1,357	1,321
Macromolecular chemistry, polymers	894	885	843	841	852	813	720	533	546	548	514	533	701	645	666	700	753	684	684	626	571	576	604
Materials, metallurgy	708	697	626	666	635	641	605	427	457	412	394	473	576	529	574	572	611	609	628	630	663	728	704
Measurement	3,055	2,968	2,990	3,055	3,211	3,633	3,513	2,873	3,428	3,305	3,311	3,279	3,560	3,405	3,519	3,572	3,769	3,930	3,998	4,254	4,056	4,675	4,290
Mechanical elements	1,752	1,850	1,880	1,806	1,758	1,726	1,639	1,279	1,478	1,186	1,120	1,173	1,536	1,561	1,694	1,929	2,052	2,231	2,173	2,341	2,247	2,492	2,221
Medical technology	4,128	3,876	3,798	3,500	3,327	4,039	3,277	2,430	2,719	2,578	2,530	2,951	4,268	4,499	5,269	5,719	5,764	5,546	5,422	5,619	5,278	6,360	6,421
Microstructural technology and nanotechnology	19	25	42	59	83	141	137	95	59	38	37	44	56	81	109	171	282	327	283	237	166	177	179
Optics	2,250	2,220	2,117	2,255	2,278	2,652	2,592	2,006	2,099	1,902	1,768	1,630	1,858	1,592	1,580	1,598	1,736	1,755	1,749	1,665	1,539	1,812	1,800
Organic fine chemistry	1,438	1,487	1,206	1,206	1,305	1,252	1,126	849	1,124	1,098	1,223	1,243	1,316	1,274	1,427	1,569	1,705	1,604	1,422	1,355	1,240	1,213	1,155
Other consumer goods	1,933	2,156	1,927	1,759	1,578	1,480	1,429	1,087	1,245	1,180	1,094	1,094	1,384	1,360	1,511	1,470	1,564	1,793	1,839	1,788	1,790	1,982	1,951
Other special machines	2,489	2,510	2,321	2,267	2,162	2,357	2,097	1,600	1,651	1,464	1,363	1,438	2,015	1,979	2,027	2,165	2,365	2,497	2,633	2,676	2,630	2,984	3,033
Pharmaceuticals	1,422	1,504	1,251	1,381	1,420	1,548	1,311	1,008	1,183	1,171	1,328	1,387	1,525	1,557	1,773	1,905	2,061	1,918	1,913	1,961	1,821	2,018	1,971
Semiconductors	1,885	2,376	2,803	3,229	3,219	3,263	2,879	2,308	2,455	2,287	2,059	2,255	2,859	2,593	2,459	2,854	3,221	3,367	3,633	3,347	2,710	2,822	2,822

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Surface technology, coating	864	918	933	985	957	1,038	987	733	808	879	856	939	1,245	1,256	1,333	1,361	1,263	1,137	1,070	1,015	954	984	911
Telecommunications	2,119	2,410	2,458	2,476	2,524	2,677	2,942	2,495	3,481	2,909	2,807	3,042	3,607	3,598	4,398	4,021	3,837	3,241	2,962	2,939	2,623	2,714	2,454
Textile and paper machines	1,217	1,156	1,181	1,178	1,126	1,152	1,103	792	782	672	667	571	777	700	818	778	913	746	655	565	526	565	556
Thermal processes and apparatus	725	745	689	741	671	700	657	570	567	441	362	395	529	541	573	620	690	781	798	887	839	1,054	1,034
Transport	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
Unclassified	151	234	163	101	95	74	81	87	166	165	145	188	170	138	149	127	105	104	84	88	79	152	110

IT = information technology; WIPO = World Intellectual Property Organization.

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 WIPO classification of patents, which classifies International Patent Classification codes under 35 technical fields.

Source(s):

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

Science and Engineering Indicators