

**Contact:**

Peter Hebert  
Lux Research, Inc.  
646-723-0702  
peter.hebert@luxresearchinc.com

## **THE U.S., JAPAN, SOUTH KOREA, AND GERMANY DOMINATE IN NANOTECHNOLOGY TODAY – BUT TAIWAN AND CHINA ARE RISING**

Lux Research report charts shifts in competitiveness as winners and losers emerge in nanotechnology

New York, NY – November 3, 2005 – Since then-President Bill Clinton launched the U.S. National Nanotechnology Initiative in 2000, nations have invested heavily in nanotechnology in the hopes of increasing GDP, attracting investment, and creating high-paying jobs. Nations challenged to secure energy independence, provide clean water, reduce pollution, and augment war-fighting forces also see potential solutions in nanotech. So which nations are winning the nanotechnology race? The U.S., Japan, South Korea, and Germany dominate today – but Taiwan and China will challenge them for leadership in the next seven years, according to a report from Lux Research entitled “Ranking the Nations: Nanotech’s Shifting Global Leaders.”

For this report, Lux Research assessed 14 countries spanning four continents with a rigorous, quantitative methodology driven by exhaustive secondary research, primary interviews with government and business executives in each country, and on-site visits in countries including the U.S., Japan, Taiwan, China, the U.K., and Germany. Each nation was measured on 17 metrics across two axes. The first axis, nanotechnology activity – including metrics like national nanotech funding, government and university nanotech centers, and corporate nanotech R&D spending – measures the raw material that researchers and businesses in a country have to work with in commercializing nanotechnology. The second axis, technology development strength – including metrics like high-tech manufacturing as percent of GDP, R&D spending as percent of GDP, and size of the technology and science workforce – measures the country’s demonstrated ability to develop its economy through science and technology in general.

The report finds that:

- Four countries rank as “Dominant,” scoring high on both nanotechnology activity and technology development strength: The U.S., Japan, South Korea, and Germany.
- Three countries – all technology powerhouses with relatively small populations – rank as “Niche Players.” They score low on nanotechnology activity on an absolute basis, but high on the technology development strength needed to convert that activity into jobs and GDP. These countries are Taiwan, Israel, and Singapore.
- Two countries come out as “Ivory Tower” nations, high on nanotechnology activity but low on technology development strength in relative terms: The U.K. and France.
- Five nations are in nanotechnology’s “Minor League” today, scoring low on both axes: China, Canada, Australia, Russia, and India.

The report emphasizes that countries’ competitive positions in nanotechnology are changing rapidly, and forecasts how their rankings will change over the next seven years. The report predicts that Taiwan will leap into a dominant role on the basis of its large nanotech spending, extremely well-coordinated nanotech initiatives through its Industrial Technology Research Institute, and ability to ramp up commercialization by tapping mainland Chinese labor and facilities. China will approach Dominant status – the country has moved from fifth place to second in nanotechnology publications over the last ten years while the shares of publications in Japan and Germany dropped, and China spends more government money on nanotech research at purchasing-power parity than any other country except the U.S. Without significant strategy swings, some Western nations’ positions today will erode: France and the UK risk sliding into stagnation, with little commercial output to show for their groundbreaking academic work.

The report emphasizes that, in a globalized economy, commercial horsepower is just as important as invention and discovery. “Many countries are investing millions or billions in primary research into nanotechnology,” said Lux Research Senior Analyst David Lackner. “But the true winners – who reap the rewards of those huge investments – will be the

ones that discover how to incorporate nanotechnology breakthroughs into new manufacturing techniques, medical treatments, and finished products.”

The report contains individual assessments of each country’s position and drills down in detail on each criterion in the framework. The forecast of nations’ competitive positions through 2012 also identifies which sectors each nation currently excels in with regard to nanotechnology (manufacturing and materials, electronics and IT, and healthcare and life sciences) as well as its position with regard to the four “ecosystem roles” required to bring nanotech innovations to market (funder, innovator, manufacturer, and marketer). The report is available immediately to clients of Lux Research’s Nanotechnology Strategies advisory service. For more information on how to become a client, contact Nick Katsoulis at +1 (212) 644-9563.

**About Lux Research:**

Lux Research is the world's leading nanotechnology research and advisory firm. We help our clients make better decisions to profit from nanoscale science and technology, tapping into our analysts' unique expertise and unrivaled network. Our clients include top decision makers at large corporations, portfolio managers and analysts at leading financial institutions, CEOs of the most innovative start-ups, and visionary public policy makers. To get connected and for more information, visit [www.luxresearchinc.com](http://www.luxresearchinc.com).

###