



PRESS RELEASE

Patent applications in Europe reach record level in 2021 despite pandemic

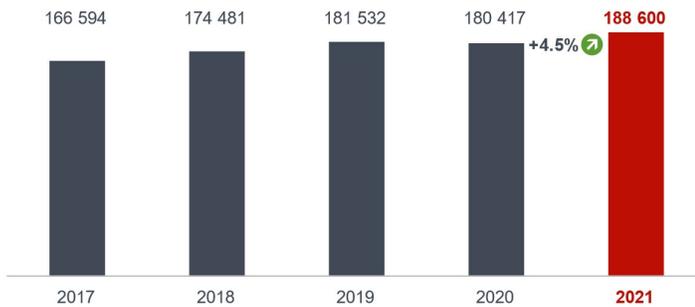
- Filings at European Patent Office up 4.5%
- Significant rebound after slight dip in 2020
- Digital and healthcare technologies main drivers of growth
- Audio-visual technology and semiconductors surge
- Top countries of origin are US, Germany, Japan, China and France
- China with strongest increase (+24%)
- Huawei tops applicant ranking ahead of Samsung, LG, Ericsson and Siemens

Munich, 5 April 2022 – The European Patent Office (EPO) received 188 600 applications in 2021, up 4.5% on the previous year and the highest number to date. The EPO's [Patent Index 2021](#), published today, shows that patent filings rebounded significantly last year after a slight dip in 2020 (-0.6%).

The number of patent applications – an early indicator of companies' investments in research and development – increased in nine of the top ten most patent-active fields of technology, with digital communication and computer technology posting the strongest growth.

“The strong demand for patents last year shows that innovation has remained robust,” said EPO President António Campinos. “It highlights the creativity and resilience of innovators in Europe and worldwide. They have filed higher numbers of patent applications and the strong growth in digital technologies provides compelling evidence of the digital transformation taking place across all sectors and industries,” he said.

Growth of European patent applications



European Patent Office

Digital and healthcare technologies boom

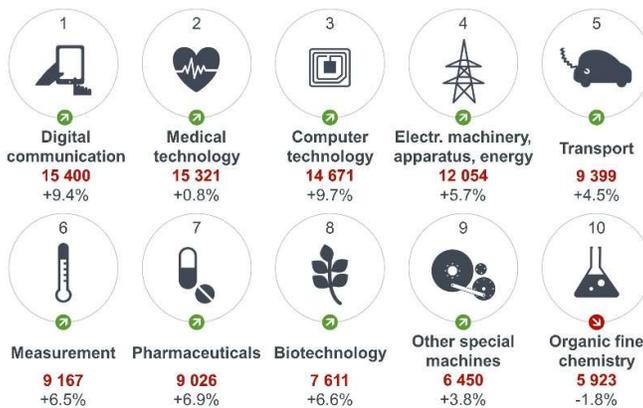
Digital communication (+9.4% compared with 2020) narrowly overtook **medical technology** (+0.8%) as the field with the largest number of European patent applications in 2021. **Computer technology** was the third strongest field, and the one with the steepest growth (+9.7%) among the top ten. The related fields of **audio-visual technology** (+24%) and **semiconductors** (+21%) saw unprecedented growth, albeit from a smaller base. The big increase in patent applications in digital technologies demonstrates the digital transformation, for example in **smart urban mobility**. Patent activity in **pharmaceuticals** (+6.9%) and **biotechnology** (+6.6%) also continued to boom, underlining high levels of **innovation in vaccines** and other areas of healthcare.

Anmeldestärkste Gebiete 2021

Technical fields with most patent applications 2021

Les secteurs technologiques les plus actifs 2021

TOP 10



European Patent Office 2022

Chinese companies post fastest growth

The top five countries of origin for applications in 2021 were again the US – accounting for 25% of total filings – followed by Germany (14%), Japan (11%), China (9%) and France (6%) (see graph *Origin of applications*). Patent applications are highly concentrated in a few countries, with five countries accounting for 64% of European patent applications in 2021, and the top 20 countries accounting for 95%.

Top 50 countries for patent applications 2021

TOP 50

	2021	Change					
1	United States	46 533	+5.2%	18	Israel	1 717	+2.0%
2	Germany	25 969	+0.3%	19	Chinese Taipei	1 472	+7.7%
3	Japan	21 681	-1.2%	20	Australia	1 019	+5.5%
4	P.R. China	16 665	+24.0%	21	Ireland	956	-2.4%
5	France	10 537	-0.7%	22	India	817	+16.5%
6	R. Korea	9 394	+3.4%	23	Turkey	732	+21.0%
7	Switzerland	8 442	+3.9%	24	Singapore	711	+17.1%
8	Netherlands	6 581	+3.1%	25	Norway	640	-1.8%
9	United Kingdom	5 627	-1.2%	26	Poland	539	+12.8%
10	Sweden	4 954	+12.0%	27	Liechtenstein	494	+12.5%
11	Italy	4 919	+6.5%	28	Luxembourg	430	+7.0%
12	Denmark	2 642	+9.2%	29	Saudi Arabia	377	-23.7%
13	Belgium	2 485	+3.3%	30	Cayman Islands	295	-34.9%
14	Austria	2 317	+0.5%	31	Barbados	293	+13.6%
15	Finland	2 111	+11.2%	32	Portugal	286	+13.9%
16	Canada	2 083	+18.4%	33	Russian Federation	272	+1.1%
17	Spain	1 954	+8.9%	34	New Zealand	226	+15.3%
				35	Czech Republic	203	-1.5%
				36	Greece	198	+46.7%
				37	Brazil	181	+13.1%
				38	Hong Kong SAR (China)	180	+18.4%
				39	Hungary	118	+8.3%
				40	Slovenia	116	-29.7%
				41	Thailand	98	+53.1%
				42	South Africa	86	-5.5%
				43	Puerto Rico	78	-75.2%
				44	Lithuania	73	+46.0%
				45	Antigua and Barbuda	71	-27.6%
				46	Estonia	69	+21.1%
				47	United Arab Emirates	65	-9.7%
				48	Iceland	62	+51.2%
				49	Mexico	62	+19.2%
				50	Malta	51	-19.0%

European Patent Office 2022

The growth in patent applications at the EPO in 2021 was mainly fuelled by filings from China (+24% compared with 2020) and the US (+5.2%). Patent filings from Chinese companies, in particular, have continued to climb steeply, more than quadrupling in the past decade. Applications from South Korea were also up in 2021 (+3.4%), while Japan experienced a slight drop in filings (-1.2%). Patent applications from the 38 European Patent Organisation countries increased last year (+2.8%), but in relative terms, the share of applications from Europe continued to decline, falling from 50% of the total in 2013 to 44% in 2021, as more players outside Europe, and especially those from Asia, seek to protect their inventions on the European market.

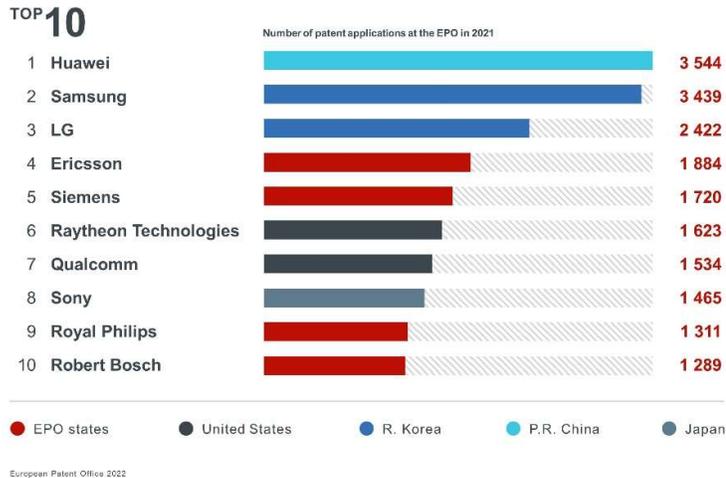
Europe trends: Nordic countries, Spain and Italy with solid growth

Europe's top filing countries, Germany (+0.3%) and France (-0.7%), remained essentially stable, while applications from the UK saw a further slight drop (-1.2%). Most European countries returned to growth in 2021, with patent filings increasing significantly from Sweden (+12.0%), Finland (+11.2%), Denmark (+9.2%), Spain (+8.9%), Italy (+6.5%), Switzerland (+3.9%), Belgium (+3.3%) and the Netherlands (+3.1%). There was also marked growth from countries with smaller patenting volumes (under 1 000 applications), such as Turkey (+21%) Portugal (+13.9%) and Poland (+12.8%). With respect to patent applications per capita, Switzerland, Sweden, Denmark, the Netherlands and Finland again topped the country ranking (see graph [Patent applications per million inhabitants](#)).

Huawei heads list of applicants

Huawei was the leading patent applicant at the EPO in 2021 (as in 2019), followed by 2020's leader, Samsung, and LG. Ericsson and Siemens both moved up a position, to fourth and fifth respectively. The top ten includes four companies from Europe, two from South Korea, two from the US, and one from each of China and Japan.

Top ten applicants 2021



One in five patent applications filed by an SME

A significant proportion of [EPO applicants](#) are smaller entities: last year, one in every five patent applications to the EPO originating in Europe came from an individual inventor or small or medium-sized enterprise (fewer than 250 employees), and a further 5% came from universities and public research organisations (see graph [Breakdown of applicants by category](#)).

Explore the **Patent Index 2021 in full** at epo.org/patent-index2021.

Read the Patent Index **feature stories**:

- [Insight into smart urban mobility](#)
- [Insight into vaccine technologies](#)
- [Insight into our applicants](#)

Media contacts European Patent Office:

Luis Berenguer Giménez

Principal Director Communication / EPO spokesperson

Rainer Osterwalder

Press spokesperson

EPO press desk

Tel.: +49 89 2399 1833

Mobile: +49 163 8399527

press@epo.org

About the EPO

With 6 400 staff, the European Patent Office (EPO) is one of the largest public service institutions in Europe. Headquartered in Munich with offices in Berlin, Brussels, The Hague and Vienna, the EPO was founded with the aim of strengthening co-operation on patents in

Europe. Through the EPO's centralised patent granting procedure, inventors are able to obtain high-quality patent protection in up to 44 countries, covering a market of some 700 million people. The EPO is also the world's leading authority in patent information and patent searching.