

Patent activity in metropolitan areas

Metropolitan areas are the places where most inventions take place. In 2011-13, 70% of all patent applications were granted in metropolitan areas for the 19 OECD countries where such data are available. The concentration of patent applications in metropolitan areas is above 70% both in countries with a high level of patenting activity, such as Japan and United States, and in countries with low level of patenting activity, Australia, Chile and Mexico. In Norway and Italy, on the other hand, metropolitan areas account for less than 40% of the country's total patents (Figure 2.58).

In 2011-13, patent intensity (i.e. the number of patents per million inhabitants) in metropolitan areas was around 200, a value more than double that of the rest of the OECD economy (for the 19 OECD countries with data) (Figure 2.59). Eindhoven (Netherlands), Shizuoka (Japan),

San Francisco and San Diego (United States) are among the metropolitan areas with the highest patent intensity per million inhabitants (above 1 000).

Metropolitan areas specialise in the Information and Communications Technology (ICT) sector. In 2013, 41% of patents granted in the 236 OECD metropolitan areas with data were in the ICT sector. This was followed by health care (15%), environment (9%), biotechnology (6%) and nanotechnology (1%). Metropolitan areas in Estonia, Finland and Sweden are among the most specialised in ICT patents. Metropolitan areas in Denmark and the Netherlands display the largest share of patents in the health sector compared with other countries, while metropolitan areas in Chile, Mexico and Germany show higher shares in the environmental sector than metropolitan areas in other countries (Figure 2.60).

Definition

281 Metropolitan areas have been identified in 30 OECD countries according to the OECD-EU methodology that identifies metropolitan areas on the basis of densely populated cities and their commuting zones (travel to work journeys) to reflect the economic geography of the population's daily commuting patterns (see Annex A for details).

A patent is an exclusive right granted for an invention, which is a product or a process with industrial applicability that provides, in general, a new way of doing something, or offers a new technical solution to a problem ("inventive step"). A patent provides protection for the invention to the owner of the patent. The protection is granted for a limited period, generally 20 years.

Data refer overall to patent applications made under the Patent Co-operation Treaty (PCT).

Patent documents report the inventors (where the invention takes place), as well as the applicants (owners), along with their addresses and country of residence. Patent counts are based on the inventor's region of residence and fractional counts.

The patent intensity is the ratio between the number of patent applications and the metropolitan area's population.

Patents are allocated to different fields (ICT, health, climate change mitigation, biotechnology or nanotechnology) on the basis of their International Patent Classification (IPC) codes.

Source

OECD (2015), "Metropolitan areas", *OECD Regional Statistics* (database), <http://dx.doi.org/10.1787/data-00531-en>.

OECD (2015), *OECD Patent Statistics* (database), <http://dx.doi.org/10.1787/patent-data-en>.

Reference years and territorial level

The functional urban areas (FUA) have not been identified in Iceland, Israel, New Zealand and Turkey. The FUA of Luxembourg does not appear in the figures since it has a population below 500 000 inhabitants.

Data on patent activity in metropolitan areas are available only for 19 OECD countries containing 236 metropolitan areas.

Further information

OECD (2012), *Redefining "Urban": A New Way to Measure Metropolitan Areas*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264174108-en>.

OECD (2015), *OECD Science, Technology and Industry Scoreboard 2015: Innovation for growth and society*, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2015-en.

Figure notes

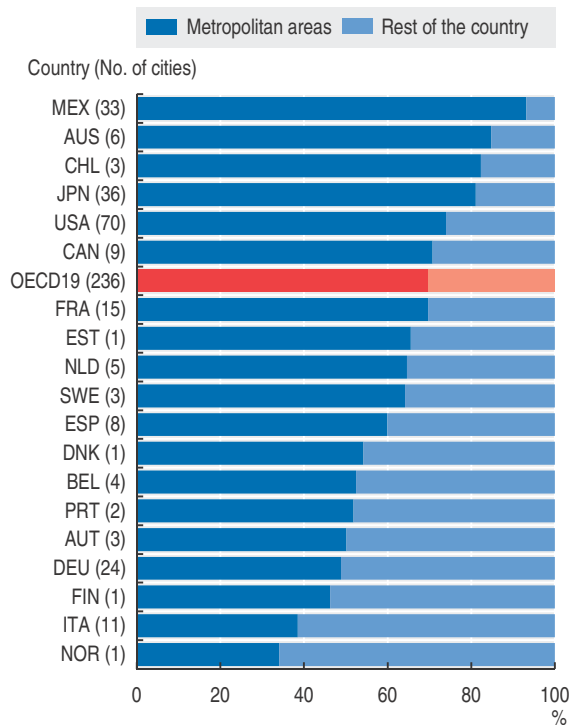
2.58-2.60: Figures refer to three-year average 2011-13.

Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

2. REGIONS AS DRIVERS OF NATIONAL COMPETITIVENESS

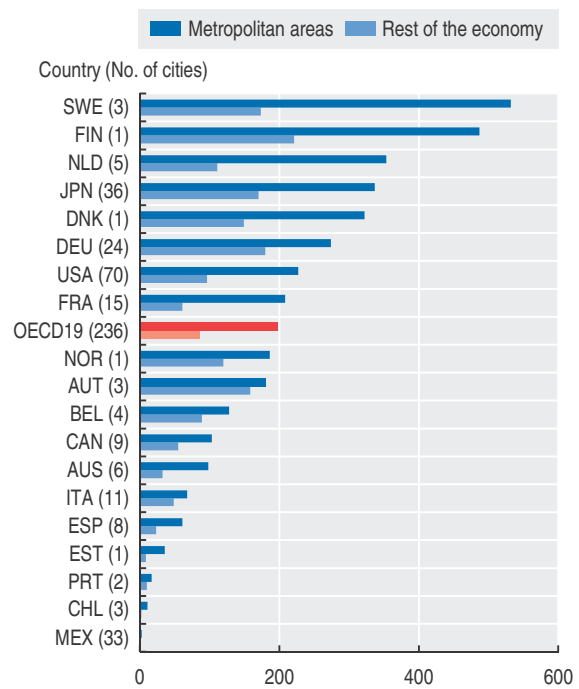
Patent activity in metropolitan areas

2.58. Per cent of patent applications in metropolitan areas and the rest of the country, average 2011-13



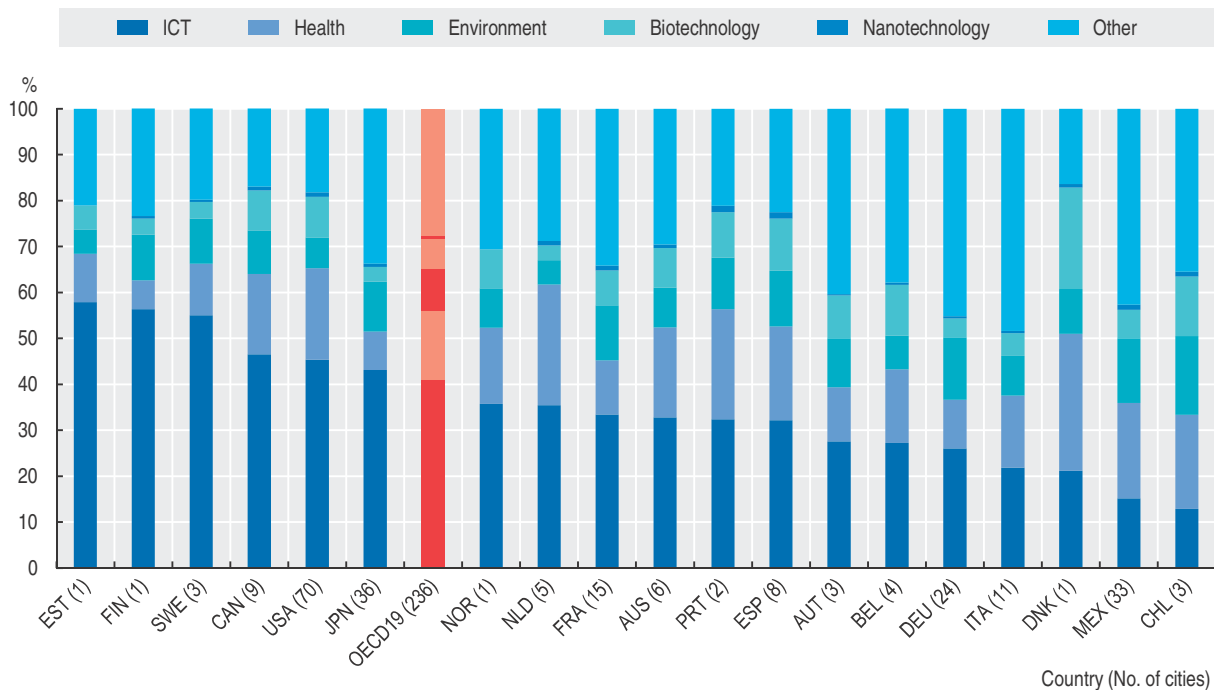
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2.59. Patent intensity in metropolitan areas and the rest of the country, average 2011-13
Patent applications per million inhabitants

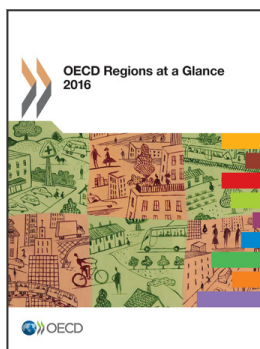


StatLink <http://dx.doi.org/10.1787/888933363567>

2.60. Per cent of patent applications in metropolitan areas by sector, average 2011-13



StatLink <http://dx.doi.org/10.1787/888933363573>



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