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## [EPO Study: Innovation in Smart Connected Objects on the Rise](#)

A study recently published by the European Patent Office (EPO) shows that innovation in fourth industrial revolution (4IR) technologies has accelerated significantly worldwide. Between 2010 and 2018, global patent filings for these technologies, which concern smart connected objects and span the Internet of Things, big data, 5G, and artificial intelligence (AI), grew at an average annual rate of almost 20% - nearly five times faster than the average of all technology fields.

The study, entitled Patents and the Fourth Industrial Revolution - the global technology trends enabling the data-driven economy, looks at all international patent families (IPFs) related to 4IR worldwide between 2000 and 2018. Each of these represents a high-value invention for which patent applications have been filed at two or more patent offices globally. The study finds that nearly 40 000 new IPFs were filed for these technologies in 2018 alone. This means they accounted for more than 10% of all patenting activity worldwide that year.

In terms of technology fields, the study finds that innovation has risen most sharply in the areas of connectivity and data management. With nearly 14 000 IPFs in 2018 and annual growth of 26.7% since 2010, connectivity, which covers protocols, short and long range communication, is the largest of all the 4IR technology fields analysed. This impressive rise has been largely driven by the development of 5G, which will support the massive deployment of 4IR technologies. Data management, which encompasses all technologies aiming at exploiting data, from their creation, processing and analysis to feedback execution, has posted average annual growth of 22.5% since 2010, and in 2018 accounted for more than 11 000 IPFs.

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For more, see

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