China will become world's second highest investor in R&D by end of 2006, finds OECD

China will this year for the first time spend more on research and development (R&D) than Japan and so become the world's second highest investor in R&D after the United States, according to OECD projections based on recent trends.

"The rapid rise of China in both money spent and researchers employed is stunning," said Dirk Pilat, Head of the OECD’s Science and Technology Policy division. "To keep up, OECD countries need to make their research and innovation systems more efficient and find new ways to stimulate innovation in today's increasingly competitive global economy."

Based on recent trends, China will spend just over USD 136 billion on R&D in 2006, just over Japan's forecast USD 130 billion. The United States is predicted to remain the world's leading investor in R&D in 2006, spending just over USD 330 billion. The EU-15, which includes France, Germany and the UK, is predicted to spend just over USD 230 billion.

Figures for 2005 and 2006 are projected on the assumption of a continuation of growth in R&D spending last year and in 2006 at the same average rate as was observed over 2000-2004. These figures are available in the Science, Technology and Industry Outlook 2006. (See figure 1 below)

China's spending on R&D as a percentage of GDP, known as R&D intensity, has more than doubled from 0.6% of GDP in 1995 to just over 1.2% in 2004. In current prices, this represents an increase from just over USD 17 billion in 1995 to USD 94 billion in 2004. And it is growing even faster than the economy which is growing by between 9 and 10% a year.

The Science, Technology and Industry Outlook 2006 notes two clear trends in non-OECD countries in strengthening R&D and innovation activities and policies: rapid absolute growth, from low starting points, in R&D and patenting, and significantly growing shares in global R&D and patenting.

The report gives a comprehensive review of key trends and developments in science, technology and innovation policy in OECD countries. Among other things, it finds that:

- In China, the number of researchers increased by 77% between 1995 and 2004. China now ranks second worldwide with 926 000 researchers, just behind the United States (more than 1.3 million), and Russia ranks fourth. Singapore employs more researchers per thousand of total employment than the OECD average.
- The total number of globally important patents originating from non-OECD economies is small compared to the OECD total, but the numbers have grown rapidly in recent years. In 1991, Brazil, China, India and South Africa accounted for 0.15% of the total share; by 2002 this had increased to 0.58% of the total.
Policy has yet to catch up with the globalisation of innovation. To date, policies have largely been ad hoc and aimed at specific problems, such as inward investment. Few countries have worked out how to adapt national policy frameworks to today’s more global innovation system but small, open economies, such as Finland and Ireland, appear to be leading the way.

Science, Technology and Industry Outlook 2006 is available to journalists on the OECD’s password-protected website or from the OECD's Media Division (tel. [33] 1 45 24 97 00).

The report can be purchased in paper or electronic form through the OECD’s Online Bookshop. Subscribers and readers at subscribing institutions can access the online version via SourceOECD.

Further information on the report are available at www.oecd.org/sti/outlook.

Figure 1 - Gross Domestic Expenditure on R&D (billion current PPP $), 1981-20061

---

Note: (1) Figures for 2005 and 2006 are projected on the assumption that growth of R&D expenditure in 2005 and 2006 will be same as average growth over 2000-2004.

Source: OECD, Main Science and Technology Indicators, 2006-I, and OECD estimates.