educate next-generation innovators
deepen science and engineering skills
explore knowledge intersections
equip workers for change
support collaborative creativity
energize entrepreneurship
reward long-term strategy
build world-class infrastructure
invest in frontier research
attract global talent
create high-wage jobs

# INNOVATE AMERICA

NATIONAL INNOVATION INITIATIVE SUMMIT AND REPORT

thriving in a world of challenge and change

Council on Competitiveness

# TABLE OF CONTENTS

# RESOLVED

## Innovation will be the single most important factor in determining America's success through the 21st century.

### America's Role

The legacy America bequeaths to its children will depend on the creativity and commitment of our nation to lead a new era of prosperity at home and abroad.

### America's Challenge

America's challenge is to unleash its innovation capacity to drive productivity, standard of living and leadership in global markets. At a time when macro-economic forces and financial constraints make innovation-driven growth a more urgent imperative than ever before, American businesses, government, workers and universities face an unprecedented acceleration of global change, relentless pressure for short-term results, and fierce competition from countries that seek an innovation-driven future for themselves.

### America's Task

For the past 25 years, we have optimized our organizations for efficiency and quality. Over the next quarter century, we must optimize our entire society for innovation.

# CALL TO ACTION

## Innovate or Abdicate

## The National Innovation Initiative™ (NII) defines innovation as the intersection of invention and insight, leading to the creation of social and economic value.

Innovation has always been deep in America's soul. From the nation's birth, we have most fundamentally been about exploration, opportunity and discovery, about new beginnings, about setting out for the frontier.

America's focus on the horizon reflects our collective faith in a better future. These are the qualities that have made our country a beacon to people around the world for the past 228 years. America, in the end, is all about hope. And innovation is the societal and economic manifestation of hope.

Today, America finds itself at a unique and delicate historical juncture, shaped by two unprecedented shifts – one in the nature of global competition, the other in the nature of innovation itself:

1. The world is becoming dramatically more interconnected and competitive. At the same time that economic interdependencies are growing, America is in the unfamiliar position of the world's sole superpower. It is important to recognize how novel this situation is historically, and what opportunities and dangers it holds – from rivals or potential rivals, to be sure, but perhaps even more from how we ourselves choose to handle this geopolitical reality.

2. Where, how and why innovation occurs are in flux – across geography and industries, in speed and scope of impact, and even in terms of who is innovating. In many ways, the playing field is leveling, and the barriers to innovation are falling. Whenever such a shift occurs, there are always changes in how economies and societies work – including new ways of creating value and measuring success, and realignments of competitive advantage. In the 21st century, the pace of these changes will accelerate. To thrive in this new world, it will not be enough – indeed, it will be counterproductive – simply to intensify current stimuli, policies, management strategies and to make incremental improvements to organizational structures and curricula.

Together, these large shifts suggest that we stand at an inflection point in history. Whether one looks at demographics, science, culture, technology, geopolitics, economics or the biological state of the planet, major changes are underway that will shape human society for the next century and beyond. The actions that enterprises, governments, educational institutions, communities, regions and nations take right now will determine this future.

What will America do? Will we plan and invest for the long term, rather than just the next quarter, putting in place the talent pool, innovation capital and infrastructure necessary for continuing success throughout the 21st century? Will we recognize the multifaceted nature of this problem and come together across all sectors – business, government, labor and academia – to form a new social and economic compact?

Perhaps most important is whether the United States will continue its historic and unique role as a leader among nations, exporting the vision and tools of hope and the power of innovation. America must champion and lead a new era of openness and competition – fueled by agility and constant motion, and enabled by lifelong learning, technological prowess and the infinite creativity of the innovation process itself.

We live in tumultuous times, yet Americans know instinctively that our way forward is not to retreat or to re-trench. The way forward is to become more open, more experimental and to embrace the unknown. We cannot turn inward, nor can we allow our institutions to become overly centralized, calcified and risk averse.

If America were a company, freedom and exploration would be our core competencies. And the capacity to innovate is the foundation

for bringing our competitiveness into full fruition. The first Americans were innovating when they made the decision to leave an established life for the perils of an unknown world. They were innovating before we had government, a functioning economy, an educational system or national defense. In short, if Americans stop innovating, we stop being Americans.

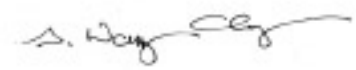
In the end, the simplest way to describe the purpose of the National Innovation Initiative is to help focus us as a society on what we do best, on our purpose in history. The key to America's future success, finally, is to remember who we are.

Council on Competitiveness Chairman

F. Duane Ackerman
*Chairman and Chief Executive Officer*
*BellSouth*

National Innovation Initiative Co-Chairs

Samuel J. Palmisano
*Chairman and Chief Executive Officer*
*IBM Corporation*



G. Wayne Clough
*President*
*Georgia Institute of Technology*

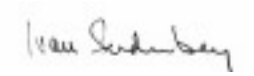
Gerard J. Arpey
*Chairman, Chief Executive Officer and President*
*AMR and American Airlines*

The Honorable Robert M. Gates
*President*
*Texas A&M University*

W.J. Sanders III
*Founder and Chairman Emeritus*
*Advanced Micro Devices, Inc*

Lee C. Bollinger
*President*
*Columbia University*

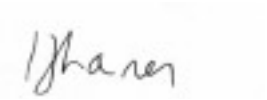
Sheryl Handler
*Chief Executive Officer*
*Ab Initio*



Ivan G. Seidenberg
*Chairman and Chief Executive Officer*
*Verizon*

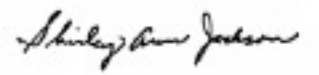
Molly Corbett Broad
*President*
*University of North Carolina*

John L. Hennessy
*President*
*Stanford University*

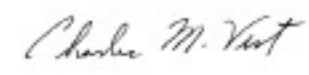


Kevin W. Sharer
*Chairman, Chief Executive Officer and President*
*Amgen, Inc.*

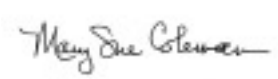
Michael J. Burns
*Chairman, President and Chief Executive Officer*
*Dana Corporation*



The Honorable Shirley Ann Jackson
*President*
*Rensselaer Polytechnic Institute*

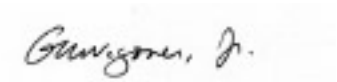


Charles M. Vest
*President*
*Massachusetts Institute of Technology*



Mary Sue Coleman
*President*
*University of Michigan*

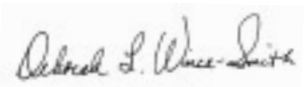
Vikram Pandit
*President and Chief Operating Officer,*
*Institutional Securities and Investment Banking Group*
*Morgan Stanley*



G. Richard Wagoner, Jr.
*Chairman and Chief Executive Officer*
*General Motors Corporation*

Denis A. Cortese
*President and Chief Executive Officer*
*Mayo Clinic*

Steven S Reinemund
*Chairman of the Board and Chief Executive Officer*
*PepsiCo, Inc.*



The Honorable Deborah L. Wince-Smith
*President*
*Council on Competitiveness*

# EXECUTIVE SUMMARY

## The National Innovation Initiative recommendations are organized into three broad categories:

### Talent

The human dimension of innovation, including knowledge creation, education, training and workforce support. Recommendations support a culture of collaboration, a symbiotic relationship between research and commercialization, and lifelong skill development.

### Investment

The financial dimension of innovation, including R&D investment; support for risk-taking and entrepreneurship; and encouragement of long-term innovation strategies. Recommendations seek to give innovators the resources and incentives to succeed.

### Infrastructure

The physical and policy structures that support innovators, including networks for information, transportation, healthcare and energy; intellectual property protection; business regulation; and structures for collaboration among innovation stakeholders. Recommendations support a new industry-academia alliance, an innovation infrastructure for the 21st century, a flexible intellectual property regime, strategies to bolster the nation's manufacturing enterprises, and a national innovation leadership network.

# National Innovation Agenda

## Talent

Build a **National Innovation Education Strategy** for a diverse, innovative and technically-trained workforce

- Establish tax-deductible private-sector "Invest in the Future" scholarships for American S&E undergraduates
- Empower young American innovators by creating 5,000 new portable graduate fellowships funded by federal R&D agencies
- Expand university-based Professional Science Masters and traineeships to all state university systems
- Reform immigration to attract the best and brightest S&E students from around the world and provide work permits to foreign S&E graduates of U.S. institutions

Catalyze the **Next Generation of American Innovators**

- Stimulate creative thinking and innovation skills through problem-based learning in K-12, community colleges and universities
- Create innovation learning opportunities for students to bridge the gap between research and application
- Establish innovation curricula for entrepreneurs and small business managers

Empower **Workers to Succeed in the Global Economy**

- Stimulate workforce flexibility and skills through lifelong learning opportunities
- Accelerate portability of healthcare and pension benefits
- Align federal and state skills needs more tightly to training resources
- Expand assistance to those dislocated by technology and trade

## Investment

Revitalize **Frontier and Multidisciplinary Research**

- Stimulate high-risk research through "Innovation Acceleration" grants that re-allocate 3 percent of agency R&D budgets
- Restore DoD's historic commitment to basic research by directing 20 percent of the S&T budget to long-term research
- Intensify support for physical sciences and engineering to achieve a robust national R&D portfolio
- Enact a permanent, restructured R&E tax credit and extend the credit to research conducted in university-industry consortia

Energize the **Entrepreneurial Economy**

- Build 10 Innovation Hot Spots over the next 5 years to capitalize on regional assets and leverage public-private investments
- Designate a lead agency and an inter-agency council to coordinate federal economic development policies and programs to accelerate innovation-based growth
- Increase the availability of early-stage risk capital with tax incentives, expanded angel networks, and state and private seed capital funds

Reinforce **Risk-Taking and Long-Term Investment**

- Align private-sector incentives and compensation structures to reward long-term value creation
- Create safe-harbor provisions to promote voluntary disclosure of intangible assets
- Reduce the cost of tort litigation from 2 percent to 1 percent of GDP
- Convene a Financial Markets Intermediary Committee to evaluate the impact of new regulations on risk-taking

## Infrastructure

Create **National Consensus for Innovation Growth Strategies**

- Enact a federal innovation strategy through the Executive Office of the President
- Catalyze national and regional alliances to implement innovation policies and innovation-led growth
- Develop new metrics to understand and manage innovation more effectively
- Establish National Innovation prizes to recognize excellence in innovation performance

Create a **21st Century Intellectual Property Regime**

- Build quality in all phases of the patent process
- Leverage patent databases into innovation tools
- Create best practices for collaborative standards setting

Strengthen **America's Manufacturing Capacity**

- Create centers for production excellence including shared facilities and consortia
- Foster development of industry-led standards for interoperable manufacturing and logistics
- Create Innovation Extension Centers to enable SMEs to become first-tier manufacturing partners
- Expand industry-led roadmaps for R&D priorities

Build **21st Century Innovation Infrastructures – the health care test bed**

- Expand electronic health reporting
- Establish and promote standards for an integrated health data system
- Establish pilot programs for international electronic exchanges on healthcare research and delivery
- Expand use of performance-based purchasing agreements