

**EMBARGOED UNTIL 12 MARCH 2020, 08.00 CET**

## **Digital trends spark surge in European patent applications**

- **European Patent Office receives record 181 000 applications in 2019**
- **Patent applications for digital technologies soar, driven by rise of 5G and AI**
- **Digital communication sees the sharpest increase on 2018, with the computer technology sector also growing strongly**
- **Huawei heads the EPO applicant ranking, followed by Samsung and LG; four out of the top ten companies are European**

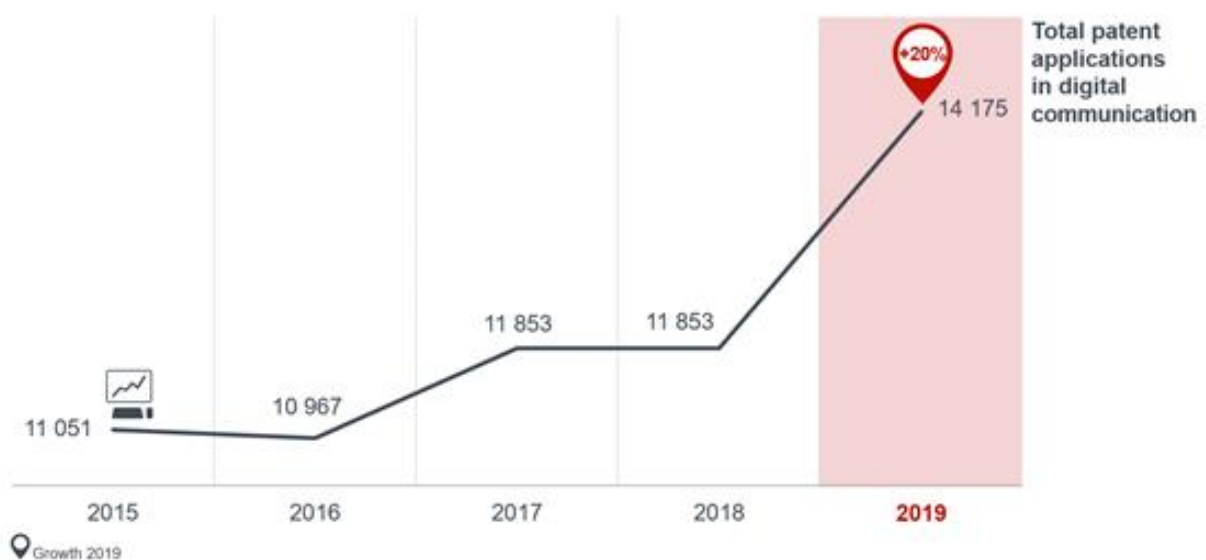
**Munich, 12 March 2020** – Patent statistics published today by the European Patent Office (EPO) show that patent applications in digital technologies saw a sharp rise in 2019. According to the [EPO Patent Index 2019](#), applications in digital communication in particular have grown faster than any other sector, marking a 19.6% increase on 2018. For the first time in more than a decade, digital communication took the lead in patent applications, overtaking medical technology, which had been the most patent-active technology at the EPO since 2006. The field of computer technology (+10.2% over 2018) also grew significantly. Across all sectors, the EPO received more than 181 000 patent applications in 2019, the highest number ever and a 4% increase on the previous year (See graph: [Growth of European patent 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.”*

**5G sparks surge in applications for digital communication patents**

Much of the growth in European patent applications can be attributed to a spike in [innovation within the digital sectors](#), with the development of new technologies related to AI, 5G and autonomous vehicles causing a considerable increase in the number of patent applications filed. Looking specifically at digital communication, the field with the strongest increase in patent filings last year, the EPO received 14 175 patent applications in this field, a 19.6% increase compared to the 11 853 filed in 2018 (See graph: [Top 10 technical fields at the EPO](#)). The development of next generation communication technology such as 5G was a contributing factor to the increase in digital communication patent applications across the board.

Total European patent applications at the EPO in digital communication:

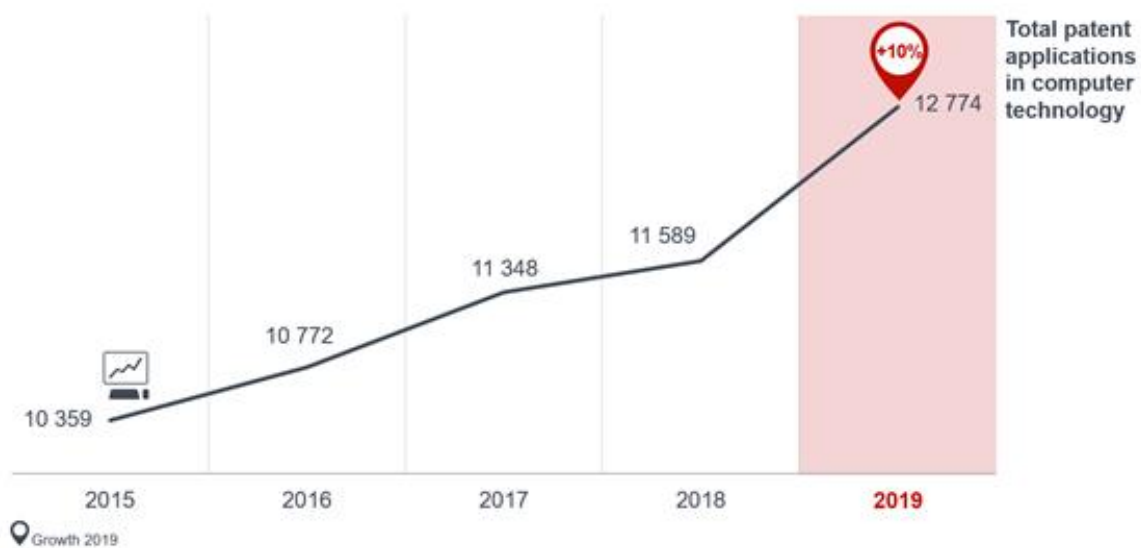


With an increase of 64.6%, Chinese companies contributed most to the growth, with firms from the US (+14.6%) and the Republic of Korea (+36.1%, albeit from a smaller base) following suit. By comparison, filings from Europe grew moderately (+3.1%). In terms of share, China is now the largest country of origin in this field, with 3 736 applications at the EPO in 2019. This gives China a 26% share of digital communication-related patent applications, putting them narrowly ahead of the US (26%) and the EPO member states (25%). In Europe, Sweden was the top EPO member state in the digital communication sector, with a 9% share of patent applications. The top three applicants in this field in 2019 were Huawei (with 2 260 applications) Ericsson (1 227 applications) and Qualcomm (1 061) (See graph: [Leading applicants at the EPO in digital communication](#)).

## AI as driver of growth in computer technology

Echoing the trends seen in the digital communication field, companies and inventors in computer technology filed 10.2% more patent applications at the EPO in 2019. Here the driving factor for growth was the increase in technologies related to artificial intelligence, especially in the rapidly developing areas of machine learning and pattern recognition, image data processing and generation, and data retrieval, all of which are also enabling and facilitating developments and innovation in other sectors.

Sharp rise - Total European patent applications in computer technology:



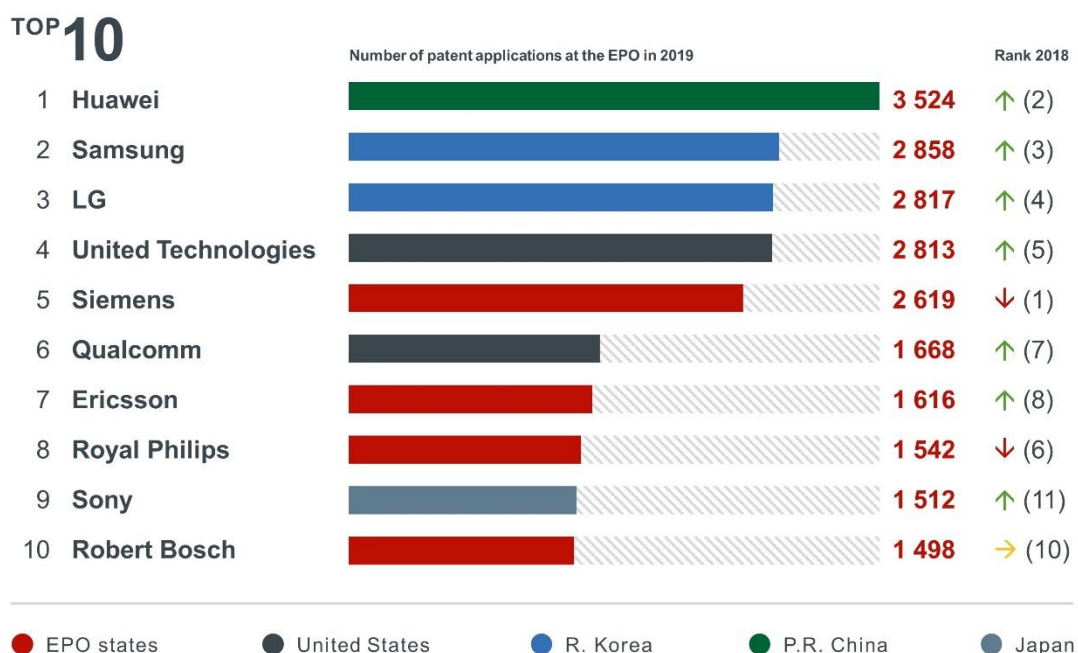
US companies (+13.6% over 2018) accounted for 38% of all patent applications in computer technology, followed by EPO member states (+9.3%) with a collective share of 29%. Applications from China (+18.7%) made up 11%. The leading applicants in 2019 were Alphabet, Microsoft, Samsung, Huawei, Intel and Siemens (See graph: [Leading applicants at the EPO in computer technology](#)). A significant proportion of the growth in 2019 also came from smaller applicants, and from new players.

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 among the top applicants.

### Digital technology firms occupy top spots in EPO top applicant ranking

The rising importance of digital technologies is also reflected in the overall list of top 10 applicants at the EPO. This ranking is densely populated by digital technology firms: Huawei topped the table with 3 524 applications in 2019. Samsung moved up to second place and LG gained a position to take third. The top ranked European firms were Siemens (fifth, 2 619 applications), Ericsson (seventh, 1 616

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



applications), Royal Philips, (eighth, 1 542 applications), and Robert Bosch (tenth, 1 498 applications).

For detailed statistics, see the EPO Patent Index 2019 at [www.epo.org/patent-index2019](http://www.epo.org/patent-index2019).

Read our [web feature](#) on patenting trends in digital technologies.

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