

America losing brainpower advantage: report

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Though most of the world's top universities are located in the United States, the World Economic Forum ranks the U.S. 48th in math and science education. Credit: ISNS

The United States' ability to compete globally in science and technology is on a "perilous path," said a new report delivered Sept. 23 on Capitol Hill to a bipartisan group of policymakers, industry leaders, and academics.

American [students](#) continue to perform poorly in math and [science](#) compared to their counterparts abroad, they said. Though the [United States](#) is still a leader in innovation and produces a disproportionate share of the world's wealth, other countries such as China are investing heavily in research and education and, according to the new report, threatening America's competitiveness.

"At a time when jobs are our foremost concern in the United States, keeping our brainpower advantage is a good way to keep new jobs coming," said Sen. Lamar Alexander R-Tenn.

The group that met Thursday was originally brought together in 2005 by a bipartisan request from Congress to assess the U.S.'s competitiveness and to recommend a path for the future. They concluded that the health of the

American [economy](#) and the creation of jobs depend on innovation.

"We've known for some time that science research is a firm foundation for economic growth," Rep. Rush Holt D-N.J. said on Thursday. "Now we're really at a critical moment."

New scientific discoveries drive the creation of new jobs: basic research in solid-state physics, for example, led to the materials now used in products ranging from iPods and medical scanners to GPS networks and to the jobs in these industries.

"Rising Above the Gathering Storm," a report written by this group and sponsored by the National Academies in 2005, outlined the problems facing the U.S., including stagnated federal research funding and a dysfunctional [educational system](#). It listed 20 recommendations meant to improve the American education system, double federal spending on basic research, encourage more people to pursue careers in science and engineering, and reform patent, immigration, and litigation policies.

Revisiting this original report five years later, the members of the Gathering Storm committee have now upgraded the storm to an approaching Category 5 hurricane.

"The outlook for America to compete for quality jobs has further deteriorated over the past five years," according to the new report.

Only 4 of the top 10 companies receiving U.S. patents in 2009 were American companies. Most of General Electric Co.'s research and development personnel are located outside of the U.S., and 77 percent of global firms surveyed said they will build new research and development facilities in China and India.

"China graduated more English-speaking engineers

last year than we did," said Rep. Frank Wolf, R-Va. "The United States' share of high-tech exports has fallen from 21 to 14 percent, while China's rose from 7 to 20 percent."

"They're doing better than we are," Wolf added.

The new report again stressed the importance of education. Though most of the world's top universities are located in the United States, the World Economic Forum ranks the U.S. 48th in math and science education. American test scores in these subjects have changed little over the last 40 years. Nearly one-third of American adults don't know how long it takes the Earth to revolve around the Sun, according to the National Science Board.

Some progress has been made in basic research funding. The America COMPETES Act, passed in 2007, opened the door for new funding for major government agencies such as the National Science Foundation and for the new agency ARPA-E devoted to high-risk, high-reward energy research. Many of these efforts were funded by money from the 2009 economic stimulus bill.

This stimulus funding is now largely used up, and the America COMPETES Act expires this year. Thursday's advocates for science called on the Senate to pass a reauthorization of a revised version of the COMPETES bill that allows federal spending for basic research to continue to increase.

"This is a marathon, not a sprint," said Norman Augustine, former chairman and chief executive of the Lockheed Martin Corporation. "Just running fast, we'll stay in the same place. We have to run really fast."

Source: Inside Science News Service

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