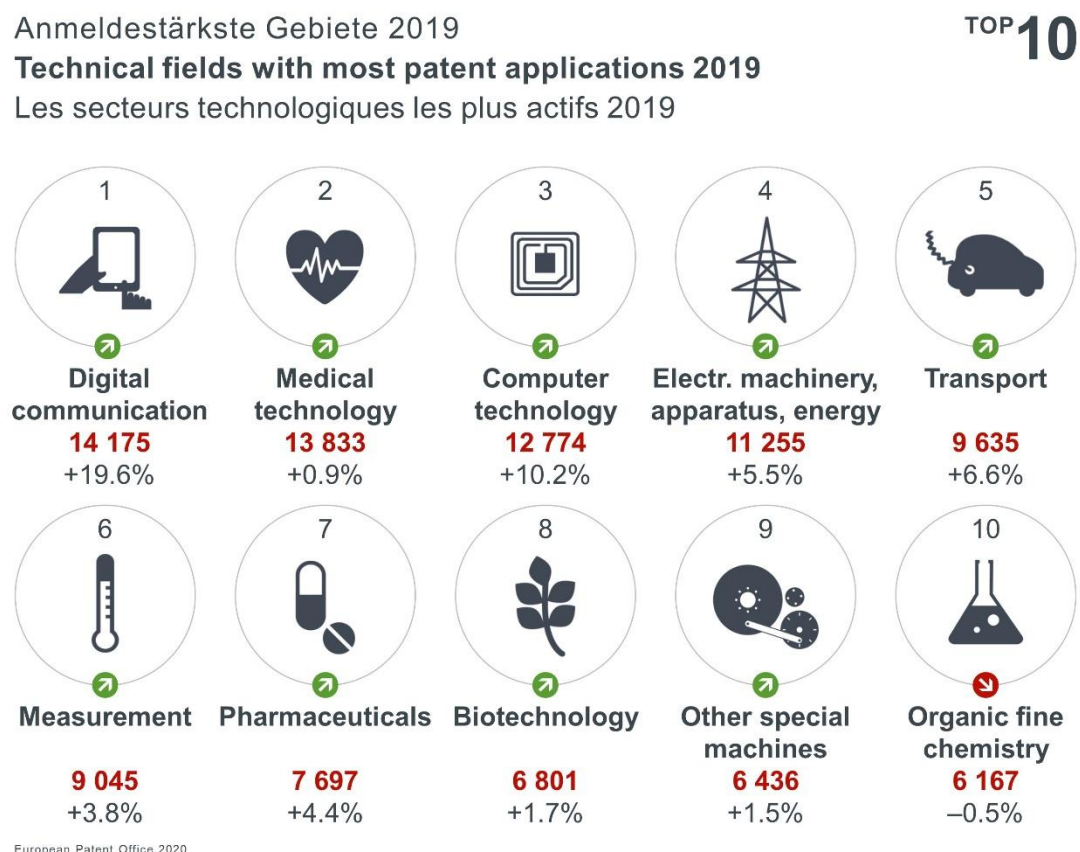


## **Innovation in the transport sector: European Patent Office reports growing demand for transport-related patents**

- **EPO Patent Index 2019: Patent applications in the transport sector see a 6.6% increase on the previous year**
- **European firms account for more than half of patent filings**
- **US firm United Technologies is top applicant in this sector, followed by Airbus, Boeing, Continental and Siemens**
- **In the automotive sector, strong growth in patent filings related to electric vehicles, passenger comfort and hybrid/drive control**
- **Overall the EPO received a total of 181 000 applications in 2019, marking a 4% increase on the previous year**

**Brussels/Munich, 12 March 2020** – Patent statistics published today by the European Patent Office (EPO) show that companies and inventors in the transport sector filed a total of 9 635 patent applications in 2019, marking a 6.6% increase on the previous year. According to the [EPO Patent Index 2019](#), transport was the fifth largest field at the EPO and one of the fastest-growing, with European innovators accounting for more than half of transport-related applications.



*“European firms have once again demonstrated that they play a crucial role in fuelling innovation in the transport sector,” said EPO President António Campinos. “The growing number of European patent applications in the field, from Europe and beyond, is concrete proof that the next generation of transportation is around the corner. The EPO’s robust and thorough patenting system aims to support innovators in their work to stimulate these developments from conception to reality.”*

**Germany leads transport sector amidst a continued rise in applications**

The transport field, which includes road vehicles, rail, ships and aerospace, has seen a steady growth in patent filings in recent years, due to continued developments in areas such as autonomous vehicles. The 6.6% increase in patent filings in 2019 follows growth of 5.9% from the previous year.

Overall, companies from the EPO member states filed the largest share of transport patent applications with a total of 5 379 (56%) in comparison to 1 710 (18% share) from the US and 1 447 (15%) from Japan. Of the applications from Europe, 2 138 (22% of the global share) were filed by German firms alone.

However despite the strong European presence in the transport sector, the company filing the most applications was US firm United Technologies Corporation (391 applications). The top companies in the field were defined by aviation and automotive, with Airbus (272 applications) placing second, and Boeing and Continental (each with 186 applications) ranking third. The top 10 included seven companies from Europe including Siemens (no.5 with 185 applications), Robert Bosch (no.6, 171), Valeo (no.8, 147), Michelin (no.9, 130) and Volkswagen (no.10, 118), making transport once again a strong sector for Europe.

#### **Leading patent applicants at the EPO in the field of transport (2019)**

Rank		Applications
1	UNITED TECHNOLOGIES	391
2	AIRBUS	272
3	BOEING	186
3	CONTINENTAL	186
5	SIEMENS	185
6	ROBERT BOSCH	171
7	TOYOTA	148
8	VALEO	147
9	MICHELIN	130
10	VOLKSWAGEN	118

**Vehicles account for largest share, growth in electric propulsion, passenger comfort and hybrids**

Looking at the sub-fields of transport, the largest share of patent filings were related to vehicles (58% share). Within this sub-field, patent applications related to electric propulsion and passenger comfort saw the largest growth (each with +14% over 2018). Hybrid/drive control – a key technological development for the sector – also saw a significant increase (+5%). Tyres, as the second largest sub-field in vehicles, saw a smaller level of growth (+2) while the largest category, equipment, decreased in volume of applications (-5%). Although the brakes category posted 28% growth in 2018, it also saw a decrease in applications in 2019 (-8%).

The companies with the highest level of patenting activity in the vehicles sub-field were Continental (173 vehicles-related applications), Toyota (146 vehicles-related applications), Valeo (142 vehicles-related applications), Robert Bosch (131), and Michelin (127). Among carmakers, the leading applicants were Toyota (total of 541 applications at the EPO, 146 of which were vehicles-related), Volkswagen (422 applications in total, 96 of which were vehicles-related), Mazda (269 applications in total, of which 63 were in vehicles), BMW (261 total, 72 vehicles-related), Audi (248 total, of which 98 vehicles-related), and Groupe PSA (227 total, of which 73 vehicles-related).

Outside of vehicles, railways accounted for an 8% share of patent filings in the field of transport, with the number of applications increasing by 3% in 2019. Ships and water vessels were responsible for 6%. Although some of the leading applicants in transport work in the aviation sector, aircraft/aerospace as a sub-field saw a 2% drop in applications in 2019 compared to the previous year, and made up a 13% share of all transport-related filings.

### **Digital surge could fuel developments in the transport sector**

Across all sectors the EPO received more than 181 000 patent applications last year, a 4% increase on 2018. The EPO Patent Index 2019 shows a particularly sharp rise in [digital technology-related patent applications](#). Applications in the fields of digital communication and computer technology, which could be significant in the development of autonomous vehicles, grew by 19.6% and 10.2% respectively overall. In computer technology, the machine learning and pattern recognition sub-field recorded very strong growth (+29%), with EPO member states occupying a 41% share

of applications. Other sub-fields such as image data processing and generation (+11%) and data retrieval (+4%) also saw notable growth. This represents a positive trend for digital technology innovation, the implementation of which could play a key role in cutting-edge developments in the transport sector.

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

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## **Media contacts European Patent Office**

### **Luis Berenguer Giménez**

Principal Director Communication

### **Rainer Osterwalder**

Press spokesperson

### **EPO press desk**

Tel.: +49 89 2399 1820

Mobile: +49 163 8399527

[press@epo.org](mailto:press@epo.org)