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Digital technologies drive growth in European patent applications

- **The European Patent Office received a record 181 000 applications in 2019, marking a 4% increase on the previous year**
- **Four European companies among the 10 most active filers for patents**
- **Germany and France both appear in the top 5 countries of origin, alongside the US, Japan and China**
- **New developments in AI and 5G spark surge in patent applications in digital technologies**
- **European companies such as Ericsson, Nokia and Siemens are among the top companies filing patent applications in digital technology-related fields**

Brussels/Munich, 12 March 2020 – Patent statistics published today by the European Patent Office (EPO) show that companies and inventors from across the world filed more than 181 000 European patent applications in 2019, a new high and a 4% increase on 2018. According to the [EPO Patent Index 2019](#), much of the growth came from a steep rise in applications in the fields of [digital communication \(+19.6%\)](#) and [computer technology \(+10.2%\)](#), both of which featured several European companies among their top applicants. In 2019 the EPO received more patent applications from nearly every major industrial region, with particularly strong increases in filing volumes from China (+29.2% over 2018), the US (+5.5%) and the Republic of Korea (+14.1%) (Fig.: [Top 50 countries for applications](#)).

“The rapid rise of digital technologies is the most striking trend from our 2019 index,” said EPO President António Campinos. *“With our well-established and globally recognised approach to examining applications in the digital field, the EPO is well*

placed to support inventors, and foster innovation in Europe and beyond. It is important that companies and researchers in Europe seeking to protect their inventions find a level playing field with their competitors from Asia and the US, and are able to maintain a strong position in the global technology market.”

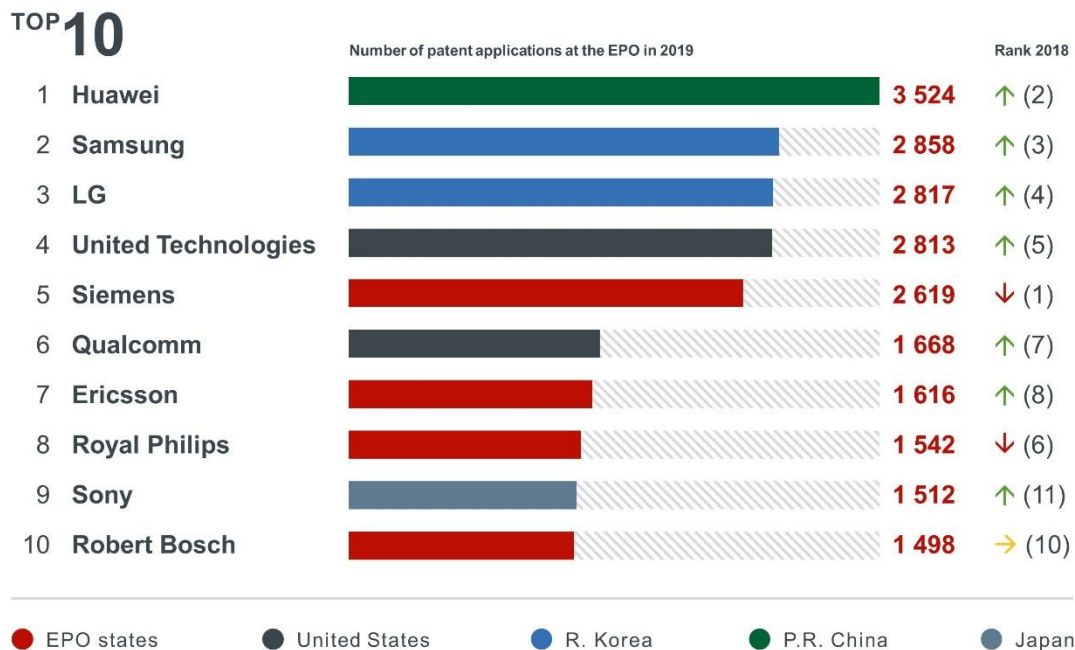
European companies show solid growth

European innovation is central to the overall sustained growth in patent applications, with companies and inventors from the [38 EPO member states](#) filing 82 493 patent applications in 2019, 1.1% more than in 2018 and the third year of increase. The share of patent applications coming from Europe has fallen, however (from 51% in 2009 to 45% in 2019), as more players from outside Europe, and especially Asia, seek to protect their inventions on the European market.

Four of the companies that rank in the top 10 in terms of the number of patent applications are European: Siemens, the top applicant of 2018, came in fifth with 2 619 patent applications. The other European firms in the top 10 are Ericsson (which moved up a place to seventh), Royal Philips, and Robert Bosch. Chinese firm Huawei was the top ranked company at the EPO in 2019, with 3 524 patent

applications, followed by Korean technology firms Samsung and LG in second and third.

Top 10 der Anmelder 2019
Top ten applicants 2019
 Les 10 plus grands déposants 2019



European Patent Office 2020

Germany remains stable, Sweden and the UK show growth

Looking at the European country trends, companies and inventors from most EPO member states filed more patent applications in 2019. Once again, German inventors and companies filed the most patents (26 805), accounting for 15% of all applications and remaining almost stable with a 0.5% increase on the previous year. France was the other European member state to rank within the top five countries at the EPO in terms of volume of patent applications, despite experiencing a slight drop in the number of applications in 2019 (-2.9% over 2018), due to fewer filings in the fields of digital communication and automotive.

Patentanmeldungen aus den EU Mitgliedstaaten 2019
Patent applications from EU member states 2019
 Demandes de brevet des états membres de l'UE en 2019

	2019	Change					
1	Germany	26 805	0.5%	15	Portugal	272	23.1%
2	France	10 163	-2.9%	16	Czech Republic	198	-20.2%
3	Netherlands	6 954	-2.6%	17	Greece	139	15.8%
4	United Kingdom	6 156	6.9%	18	Slovenia	121	21.0%
5	Italy	4 456	1.2%	19	Hungary	100	-15.3%
6	Sweden	4 381	8.0%	20	Malta	56	9.8%
7	Belgium	2 423	3.2%	21	Estonia	49	4.3%
8	Denmark	2 404	0.8%	22	Cyprus	47	-4.1%
9	Austria	2 341	2.6%	23	Slovakia	42	-17.6%
10	Spain	1 887	6.0%	24	Romania	40	-20.0%
11	Finland	1 703	-1.4%	25	Bulgaria	34	9.7%
12	Ireland	878	6.3%	26	Lithuania	29	-21.6%
13	Poland	469	-9.6%	27	Latvia	22	69.2%
14	Luxembourg	427	-0.9%	28	Croatia	19	35.7%

European Patent Office 2020

European countries with significant growth in patents filed include Sweden (+8.0%), which saw a boost in applications in the digital communication and computer technology sectors, the UK (+6.9%) and Switzerland (+3.6%). Countries with mid-range patenting volumes such as Spain (+6.0%) grew solidly, while applications from Belgium (+3.2%), Austria (+2.6%), Italy (+1.2%) and Denmark (+0.8%) saw a lower level of growth. Among the countries with smaller patenting volumes (i.e. applications within the hundreds), Ireland (+6.3%), Norway (+3.6%), Portugal (+23.1%) and Greece (+15.8%) all experienced substantial growth.

European firms play a role in the digital surge

The rapid development of next generation technologies such as AI and 5G – and changes to the regulatory environment surrounding them – have contributed to a significant surge in patent applications in digital sectors. The EPO received 14 175 patent applications in the field of digital communication in 2019, a 19.6% increase compared to 2018, making it most active field for patent applications in 2019 (Fig.:

[Top 10 technical fields at the EPO](#)). Huawei led the sector with 2 260 applications in the field – a significant increase when compared to the 1 535 applications filed by the company in 2018. Huawei's patenting activity is one of the driving forces behind the sharp increase in European patent applications coming from China in 2019.

European companies also achieved a strong presence in the field of digital communication, with EPO member states attaining a 25% share of applications, only narrowly behind the US and China (both 26%). Ericsson ranked second place after Huawei, filing 1 227 patent applications, and Nokia came in eighth position with 388 applications.

The computer technology sector also saw a substantial increase, with companies such as Alphabet, Microsoft and Samsung leading the field. European companies account for a 29% share of applications overall, with Siemens (324 applications) and Royal Philips (215 applications) present among the top 10 companies in the sector, achieving sixth and eighth place respectively.

While Asian firms hold strong positions in the computer technology sector, the statistics show that European companies are still standing their ground in a number of fast-growing areas. For example in the sub-field of 'machine learning and pattern recognition' (where patent applications increased by 29% over 2018), companies from EPO member states accounted for 41% of all applications. European company Robert Bosch filed the second highest number of patent applications in this sub-field. In another fast-growing sub-field, 'image data processing and generation' (+11% over 2018), European innovators made up 38% of the applications, with Royal Philips and Siemens placing first and second place respectively.

Transport sector dominated by Europe

The top companies filing the most patent applications at the EPO in the field of transport – which saw a 6.6% increase over 2018 – were defined by aviation and automotive, with US firm United Technologies Corporation (391 patent applications) at the top, followed by Airbus (272 applications), Boeing and Continental (both 186 applications). European companies such as Siemens (185), Robert Bosch (171), Valeo (147), Michelin (130) and Volkswagen (118) were all present in the top 10, making

transport once again a strong sector for Europe. European firms accounted for 56% of the total (compared to 18% from the US and 15% from Japan). The presence of multiple automotive firms in particular is due in part to the continued and accelerated development of the technology involved in the production of autonomous vehicles.

Alongside transport, European companies held the largest share of patent applications in organic fine chemistry, measurement, and “other special machines” – an area covering a range of technologies including machine tools for various industries and 3D printing.

For detailed statistics, see the EPO Patent Index 2019 at www.epo.org/patent-index2019

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