

## Keeping America Competitive

*It is fundamental to the United States' economic interest to have a secure and efficient immigration system that welcomes highly educated and talented professionals to our nation while providing world-class education, training and job opportunities to all Americans.*

### What the Experts Are Saying...

“American competitiveness ... requires immigration reforms that reflect the importance of highly skilled foreign-born employees. Demand for specialized technical skills has long exceeded the supply of native-born workers with advanced degrees, and scientists and engineers from other countries fill this gap. This issue has reached a crisis point. ... During the past 30 years, U.S. innovation has been the catalyst for the digital information revolution. If the United States is to remain a global economic leader, we must foster an environment that enables a new generation to dream up innovations, regardless of where they were born.”

*Bill Gates, Chairman, Microsoft Corporation, The Washington Post, February 25, 2007*

“The current policy in the U.S. is flatline thinking. Talk about a barrier to entry – literally. The 60,000 visas the government offers each year is an arbitrary number and is long-depleted before the government’s fiscal year even begins. Imagine if Vinod Kholsa and Sergei Brin had not been able to stay in this country. No Sun, no Google. Fewer jobs in Silicon Valley. . .”

*Scott McNealy, Chairman and Co-Founder, Sun Microsystems, Inc., BusinessWeek, January 18, 2007*

“The U.S. needs to decide to compete. Right now we are riding on past investments and not investing for the future. We have to decide that investing in innovation is key to our future and then do the following to achieve competitiveness. . . Ultimately, we need the best education system in the world, the best basic R&D machine in the world, and then sensible government policies to let smart people with smart ideas get together.”

*Craig R. Barrett, Chairman of Intel, BusinessWeek, January 18, 2007*

“If the U.S. wants to continue to play a significant part in the world's technology economy, it has to continue to lead in the investments it makes in the future. That means investments in education and a greater emphasis on producing a diverse community of students with strong math, science, and engineering skills. That means working hard to attract the best and brightest talent from around the world to U.S. universities and companies.”

*Rick Rashid, Senior Vice President of Research, Microsoft Corp., BusinessWeek, January 18, 2007*

“We stand to potentially lose the next technological giants like Yahoo! or Google if we do not keep America's workforce competitive. We must maintain our edge by providing opportunities to highly educated and skilled individuals interested in staying here in the U.S.”

**Representative John Shadegg (R-AZ)**, *Remarks made upon introduction of the SKIL Bill (H.R. 5744) in the House, June 30, 2006*

“A crucial part of our growing economy is our ability to innovate. By investing in science and technology, we can continue to revolutionize our economy. [The SKIL] bill would help cultivate a system that ensures these talented people—and their jobs—remain here.”

**Senator John Cornyn (R-TX)**, *Remarks made upon introduction of the SKIL Bill (S. 2691) in the Senate, May 2, 2006*

“[T]here are more high-tech jobs in America today than people available to fill them. . . . if we don't do something about how to fill those high-tech jobs here, they'll go somewhere else where somebody can do the job. . . . And so one way to deal with this problem, and probably the most effective way, is to recognize that there's a lot of bright engineers and chemists and physicists from other lands that are either educated here, or received an education elsewhere but want to work here. And they come here under a program called H-1B visas. And the problem is, is that Congress has limited the number of H-1B visas that can come and apply for a job.... I think it's a mistake not to encourage more really bright folks who can fill the jobs that are having trouble being filled here in America – to limit their number. And so I call upon Congress to be realistic and reasonable and raise that cap.”

**President George W. Bush**, *Remarks at 3M Corporate Headquarters, February 2, 2006*

“Just as corporations compete to recruit the best possible workers, and universities compete to recruit the best possible students, our country will increasingly compete with other countries to recruit and retain the best most highly skilled minds. This is a zero-sum game. People will start their innovative businesses in the United States; or in the countries we compete with. Recruiting the world's most talented people to the United States will increase our entrepreneurship, our international competitiveness and – according to every major study of this issue – will net many high-paying jobs for all Americans.”

**Carlos M. Gutierrez, Secretary of Commerce**, *Testimony before the House Government Reform Committee, February 9, 2006*

“... the federal government needs to process all employment-based visas in a timely manner in order to eliminate current backlogs and prevent future ones. And, among other reforms, we need sufficient numbers and streamlined processing of H-1B, H-2A and H-2B visas to meet U.S. industry demands, particularly in the high-tech and bio-tech industries and seasonal agriculture and hospitality operations.”

**Janet Napolitano, Democratic Governor of Arizona and Jon Huntsman Jr., Republican Governor of Utah**, *Salt Lake Tribune, March 2, 2006*

“It’s time for the federal government to loosen its hold on these important employment visas. We need to keep more of the talented and hard working employees trained in our colleges and universities here in the state after they graduate.”

***Tim Pawlenty, Governor of Minnesota, Comments on Proposals to Promote Legal Immigration, January 12, 2006***

“We know that more than 40 percent of doctorates in physical sciences now go to non-U.S. citizens, and we know that nearly half the scientific and medical professionals at the National Institutes of Health are foreign nationals. And as we secure America from terrorists, we do not want to risk losing the next Enrico Fermi or Albert Einstein... We would be a far poorer nation in many, many ways.”

***Tom Ridge, former Secretary of Homeland Security, Congressional Quarterly, April 14, 2003***

“And if we want to maintain an economy and a society which has been at the cutting edge of technology ... we have to enhance the capability or the skills of people coming out of our schools. You cannot have a highly complex capital structure without skilled people to essentially staff it.”

***Alan Greenspan, former Chairman of the Federal Reserve, Testimony before the House Financial Service Committee, U.S. House, February 11, 2004, “Semiannual Monetary Policy Report to the Congress”***

"But there’s no doubt that if we had easier hiring here in the U.S., we would be doing more in the U.S. and less outside the U.S."

***Bill Gates, Chairman of Microsoft Corp., The Wall Street Journal, May 5, 2005***

“That is why deciding to compete also means opening doors wider to foreigners with the kind of technical knowledge our businesses need. At a minimum the U.S. should vastly increase the number of permanent visas for highly educated foreigners, streamline the process for those already working here and allow foreign students in the hard sciences and engineering to move directly to permanent resident status. Any country that wants to remain competitive has to start competing for the best minds in the world. Without that we may be unable to maintain economic leadership in the 21st century.”

***Craig R. Barrett, Chairman of Intel, Financial Times, January 31, 2006***

“As technology and competition continue to shrink our world, developing nations are accounting for an ever increasing share of global trade and economic growth. If the U.S. is to preserve its position as a major economic power in the 21st century it must stay out in front of the innovation curve, and it will need a much better prepared workforce to do so.”

***John Engler, President, National Association of Manufacturers and former Governor of Michigan, September 2005***

“Long-term trends and outlook relative to maintaining our nation’s leadership in engineering are ominous. From 20 years, the U.S. share of high tech exports has declined. While the demand for workers highly trained in science and engineering has continued to increase, in terms of engineering bachelor’s degrees per million population, we grant only 75% as many degrees as a country as we did in 1985. Today, India and China graduate three times, and Asian countries altogether eight times, as many bachelor’s degrees in engineering than the U.S. While 60% of all bachelor’s degrees in China today are in science and engineering, only about 30% of those in the U.S. are. In fact, as a nation, we graduate 50% more MBA’s than SB’s in engineering.”

*Dr. Thomas Magnanti, Dean of the School of Engineering MIT, May 19, 2005*

“Fewer American students are studying science. Undergraduate student enrollments in engineering and the physical sciences are static or declining, and have been for a number of years. Computer science degrees decreased steadily between 1985 to 1995. The only fields showing an increase have been psychology and the biological sciences. This trend is compounded further by a decline in foreign students attending American universities, again, because of new national security restrictions, and increased opportunities for higher education and employment at home or elsewhere. Nationwide, university and college enrollment management officials report a drop in foreign graduate student applications of as much as 40 percent.”

*Shirley Ann Jackson, Ph.D., President, Rensselaer Polytechnic Institute, Remarks to the American Association for the Advancement of Science Annual Meeting, February 14, 2004*

“For decades, the U.S. has excelled in building and sustaining institutions of higher education that attract science and engineering talent from around the world...As a nation, we have done less well in encouraging and developing homegrown talent—our mostly untapped potential of underrepresented minorities, women, and persons with disabilities—America’s “ace in the hole” or “competitive edge” for the 21st century. For too many years, our progress has been too slow, and has come at too high a cost—a cost in lost talent and fresh ideas that we are only now beginning to calculate....”

*Rita Colwell, then-director of National Science Foundation (NSF), Remarks to National Science Board Committee on Education and Human Resources, August 14, 2003*

“Finally, numerous competitor nations have made greater advances than the United States in terms of developing human resources for science and technology. Many countries in the European Union and Asia have exceeded U.S. degree production in the natural sciences and engineering. Europe overtook the United States in degree production in 1988 and has stayed ahead, and Asia pulled ahead in 1998. During this same period, U.S. degree attainment in these fields has declined.

“No other issue, however, compares in seriousness to that of the deficit in human resources. For the past 30 or 40 years, the United States has substantially depended on the brainpower of people who came here as immigrants--students or faculty, permanently or temporarily. But as other countries continue to build their own bases in science and technology and increase their levels of

industrialization, fewer qualified people will come to the United States or stay here. In addition, U.S. companies are sometimes moving operations to foreign countries explicitly to take advantage of the increasing number of highly educated people abroad. The United States could eventually be faced with a reduced science and technology base.”

*Erich Bloch, Principal of the Washington Advisory Group, LLC, former director of the National Science Foundation, Issues in Science and Technology (a publication of the National Academy of Science, the National Academy of Engineering, and the University of Texas at Dallas), Summer 2003*

“It’s better to bring those people here than to compete with them at far lower wages elsewhere. If you bring them here, they come in and become part of the U.S. economy, earning a comparable wage...So, what’s the better choice?”

“The reality is, you can’t pay these people a lot less money or they’ll find a way to move on to another job. These aren’t sweatshop workers, after all. They’re really talented guys, which is why they’re here in the first place.”

*Jagdish Bhagwati, University Professor at Columbia University, San Antonio Express-News, May 4, 2003*

“So while we make national and institutional efforts to attract American students to careers in science and work to improve K-12 education to produce more Americans who have the capabilities necessary to excel in science and mathematics, we turn to international students and scholars to fill the widening gap between supply and demand for U.S. scientists and engineers. These foreign scientists and scholars make many critical contributions to the American scientific and education enterprise.

“Foreign-born scientists have, for more than fifty years, helped the United States achieve the preeminence in science and technology that has led to our strong economic growth and long-term national security. Almost 20 percent of the distinguished scientists and engineers who are members of the National Academy of Sciences, and more than a third of U.S. Nobel Laureates, are foreign born.”

*Shirley M. Tilghman, President of Princeton University, Testimony before the Committee on Science of the U.S. House of Representatives: Dealing with Foreign Students and Scholars in the Age of Terrorism: Visa Backlogs and Tracking Systems, March 26, 2003*

“Approximately half of the graduate students currently enrolled in the physical sciences and engineering at U.S. universities come from other nations. These foreign students are essential for much of the federally funded research carried out at academic laboratories.

“In short, the U.S. scientific, engineering, and health communities cannot hope to maintain their present position of international leadership if they become isolated from the rest of the world.

“We seek the help of the U.S. government in implementing effective and timely screening systems for issuing visas to qualified foreign scientists and students who bring great benefit to

our country. We view this as an urgent matter, one that must be promptly addressed if the United States is to meet both its national security and economic development goals.”

*Bruce Alberts, President, National Academy of Sciences*

*Wm. A. Wulf, President, National Academy of Engineering*

*Harvey Fineberg, President, Institute of Medicine*

*Current Visa Restrictions Interfere with U.S. Science and Engineering*

*Contributions to Important National Needs, Dec. 13, 2002 (Revised June 13, 2003)*

## **What the Studies Find...**

### ***NAFSA: Association of International Educators***

“Restoring U.S. Competitiveness for International Students and Scholars,” June 2006

“The best and brightest from around the globe are now a sought-after commodity, and are able to choose from many centers of excellence where they can ply their creative skills. Yet, while other countries are working hard to access the benefits gained from educating the next generation of world leaders and from attracting the world’s scientific, technological, and intellectual elite, the United States is curiously disengaged, content to compete with speeches, sound bites, and photo ops.”

### ***National Foundation for American Policy?***

“Legal Immigrants: Waiting Forever. An Analysis of the Green Card Backlogs and Processing Delays Affecting Families, Skilled Professionals and U.S. Employers,” May 2006

“Despite the increased competition for talent and the tremendous changes in the U.S. and world economy over the past 16 years, with modest exceptions, the U.S. immigration system for high-skilled professionals has not changed since 1990 – except that it has become worse. Companies now pay hefty fees, endure longer waits, and submit to more restrictive regulations than in the past. Employers feel this impact but it also exacts a tremendous toll on individuals. Such people are denied an opportunity to work in the United States or are left in limbo for years through inadequate green card quotas and processing delays.

“Unfortunately, because of these long waits and disruptions, the day may soon come when promising international students and outstanding foreign-born scientists and engineers decide America is no longer the land of opportunity for them.”

### ***National Foundation for American Policy?***

“H-1B Professionals and Wages: Setting the Record Straight,” March 2006

“In recent years, Congress has failed to increase sufficiently the annual limit on H-1B visas for foreign-born professionals, regularly leaving U.S. companies unable to hire key personnel for many months. A key reason for Congress failing to act is the perception that the entry of skilled professionals on H-1B visas harms the employment prospects of natives. This perception is misguided and the result of several myths perpetuated by anti-immigration groups. Given the significant contributions made by foreign-born professionals, no one can claim the current tight numerical restrictions on H-1B visas are in the interests of the nation as a whole.”

### ***National Foundation for American Policy?***

“H-1B Fees Paid By U.S. Companies Have Funded 40,000 Math And Science Scholarships For U.S. Students; Fee Totals Exceed \$1 Billion Since 1999,” March 2006

“The fees U.S. companies pay for each H-1B professional hired have totaled more than \$1 billion and funded 40,000 math and science scholarships, participation of 75,000 middle and

high school students in hands-on science programs, and training for more than 55,000 U.S. workers and professionals. ... H-1B visas for skilled foreign-born professionals are essential for the competitiveness of U.S. companies, while the access to this talent has helped maintain America's edge in science and technology. Some have asked why America has not done more to help U.S. students and workers enter math and science fields. The answer is that American companies and the U.S. government spend significant amounts of money for that very purpose."

### ***National Academies***

"Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future," October 2005

"Having reviewed trends in the United States and abroad, the committee is deeply concerned that the scientific and technical building blocks of our economic leadership are eroding at a time when many other nations are gathering strength. We strongly believe that a worldwide strengthening will benefit the world's economy .... But we are worried about the future prosperity of the United States. Although many people assume that [the] United States will always be a world leader in science and technology, this may not continue to be the case inasmuch as great minds and ideas exist throughout the world. We fear the abruptness with which a lead in science and technology can be lost – and the difficulty of recovery a lead once lost, if indeed it can be regained at all."

### ***Tapping America's Potential***

"Tapping America's Potential: The Education for Innovation Initiative," July 2005

"The United States is in a fierce contest with other nations to remain the world's scientific leader. But other countries are demonstrating a greater commitment to building their brainpower. ...

"Our organizations feel strongly that the United States must respond to this challenge as energetically as we did to the Soviet Union's launching of Sputnik in the 1950s. To remain the technological leader in the 21st century, we must establish and achieve an ambitious goal: We must double today's science, technology, engineering and mathematics graduates with bachelor's degrees by 2015."

### ***The Taskforce On The Future Of American Innovation***

"The Knowledge Economy: Is the United States Losing Its Competitive Edge?," February 2005

"For more than half a century, the United States has led the world in scientific discovery and innovation. It has been a beacon, drawing the best scientists to its educational institutions, industries and laboratories from around the globe. However, in today's rapidly evolving competitive world, the United States can no longer take its supremacy for granted. Nations from Europe to Eastern Asia are on a fast track to pass the United States in scientific excellence and technological innovation. ...

"The United States still leads the world in research and discovery, but our advantage is rapidly eroding, and our global competitors may soon overtake us. ...

“It is essential that we act now; otherwise our global leadership will dwindle, and the talent pool required to support our high-tech economy will evaporate.”

***Council of Graduate Schools (CGS)***

“Survey on International Graduate Student Applications to U.S.,” March 2004

“Graduate school applications from international students declined 32% over the last year (February 2003-March 2004), the result of declines across all major countries of origin and for all major fields... International applications declined across all major fields, but the most striking decreases came in engineering, physical sciences, and biological sciences. Nearly 80% of graduate schools reported decreases in international applications for graduate engineering programs, and 65% reported declines in physical sciences.”

***Carnegie-Mellon Software Industry Center***

“Europe in the Creative Age,” February 2004

“Global talent attraction is a dynamic, sensitive and little-documented process. Traditional economic leaders can lose their position in the nascent creative economy as vibrant, new creative centers quickly emerge. We stand at an intriguing inflection point. The United States, which has for years enjoyed an undisputed eminence in attracting the best and brightest from Europe, Asia, Africa, India and all countries of the world, seems poised to surrender its lead. Our studies indicate that the United States’ advantage seems to be shifting, in part due to the liberalized immigration policies of many European countries, Canada and Australia, which allows those countries to effectively attract and retain global talent.

“But it also lies in the growing perception around the world that the United States acts in a unilaterally aggressive manner and is unwelcoming of foreign-born people; that its direct policies restricting the flow of individuals and scientific information has unintentionally chilled the climate for all creative talent.”

***National Research Council***

“Securing the Future,” 2003

“...for more than decade, U.S. graduate schools have depended on large numbers of foreign-born students and faculty to staff their laboratories and teach in their programs. The United States continues to attract student foreign students as well as scientists and engineers, who want to study, live and work here. Increasingly, this group of highly skilled workers encounters significant inducements to return home. Most disconcerting from the U.S. perspective is the fact that the number of individuals graduating from U.S. universities with electrical engineering degrees has exhibited a declining trend since the mid 1980’s.”

***National Science Foundation***

“The Science and Engineering Workforce: Realizing America’s Potential,” Report from NSF’s National Science Board, August 2003

“U.S. employers have grown increasingly dependent on the global Science and Engineering (S&E) workforce to meet needs in industry, government, and academia. For example, in 1999, one-third of all S&E PhD-holders working in industry were born abroad. Among computer scientists, the proportion was half, and among engineers it was more than half. For the Federal Government workforce, 16 percent of PhD holders in 1999 were born abroad. In academia, about 20 percent of the yearly job openings for college and university faculty in S&E are being filled by permanent residents or temporary visa holders.”

***National Education Association (NEA)***

“Report on Trends in Foreign Teacher Recruitment,” June 2003

“A key conclusion of this report is that, at least to this point, the use of temporary foreign teachers appears to have been largely driven by efforts to address perceived teacher shortages, particularly in specific disciplines such as math, science, foreign languages, and special education, as well as in “less desirable” poor urban and rural school districts. Education-related professions in general have been one of the few that have had continued growth in H-1B visa approvals, with the lion’s share going to colleges, universities and professional schools.

“It would appear that there were approximately 50,000 H-1B visa holders in education-related jobs during the 2002-2003 school year, of which about 29 percent were teaching in grades K-12 (about 20% in public K-12 schools).”

***Building Engineering and Science Talent (BEST)***

“The Quiet Crisis: Falling Short in Producing American Scientific and Technical Talent,” 2002

“At home, the source of innovative capacity and technological ability is thinning. A quarter of the current scientists and engineering workforce - whose research and innovation generated the economic boom in the 1990s - is more than 50 years old and will retire by the end of this decade. This cohort is not being replaced in sufficient numbers.....the quality of science and engineering education overseas is improving rapidly, as are opportunities to use this training. What is the best and brightest no longer come to the United States or return home in growing numbers?”

***President’s Council of Advisors on Science and Technology (PCAST)***

“Assessing the U.S. R&D Development,” October 2002

“The adequacy of human resources in science and engineering (S&E) is a chronic issue in the U.S. The number of full-time graduate students in most fields of science and engineering has either declined or been stagnant .... The number of S&E doctorates awarded increased since 1985, primarily because of the high influx of foreign-born students. Of late, even this trend has leveled off as some foreign countries have expanded their institutional capacity for S&E graduate programs and doctoral education...”

“Increasingly, graduate students from foreign countries are coming to the United States to earn their degrees – these students represent the best and the brightest. Nearly half of the students earning doctorates in S&E fields in the United States are foreign born, and nearly 35% of those earning Masters degrees are as well. Approximately a quarter of these students plan to return home immediately after finishing their studies – in the long run, an even greater number return home. Foreign graduate students enrich our universities and provide tremendous value to this country, but it is important to understand the implications should there be a decrease in this educated workforce. We must ensure that immigration and other policies that affect immigration by highly skilled individuals are designed to encourage them to stay. The competition for these students is much more intense than in the past. As investment in semiconductor and related IT businesses migrates overseas, sometimes for business reasons and other times because of readily available technical talent, opportunities for these students to return home to high paying jobs is far greater than ever before.”

***Committee for Economic Development (CED)***

“Reforming Immigration: Helping Meet America’s Need for a Skilled Workforce,” 2001

“America’s workforce needs will change dramatically during the next several decades. Our domestic labor force will begin to decline in absolute numbers, producing general labor scarcity. At the same time, American business will find itself competing globally for the services of the ‘best and the brightest’ as technological progress continues to raise the demand for skills and foreign employers increase the quality and compensation for their jobs.

“These requirements for skilled workers, of course, only intensify the need to improve U.S. education and to increase the supply of highly skilled native workers, including scientists and engineers. But immigration offers the potential to play a supplementary role in meeting these demands and in alleviating the economic and fiscal problems resulting from the decline in the native work force and the growing population of retirees.

“A growing body of evidence suggests that the economic returns from investments in the high technology sector, in which immigrants have played a major role, may be much larger than previously estimated. There is striking anecdotal evidence of immigrants’ contributions in this sector not only as workers, but also as entrepreneurs and inventors.”

***U.S. Commission on National Security/21<sup>st</sup> Century***

Phase III Report: “Road Map for National Security: Imperative for Change,” February 15, 2001

“Fully 37 percent of doctorates in natural science, 50 percent of doctorates in mathematics and computer science, and 53 percent of doctorates in engineering at U.S. universities—the best in the world—are awarded to non-U.S. citizens. However, the percentage of science and engineering doctoral recipients with firm plans to stay in the United States is declining. The growing emphasis on science and technology in many foreign countries is enticing many foreign students to return to their countries of origin, or to go to other parts of the world. They are doing so in increasing numbers.

“Far from being negative, the cycle of their (foreign engineers) coming and going to and from the United States helps sustain U.S. needs. However, should they stop coming, or further accelerate their return home, the American population alone may not be able to sustain the needs of the U.S. economy over the next decade.

“Given the uncertainty as to whether U.S. nationals alone can fill U.S. economic needs, Congress should adjust the appropriate immigration legislation to make it easier for those non-U.S. citizens with critical educational and professional competencies to remain in the United States.”