

# INNOVATION LEADERSHIP: AMERICA'S LEGACY ... AMERICA'S FUTURE

For more than 50 years, leadership in technology has been the foundation of American economic growth, job creation and national security. The rapid application of technology to create and manufacture innovative products enables American workers to earn high wages in an increasingly competitive world.

While innovation has driven America's economic strength and security, leadership in technology requires dedication and an infrastructure that supports rapid innovation and growth. Maintaining this infrastructure requires that America be committed to excellence in K-12 education. We must fund basic research in our universities and we must embrace immigration policies that allow the best and brightest from around the world to study in our universities and stay and work after graduation. In addition we must have a business climate that encourages investment and supports risk-taking.

## KEY FACTS

**Only 6 of the world's top 25 information technology companies are based in the U.S.**

**The tech industry is the largest merchandise exporter, accounting for 23% of all U.S. exports.**

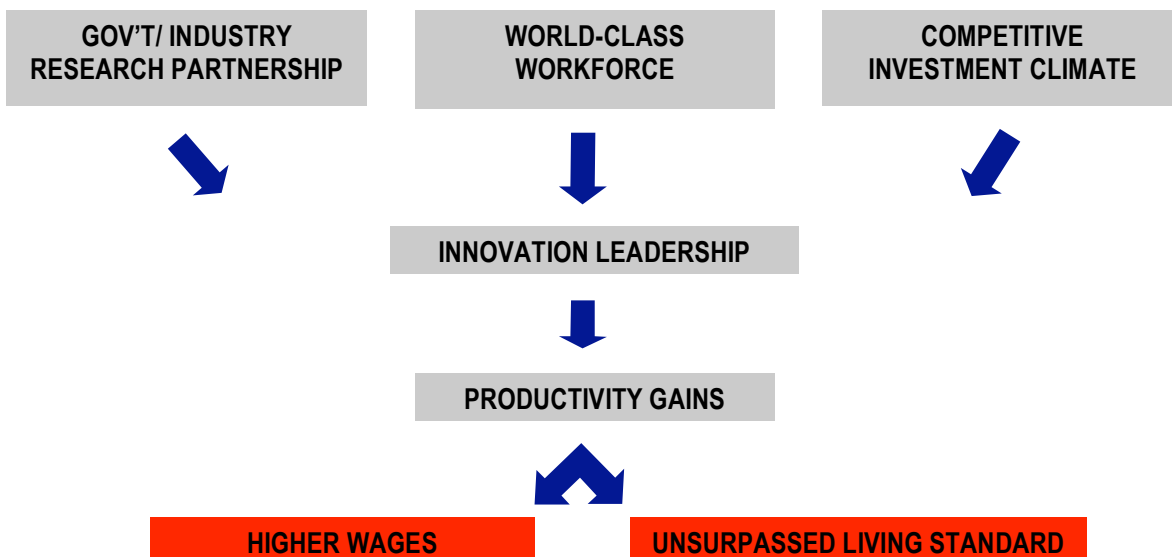
**Asia now spends as much on nanotechnology research as the U.S.**

**South Korea, with one-sixth the population, graduates as many engineers as the U.S.**

## WHAT OTHERS SAY:

*Although many people assume that 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 recovering a lead once lost, if indeed it can be regained at all.*

**“The Gathering Storm” Report  
The National Academies**



## U.S. Semiconductor Industry and Innovation Leadership

The U.S. semiconductor industry provides the enabling technology for thousands of products and services we use every day, such as PCs, cell phones, medical devices, appliances, automobiles, TVs, and digital cameras. More importantly, however, the rapid growth in the capacity and speed of semiconductors has enabled tremendous gains in productivity across all sectors of the economy. Semiconductors are also essential to the defense systems that ensure our national security. As a result, a vibrant domestic semiconductor industry is critical to U.S. economic strength and homeland security.

Basic research conducted at America's universities and the chip industry's significant investments in commercialization have made it possible for American semiconductor companies to maintain world leadership with a market share of nearly 50 percent. But, the U.S. share of leading-edge semiconductor manufacturing capacity has been eroding rapidly. Other countries are seeking to replicate the U.S. economic model and attain our level of prosperity by investing heavily in basic research, training highly skilled scientists and engineers, and offering tax incentives and subsidies to attract investment.

### WHAT OTHERS SAY:

*The big winners in the increasingly fierce global scramble for supremacy will not be those who simply make commodities faster and cheaper than the competition. They will be those who develop talent, techniques and tools so advanced that there is no competition. That means securing unquestioned superiority in nanotechnology, biotechnology, and information science and engineering. And it means upgrading and protecting the investments that have given us our present national stature and unsurpassed standard of living.*

**“Sustaining Innovation  
Ecosystems”**

**President's Council of Advisors on  
Science and Technology**

### WHAT OTHERS SAY:

*DOD should advocate that a strongly competitive U.S. semiconductor industry is not only a DOD objective but also a national priority. Because the U.S. share of the world's leading-edge semiconductor manufacturing has declined, and because research and development is closely coupled to manufacturing leadership, the United States will soon start to lose its R&D skill base if its onshore manufacturing does not remain vital.”*

**“High Performance Microchip Supply”  
Defense Science Board**

**For more information on the important role semiconductors play  
in American innovation and competitiveness, please visit:**

[www.choosetocompete.org](http://www.choosetocompete.org)

**Or call SIA at 408.573.6612**