

A moment of truth for America

(May 1995)

An open letter to Congress from the executives of some of America's leading technology companies

Imagine life without polio vaccines and heart pacemakers. Or digital computers. Or municipal water purification systems. Or space-based weather forecasting. Or advanced cancer therapies. Or jet airliners. Or disease-resistant grains and vegetables. Or cardiopulmonary resuscitation (CPR).

We take for granted these and thousands of other technological breakthroughs that have made American society the most advanced in history. They have made our economy more competitive, created millions of jobs, and underpinned our entire standard of living. They have vastly improved our health and extended our life span. In a very real sense, they epitomize the American Dream.

But these breakthroughs didn't just happen. They are the products of a long-standing partnership that has, as a matter of national policy, fostered the discovery and development of new technologies. For many years, Administrations of both parties, working with Congress, have consistently supported university research programs as a vital investment in our country's future. Industry has played an equally critical role, carefully shepherding these new technologies into the marketplace.

This partnership -- the research and educational assets of American universities, the financial support of the federal government, and the real-world product development of industry -- has been a critical factor in maintaining the nation's technological leadership through much of the 20th century.

Just as important, university research has also helped prepare and train the engineers, scientists and technicians in industry whose discipline and skill have made technological breakthroughs possible. It has sparked innovation and prudent risk-taking. And as a result of the opportunity afforded such skilled workers in our technologically advanced economy, many disadvantaged young people have used high-tech jobs as a "stepping stone" to more productive and satisfying lives.

Unfortunately, today America's technological prowess is severely threatened. As the federal government undergoes downsizing, there is pressure for critical university research to be slashed.

University research makes a tempting target because many people aren't aware of the critical role it plays. It can take years of intense research before technologies emerge that can "make it" in the marketplace. History has shown that it is federally sponsored research that provides the truly "patient" capital needed to carry out basic research and create an environment for the inspired risk-taking that is essential to technological discovery. Often these advances have no immediate practical usability but open "technology windows" that can be pursued until viable applications emerge. Such was the case with pioneering university research done on earthquakes in the 1920s, which led over time to the modern science of seismology and the design of structures that better withstand earthquake forces.

Today, we, the undersigned -- executives of some of America's leading technology companies -- believe that our country's future economic and social well-being stands astride a similarly ominous "fault line." We can personally attest that large and small companies in America, established and entrepreneurial, all depend on two products of our research universities: new technologies and well educated scientists and engineers.

Technological leadership, by its very nature, is ephemeral. At one point in their histories, all the great civilizations -- Egypt, China, Greece, Rome -- held the temporal "state of the art" in their hands. Each allowed their advantage to wither away, and as the civilization slipped from technological leadership, it also surrendered international political leadership.

For all these reasons, it is essential that the federal government continue its traditional role as funder of both basic and applied research in the university environment. If we want to keep the American Dream intact, we need to preserve the partnership that has long sustained it.

As we reach the final years of the century, we must acknowledge that we face a moment of truth.

Will we nurture that very special innovative environment that has made this "the American century"? Or will we follow the other great civilizations and yield our leadership to bolder, more confident nations? As the Congress makes its decisions on university research, let there be no mistake: We are determining the 21st century today.

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