

China is on course to overtake the US in scientific output possibly as soon as 2013 - far earlier than expected. That is the conclusion of a major new study by the Royal Society, the UK's national science academy.

The country that invented the compass, gunpowder, paper and printing is set for a globally important comeback. An analysis of published research - one of the key measures of scientific effort - reveals an "especially striking" rise by Chinese science.

The study, Knowledge, Networks and Nations, charts the challenge to the traditional dominance of the United States, Europe and Japan.

The figures are based on the papers published in recognised international journals listed by the Scopus service of the publishers Elsevier. In 1996, the first year of the analysis, the US published 292,513 papers - more 10 times China's 25,474.

By 2008, the US total had increased very slightly to 316,317 while China's had surged more than seven-fold to 184,080.

Previous estimates for the rate of expansion of Chinese science had suggested that China might overtake the US sometime after 2020. But this study shows that China, after displacing the UK as the world's second leading producer of research, could go on to overtake America in as little as two years' time.

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