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Coffee Break

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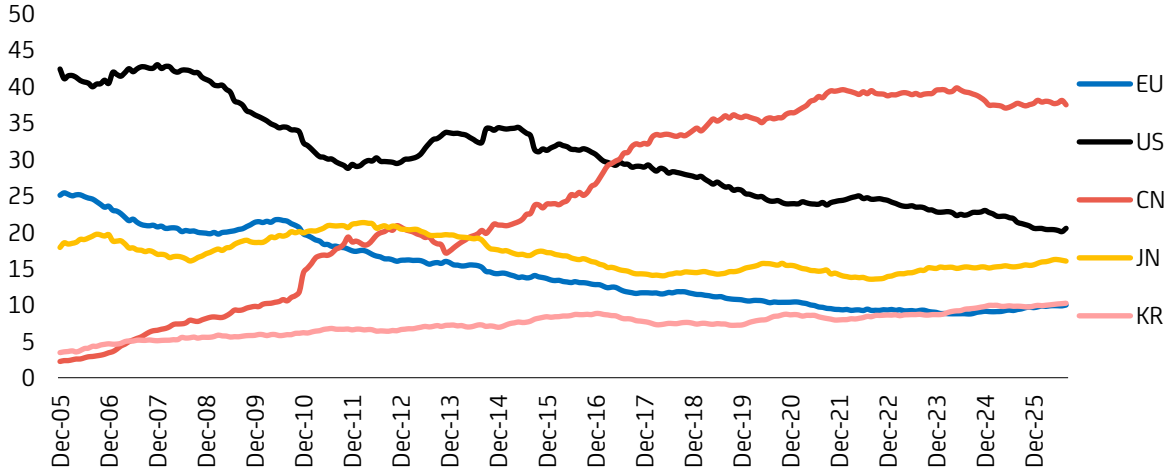
The changing geography of ICT inventions

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Inventive activity in ICT remains highly concentrated, but its geographical distribution has changed substantially. While both the US and the EU have lost ground, China has emerged as the largest source of ICT-related PCT patent applications. Europe lags behind its competitors and needs to strengthen its capacity in key digital technologies to remain competitive.

GLOBAL SHARE OF ICT-RELATED PCT PATENT APPLICATIONS

2024 %, ROLLING 12-MONTH SUM



Source: World Intellectual Property Organization (WIPO), The Investment Institute by UniCredit
Note: Published PCT patent applications, latest observation August 2026

THE CONTEXT

As geopolitical tensions rise and technological competition intensifies, understanding where new technologies are developed has become increasingly relevant. Technological progress is a key driver of productivity growth and economic performance, while also helping countries reduce their dependence on foreign suppliers of strategically important technologies. This is particularly true in information and communication technologies (ICT), which encompass many of the technologies shaping today's economy, including artificial intelligence (AI), semiconductors and digital communications. Patents provide a useful indication of where technologically significant inventions are being generated. We therefore examine international patent applications to assess how the global geography of ICT inventive activity has evolved.



THE DATA

The chart shows each economy's share of global published Patent Cooperation Treaty (PCT) applications in ICT. China, the US, the EU, Japan and Korea together account for the vast majority of international patenting activity in these technologies. The most important development of the past two decades has been China's rapid rise as a source of ICT inventions. China's share of global ICT-related PCT applications increased from around 3% in the mid-2000s to almost 40% in 2025, making it the largest source of these applications among the economies considered. In the process, China overtook both the US and the EU, shifting the centre of gravity of ICT inventive activity towards Asia.

The US remains a major source of ICT-related PCT applications, accounting for around a fifth of the global total. However, its share has roughly halved since the mid-2000s, largely reflecting China's rapid emergence, without necessarily indicating an absolute decline in US technological capabilities.

The EU remains an important source of ICT inventions, but its share of global ICT-related PCT applications has fallen from around a quarter in the mid-2000s to around a tenth by 2025, leaving it well behind both China and the US. The EU has not matched the pace of growth in ICT-related inventive activity seen in China and, to a lesser extent, Korea.



OUR VIEW

PCT patent applications provide a harmonised and internationally comparable measure of inventive activity and typically relate to inventions that applicants consider valuable enough to seek patent protection across multiple markets. As such, they provide a useful indication of where technologically significant inventions are being generated and where related technological capabilities are being accumulated. However, patents capture only part of the innovation process and do not provide a comprehensive measure of innovation capacity. Important sources of competitive advantage in ICT, such as proprietary data, organisational capabilities, trade secrets and open-source software development, are only partially reflected in patent statistics. Similarly, some important ICT ecosystems are not fully represented in standard country comparisons based on PCT data, most notably Taiwan, a key global centre for semiconductor design and manufacturing.

While patent data do not provide a comprehensive measure of innovation capacity, they highlight the changing balance of technological capabilities across economies. As digital technologies become increasingly important for economic activity, these trends matter. For Europe, the findings highlight the importance of strengthening innovation capacity in digital technologies, where the gap between Europe and the global leaders has widened markedly.

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