

TAPPING AMERICA'S POTENTIAL

Maintaining U.S. Science and Technology Leadership: Act Now on U.S. Competitiveness

The Challenge

Maintaining U.S. scientific and technological leadership is essential to the future of our country. However, the United States is facing a critical talent gap in science, technology, engineering and math, and is not keeping pace with foreign competition.

The Solution

Reversing current trends requires three key elements:

- Improving math and science education and inspiring American youth to study and enter these fields;
- Reforming immigration policies to recruit and retain highly educated foreign talent; and
- Increasing funding for basic research in the physical sciences and engineering.

Success depends on national leadership plus the combined efforts of public and private sector leaders—working with educators, parents and students—to solve the U.S. talent gap problem.

Our Goal

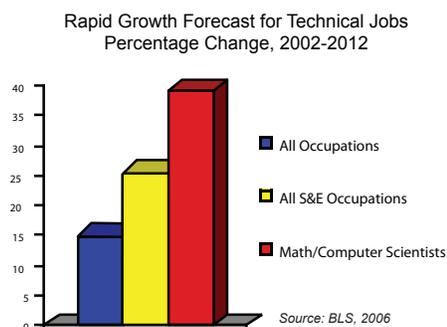
Double the number of science, technology, engineering and mathematics graduates with bachelor's degrees.

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Workforce Outlook and Trends

Jobs will be available for those who pursue degrees in technical fields. Employment in science and engineering will increase about 70% faster than the rate for all occupations (BLS, 2006), and unemployment is very low for experienced engineers (1.3%) and computer scientists (2.7%)

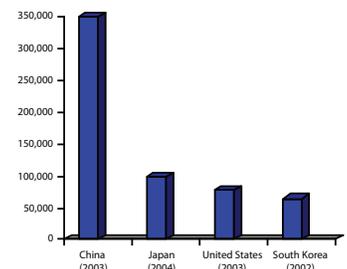
as compared to the national average (4.4%) (BLS, 2006). In addition, the retirement of baby boomers is expected to deplete the current science and engineering workforce dramatically over the next 20 years (NSF, 2006).



Math and Science Education

U.S. students are falling behind in math and science, and the foreign competition is increasing. U.S. students rank 24th in the world in math literacy by the time they get to high school (PISA, 2003). While from 1995 to 2005 the percentage of U.S. high school students interested in majoring in engineering dropped by nearly 35% (ACT, 2005), China is graduating more than four times as many engineers as the United States (NAS, 2006). It is predicted that by 2010, more than 90% of all scientists and engineers will live in Asia (Rice Univ., 2003).

Engineering Graduates, Selected Countries



Sources: NAS, NCES, NSF (most recent data available)

Immigration - Highly Educated Workers

Highly educated foreign-born workers have a long history of contributing to our economy. In 2005, foreign-born students earned 43% of master's degrees and 61% of Ph.D.s awarded in U.S. university engineering and technology programs (AAES, 2005). However, unrealistic caps and backlogs in the visa system prevent U.S. employers from hiring these talented and sought-after individuals.

Since 1997, the 65,000 H-1B cap has been reached eight times before the end of the fiscal year. For FY 2005, 2006 and 2007, it was reached before the fiscal years even began.

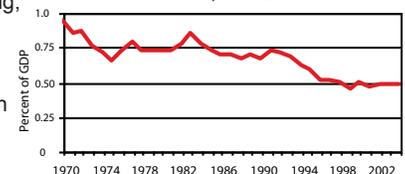
Basic Research Funding

Federal investments in basic research have declined.

Federal funding for physical science research as a percentage of GDP has dropped by one-half since 1970 (AAAS, 2006).

In fact, due to inadequate funding, NSF estimates it had to turn down \$2 billion in worthy research proposals in 2004 alone.

Federal Investment in Physical Sciences in Decline, 1970-2004



Source: AAAS, 2006