Innovate America

Thriving in a World of Challenge and Change

National Innovation Initiative
Interim Report
7/23/04

Council on Competitiveness

Foreword: Innovate or Abdicate

> Resolved: America's enterprises, educational institutions, labor and public sector organizations and citizens must make innovation – across all sectors of business, society and government – the underlying strategic priority for ensuring the nation's economic strength and security.
>
> **Where once we optimized our organizations for efficiency and quality, now we must optimize our entire society for innovation.**

Innovation has always been America's soul. From the nation's inception, we have most fundamentally been about discovery, about new beginnings, about setting out for the frontier. Of course, America can sometimes appear messy, imperfect, unfinished – as much a mixed bag as a melting pot. But that's part and parcel of being focused on the horizon, of trying out new things, of being animated by a faith in the future.

America, in the end, is all about hope. And it is precisely this quality that has made this country a beacon to people around the world for the past 228 years.

Now, though, we find ourselves at a unique and delicate historical juncture, shaped by two unprecedented shifts – one in our own position, the other in the nature of innovation itself:

- For the first time in our history, America stands alone as the sole economic, military and political superpower. It is important to recognize how novel this situation is, and what opportunities and dangers it holds – from competitors or potential competitors, to be sure, but perhaps even more from how we ourselves choose to handle this geo-political reality and the global responsibility it confers.

- Complicating this is a shift in the nature of innovation itself. Where, how and why innovation occurs are in flux, across geography, economic sectors, speed, scope of impact – and even who is innovating. Whenever such a shift occurs, there are always realignments of competitive advantage and new measures of success and value. To succeed in this new world, it will not be enough – indeed, it will be counterproductive – simply to intensify current stimuli, policies, management strategies and curricular approaches.

What will America do? Can the United States be *a new kind of leader*, one centered not on dominance, but on agility, constant motion and collaboration? Can we clamp down on terrorism – but not on experimentation, trade or the free flow of ideas? Can we lead through the exportation of hope and prosperity?

There are ample incentives all around for us to become more innovative. Perhaps most important is the fact that, despite our current preeminence, other regions are catching up. No single country, of course, is likely to overtake us soon. But the fact remains that we have not yet, as a society, come to terms with just how competitive the world has become.

However, even if we are still learning our way, Americans know instinctively that the best path forward is to become *more* America-like – more open, experimental and free – avoiding impulses to become centralized, inward-focused or risk-averse. We know that we can't preserve our way of life, or generate new jobs, or win the war on terror, or lead the world… by playing defense.

America competes in many different arenas. Some of those, regrettably, require military force. But the real struggle for the future is being fought in the arena of ideas and of the marketplace… of learning… through the capacity to deliver new kinds and levels of value… through the growth of democratic government. American prosperity and security at home and abroad will flourish only if we work together to unleash a new era of public-private collaboration. Our ultimate source of homeland security – and of continued leadership – is an unstoppable and fertile economy and knowledge ecosystem, and a truly innovative public sector.

There are, of course, many obstacles to any culture's embrace of innovation, of the future. Some have to do with inadequate infrastructure or talent pool and skills base. Some involve where and how resources are invested and deployed. But the most important obstacle, in the end, is fear – a reluctance to trade security for opportunity. And even a cursory scan of Planet Earth today reveals radically different attitudes toward this dilemma.

> Some governments are embracing opportunity with open arms – such as China, India, Korea and the former East Bloc nations now building a future as members of the European Union. While significant sub-populations in those countries are not yet sharing the benefits of expanded opportunity and innovation, the overall culture has made the decision to charge rapidly down this path. For now, hope is trumping fear.
>
> Other cultures are rejecting opportunity and retreating to security (or, rather, illusions of the same). In some cases, this takes the form of over-regulation or protectionism. In other more extreme cases, governments restrict their citizens' freedom to innovate, choose isolation over integration, and even exercise authoritarian power in an attempt to hold modernity at bay.

We in the United States know our path. If America were a company, freedom and exploration would be our core competencies. 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, and on our purpose in history – to remember who we are.

I. What is the Issue?

There are times, places and conditions under which innovation uniquely flourishes. Sometimes, its appearance is so explosive, with so much creativity packed into a short span of time, that it changes global society and the course of history itself. Think 5th century B.C. Athens, or Renaissance Florence, or the "seven Asian tigers" of the 1980s and '90s.

America has been such a place over the past century. By the measures of the Industrial Age – or even those of the early Information Age – America is a clear No. 1 in productive innovation. The U.S. today remains near the top rank of countries, measured by R&D as a percentage of gross domestic product. America is still the world leader in venture capital and is home to many of the finest research labs and universities. We possess one of the most open economies for trade and investment; a stable government; and a culture uniquely supportive of risk-taking.

However, golden ages don't last forever. We have it in our power to remain the global leader in innovation – to launch a second "American Century," *an American Innovation Century*. But this will only happen if we act with foresight now.

To that end, hundreds of leaders and scholars from universities, corporations, professional societies, industry associations and government agencies have joined to form the National Innovation Initiative (NII). These subject-matter experts have been engaged in working groups for the past six months in an effort to understand innovation's changing nature, to explain its influence on America's place in the world and to devise a plan of action for continued leadership.

We have arrived at a clear point of view on some basic questions:

- We believe the United States' economic and political standing are fundamentally bound up in our capacity as a society to innovate. We believe companies that do not embrace innovation as a core business value will fall to global competition – and that innovation in universities and government is crucial to unleash America's national innovative capacity.

- We believe that the bar for innovation is rising. What worked in the past will not be enough to sustain America's leadership in the 21st century, because innovation itself – where it comes from and how it creates value – is changing (in ways for which we lack agreed-upon standards of prediction and measurement).

- We believe innovation is a specific, definable phenomenon whose core attributes are organized, at a societal level, around talent, investment and infrastructure.

- We believe that America's position of leadership in innovation is now facing serious competitive challenges – both from new centers of innovation across an increasingly interconnected planet, and from the specter of our own complacency. As a society, we have not yet woken up to the nature or urgency of these challenges.

- We believe that a new compact among companies, government, educators and workers is needed to assure a 21st century workforce that can successfully adapt and compete in the global economy.

- We believe, finally, that the United States must respond to this historic shift across business, government, academia and labor by *optimizing the American ecosystem for innovation* – if our children and their children are to enjoy the benefits and opportunities of global leadership throughout the 21st century.

The analyses and recommendations in this report are based on those underlying premises. A plan of action to make the United States the most fertile and attractive environment for innovation in the world will be presented in December 2004 at the National Innovation Summit in Washington, D.C. It is previewed in this Interim Report.

II. How is innovation changing?

Samuel F.B. Morse's telegraph in 1837 and Alexander Graham Bell's telephone in 1875 were groundbreaking innovations that led, over the course of the 20th century, to today's huge global telecommunications industry – and in the process transformed most areas of human endeavor, from stock trading, to statecraft, to teenage gossip. Now, consider that a sizeable portion of that value has been created in the past five years thanks to the explosive growth of cell phones, which already account for half of the phones in the world, and are expected to reach 1.2 billion subscribers by 2005. By decoupling communications from physical location, this disruptive innovation – a combination of advances including satellites, semiconductors and standards – is generating a whole new round of transformations that may prove to have an even greater impact than the telephone itself.

Online auctions demonstrate how innovation also can be a service. Existing systems – the Internet, credit cards and the mails – are combined in radically democratizing ways to turn ordinary citizens into entrepreneurs – enabling literally *millions* of home-based businesses. For budding capitalists all over the world, these hybrid companies/markets offer a boost in their standard of living and the flexibility to live where they want. And consumers enjoy access to a new universe of goods and services previously unavailable – and at increasingly affordable prices, thanks to the dramatic increase in the number of competitors in the market.

Biotechnology companies have brought more than 150 breakthrough medicines to more than 325 million patients worldwide. Of the biotech medicines on the market, 70 percent were approved in the last six years. And the technology has expanded from healthcare to become the major driver of innovation in agriculture, environmental management and industrial production. According to the industry's association, for every job directly created in biotechnology, nearly 3 other jobs are created in the economy; and for every dollar in revenue, another $2.30 of revenue is created in firms across the economy.

What do these recent innovations have in common?

- Each is a global phenomenon.
- Each is multidisciplinary. It arises from the intersection of different fields or spheres of activity.
- Each is an innovation multiplier – sparking innovation in other areas. They generate not just "value chains," but rich, multi-dimensional ecosystems.
- Each has elements of emergence and openness. Its spread is not determined by one company or entity, but by the independent activities of many.

- Each has been a transformational force. It changed not just industries or markets, but society – the very ways we live, work and engage with one another.

"Innovation occurs at the intersection of invention and insight. It's about the application of invention - the fusion of new developments and new approaches to solve problems." – Sam Palmisano, Chairman and CEO, IBM

"Innovation requires not only that we are first to discover new knowledge and invent new technology, but also that we are first to develop new ideas and ways to put that knowledge and technology to work to solve problems and create opportunities." – Wayne Clough, President, Georgia Institute of Technology

"Innovation" combines the ideas of *novelty* and *utility*. It is an inherently societal (and utilitarian) concept. Whereas the image of the solitary genius in a garret or lab fits with "invention," innovators, in contrast, start with an idea of what the marketplace needs. They create, but they also apply their creations. And those applications, in turn, generate further innovations, giving rise to new industries and national and global markets; spurring productivity and economic growth; fueling wealth creation and profits; generating high-value, higher-paying jobs; and raising the standard of living, not just for direct beneficiaries of those new jobs, but also for other people touched by the innovation.

These days, this "virtuous cycle" of innovation begins not with the producer, but with the customer. In an era when manufacturing and distribution are becoming increasingly componentized, fluid and responsive, consumer demand is in the driver's seat. In fact, innovation's increasingly collaborative nature is such it can call into question the whole notion of a passive "consumer." Whether we're talking about Linux, or eBay, or Home Depot, or a service-based partnership to transform core processes, the user is an *innovation co-creator*. "User-based innovation," as MIT's Eric von Hippel explains, takes place on both sides of the cash register.

Further, thanks to the Internet, both the speed and the nature of innovation have changed, and both have become critical competitive success factors for a company or a nation. Innovation today is happening at a different pace, in a different place and with a different face.

III. Innovation Dilemmas and Opportunities

What is required to play in this new game? Modern management theory argues for becoming a "sense and respond" enterprise – but even that may not be enough. If all we do is respond to change, we'll always be at the mercy of those who are driving that change. Within a complex adaptive system, innovation itself is the best (perhaps the only) way to influence and to lead. People today feel themselves buffeted by huge, hard-to-understand forces. Innovation is about setting the agenda and becoming a force yourself.

The first step toward unleashing innovation is to understand its basic ecosystem dynamics. The NII framework (see Fig. 1) recognizes the influence of innovation supply and demand on the rate of innovation productivity. Supply includes innovation inputs like

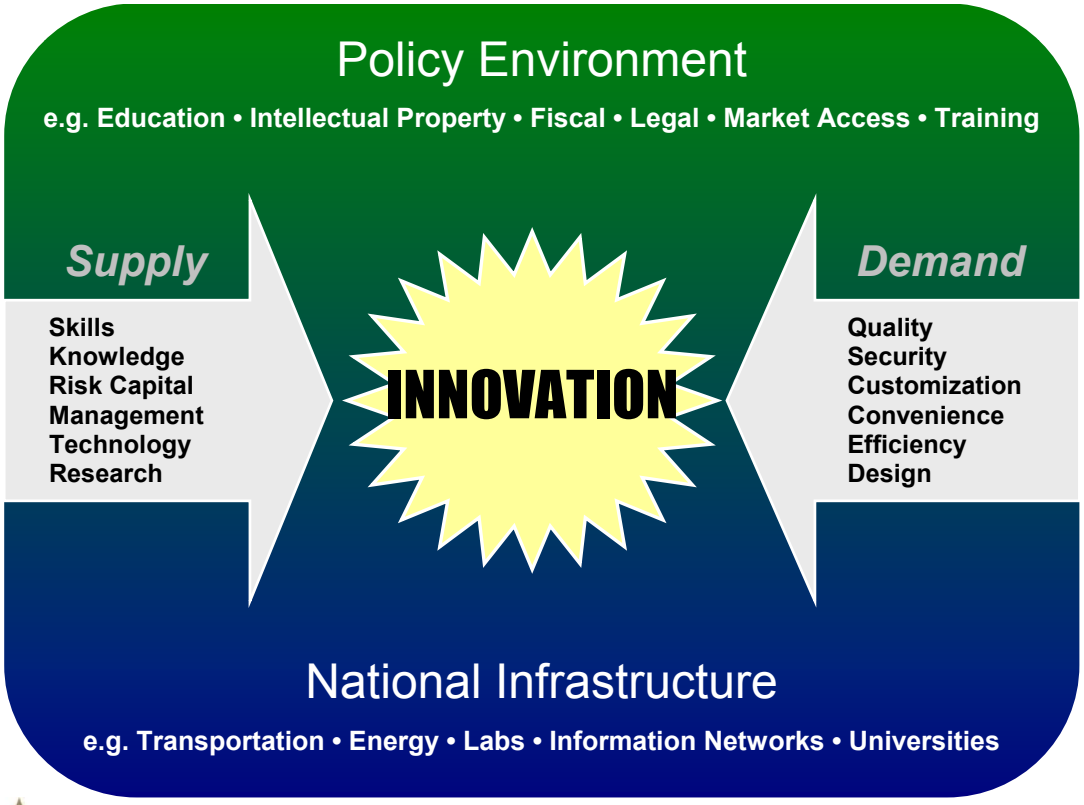
research, skills, management strategies, knowledge and risk capital. Demand includes innovation outputs valued by societies, such as, quality, security, convenience and efficiency.

In the past, most of the innovation policymaking and action have focused on the supply side – the 20th century "production model." We believe that more insight and action to align supply with *market demand* and *customer / citizen value creation* will sharpen the creation of innovative solutions, help manage risk and significantly mobilize the nation's innovation resources.

The push and pull of innovation supply and demand, however, don't occur in a vacuum. They are strongly influenced by the knowledge environment, public policy and overall innovation infrastructure offered by our society. For example, public policies related to education, training, research and development, fiscal and monetary policy, intellectual property, taxation and market access obviously impact our ability to generate innovation inputs and respond to innovation demands. The same can be said of infrastructure – be it for transportation, energy, healthcare or communication.

Within this innovation framework, what are the major challenges and opportunities? We previously identified five core characteristics of innovation today: global, multidisciplinary, multiplying, open and transformational. To get a sense of how these frame the issues before us, the seven working groups of the National Innovation Initiative identified some of the innovation-related dilemmas with which institutions and enterprises are now grappling.

Fig. 1 Innovation Framework



Council on Competitiveness

1. National vs. global

How do we frame a national innovation agenda that also supports our position within a globally interconnected economy?

No nation can corner the market on innovation. Nor should we regret improvements in other nations' competitiveness; their people deserve to participate fully in the benefits of a rising global tide of innovation-created prosperity, creating multiplier effects that also serve America. Our security and economic opportunity are enhanced by growing economies, not by societies locked in poverty without a stake in the global order. We need to think hard about whether our policies stimulate maximum creativity – or just narrow benefits in the U.S.

At the same time, we certainly can – and should – respond to increased competition by moving to the next level ourselves. Our schools must be second to none. We must provide strong incentives to innovators – as well as supportive investment, regulatory, trade, fiscal and tax policies. We must reconcile ever-tighter defense of our borders against terrorists with the need of innovators to collaborate – and often travel – across those very borders. Our public services, health care, communications and physical environment and infrastructure must be world-class, not a roadblock to American entrepreneurs, doctors, scholars and scientists.

Among the promising approaches we are exploring are the repatriation of foreign source profits, refining our post-9/11 immigration policies, a renewed commitment to engage in global standards bodies and initiatives, and an ambitious program of trade liberalization.

> *A new, balanced approach that strengthens and stimulates America's national innovative capacity while engaging actively and collaboratively with the rest of the world is one of the requisites for an American Innovation Century.*

2. Accelerating the growth of new disciplines and measures

How do we both support the emergence of new knowledge ecosystems and also stay at the forefront of advanced research in core disciplines?

As we've seen, innovation is inherently multidisciplinary in nature. It typically arises at the interfaces of disciplines. And during periods of fundamental change, it takes the form of entirely new fields, new curricular structures and, indeed, new frameworks for knowledge itself.

We find ourselves at one of those junctures today. As a practical matter, it is increasingly difficult to determine with any certainty whether a given description of physical reality falls within chemistry, biology, physics or information science. New disciplinary candidates – from nanotechnology, to sociobiology, to network science – are attempting to bridge (or remake) these well-established disciplinary boundaries. And more generally, the very realms of science, politics, culture, business, health care and education are becoming increasingly intertwined.

Clearly, new curricular and teaching approaches are needed – and are emerging. For instance, there is exploration underway of a new discipline in "Services Science" –

aimed at driving improved human performance effectiveness and efficiency as well as organizational productivity, similar to the way Computer Science has driven efficiency in IT systems across all business sectors.

Also, we need more and better ways for researchers, scholars and students to cross disciplinary boundaries or to create wholly new fields of endeavor. Among the approaches showing promise are portable fellowships, online collaboration vehicles, "problem-based learning" and different ways to offer innovation-centric learning opportunities to students of all ages – from elementary school through retirement, and beyond.

> *A new knowledge construct that both guarantees scientific rigor and nurtures the creation of new, multidisciplinary curricular and measurement frameworks is one of the requisites for an American Innovation Century.*

3. Optimizing the innovation 'sweet spots'

How can we identify and exploit the best opportunities for maximum innovation fertility and leverage?

America's future role in the global economy is not about leadership in low-cost, low-wage, commodity products and services, but rather leadership in high-value, innovation-driven growth. Therefore, we need public policies, business management systems and academic programs that provide extra support to investment in the most fertile sources of innovation – i.e., those that spawn the greatest amount of innovation across *multiple* sectors.

These include such existing areas of U.S. strength as our risk capital system, advanced technology sector (e.g., nanotech and high-performance computing) and regional innovation "clusters." For instance, we stand at the threshold of an entirely new era for the creation of products and services, offered by the merger of life sciences and computing, with nanodevices that can manipulate matter at the atomic scale. These capabilities are revolutionizing both science and the way products are created, solving a new set of heretofore intractable problems.

And while advanced manufacturing will always be critical to America's economic prowess and security needs, the time has come for the United States to invest in the innovation capacity to propel its dynamic, wealth-generating service sector globally. There is an imbalance when 70% of GDP comes from the services sector – and yet services-industry R&D still represents only one-third of U.S. R&D investment. This translates into missed opportunity.

> *A new, aggressive national investment plan that nurtures America's most fertile innovative activity is one of the requisites for an American Innovation Century.*

4. Supporting both openness and the rewards of innovation

How do we maintain the rewards from intellectual property, while also enhancing economic growth and the spread of openness?

From the founding of the United States, the protection of intellectual property has been one of the fundamental underpinnings of innovation. It guarantees that an inventor has the opportunity to benefit from his or her creation. A sound and properly enforced national and international intellectual property framework must be maintained

While protecting intellectual property is paramount, the issuance of inappropriate and poor quality patents is imposing hidden economic costs and inhibiting growth. These issues also must be addressed.

Similarly, tension is developing between traditional IP protection and the spread of open, global standards. Such standards can enhance interoperability, encourage collaboration, and speed process transformation. As such, they are drivers, in their own right, of economic growth and innovation, and are also important guarantors of openness and broad participation – the assurance that no one will be locked out or overly dependent on any one controlling entity.

The truth is that *optimizing for innovation requires both protecting the rewards of IP and encouraging the spread of open standards* – and that doing so will drive economic growth. Some new models of this balance are starting to appear in public discourse, e.g., proposals for better examination and documentation to maintain patent quality; for limits to infringement remedies; and for new approaches that provide protection both to patent-holders and standards developers, recognizing that intellectual property policy must protect the long-term investment which innovation often requires.

The bottom line is that inventors still invent, and their rights and incentives must be protected – but we also need to maintain incentives for collaborative innovation and economic growth.

> *A balanced legal regime that both protects the rewards of intellectual property and facilitates the spread of open standards is one of the requisites for an American Innovation Century.*

5. Marshalling innovation for the public good

How do we generate private profit while serving the broader needs of national and global society?

For many people today, the word “innovation” conjures up images not of a bright future, but of radical changes that may cost them their jobs, benefits and security, and that may have an unwelcome impact on their lifestyle.

A responsible national innovation agenda must protect individuals and families from the unintended consequences of innovation. The question is how. Companies today cannot guarantee employment, but through a commitment to training and cooperation with labor, and with the financial backing of all levels of government, they could focus on achieving employability, adaptability and flexibility – creating a transitional bridge to the high-value jobs that lie at the heart of an innovation economy.

Workers (current and prospective) must be informed and trained for change and new skills. For instance, by staying aware of the expected needs of small innovators,

educational institutions can anticipate the need for specialized training and offer targeted scholarships in specific fields. We also should reshape workforce development and training programs to help workers navigate an innovation economy. And how might our current federal programs ($23 billion annually) be more coordinated, flexible, performance-driven and linked with business and educational institutions?

Finally, we must, as a society, not simply adjust to innovation, but *apply* it to dramatically improve our health, our democracy, and our quality of life. Innovation not only creates jobs, but also promises new medical treatments and services, transforms education, enables government to be both more efficient and more equitable, and offers hope for solving global challenges – from the environment, to epidemiology, to demographics.

> *A balanced, progressive national innovation policy that advances societal needs and provides a transitional safety net for individuals and families is one of the requisites for an American Innovation Century.*

IV. What Should We Do?

We should view America's innovation prowess today as a cause for optimism and national pride. As an economy and society, we have a long legacy of blazing trails, and there are many reasons to believe we will continue to do so. However, given the pace and nature of change, and their impact on every citizen, we cannot afford to rest on past success. The game is changing, and other nations are moving aggressively to compete.

For instance, China overtook the United States in 2003 as the top recipient of foreign direct investment, with the two countries' trendlines moving in opposite directions. Many of America's innovation strengths are being replicated, and in areas like math and science education we have fallen behind. Even more importantly, many of the new sources and drivers of innovation are leveling the playing field very rapidly.

This is not entirely unfamiliar territory. During the 1980s the United States faced a competitive challenge from Japan. To meet this challenge, policy focused on cost reduction, operational efficiency and quality improvement. The economy successfully transitioned from a mass production to a quality-management culture, where new management strategies and supply-chain optimization created the productivity marvel of the world.

However, cost and quality are today nothing more than table stakes – the minimum required to be in the game. The forces of global economic integration and advances in technology are creating a different and more complex challenge. Sustaining competitive advantage requires moving beyond efficiency and quality toward creating new markets, increasing choice and value to customers and innovating continuously on a global basis. The U.S. must create the conditions that will stimulate individuals and enterprises to innovate and take the lead in the next generation of knowledge creation, technologies, business models and dynamic management systems.

America's Innovation Imperative: ***Where once we optimized our organizations for efficiency and quality, now we must optimize our entire society for innovation.***

To sustain American competitiveness and progress in the 21st century, the leaders of the National Innovation Initiative support a broad, three-pronged strategy. We should: (1) apply innovation to address America's greatest challenges, (2) embrace a new national strategy to strengthen and sustain our innovation ecosystem, and (3) share responsibility among multiple innovation stakeholders.

In this interim report, we identify many of the key issues to be addressed. On December 15, 2004, the National Innovation Initiative will hold a summit in Washington, D.C., to release a detailed national innovation agenda. The agenda will include specific, actionable recommendations for U.S. leaders to begin implementing in 2005.

First, we must apply innovation to address the great challenges of our time. These are the areas where America doesn't "compete" with the rest of the world, but rather collaborates. It's in everyone's interest to win the war against global terrorism, to improve healthcare (including the ability to manage global epidemiological crises), to provide economic security, to develop options for an aging population, to find affordable, environmentally friendly approaches to energy, to bring the promise of communication and information networks to all parts of the globe.

National Innovation Imperatives

1. **Apply Innovation to America's Greatest Challenges and Opportunities**
2. **Sustain and Strengthen America's Innovation Ecosystem**
3. **Share Responsibility Among Multiple Innovation Stakeholders**

Second, we must embrace a new strategy to sustain and strengthen our national innovation ecosystem. These are the areas in which we do compete, and in which we intend to lead. We want our education system to be the most advanced in the world. We want our economy, lifestyle, market climate and infrastructure to be the model for nurturing innovation – and for attracting innovators from all over the world. We want to develop the capabilities to generate a disproportionate share of the best-paying and most intellectually challenging jobs. These are the priorities that must that dominate our public expenditures and drive our companies' investments – and that will determine fundamentally our quality of life.

Third, we must share responsibility. Many stakeholders must enroll in this effort, if we as a nation are to raise the bar. Federal government actions are important, but not sufficient. State and local officials, for instance, have a great deal of influence innovation's success or failure at the regional level. Industry, academia and workers all have major responsibilities to fulfill if we are to earn the benefits of 21st century innovation.

To identify the right actions, the National Innovation Initiative's seven working groups have examined major dimensions and drivers of innovation: skills, finance, infrastructure, the public sector, research frontiers, trade and investment policy, and an understanding of how innovation is evolving. In this interim report, we preview some of the emerging priorities. Common elements of the priorities can be grouped into three broad categories:

- *Talent* – the human dimension of innovation, including knowledge creation, education, training and workforce support.

- *Investment* – the financial dimension of innovation, including investment in R&D and risk capital availability, and macroeconomic fiscal and monetary policies.

- *Infrastructure* – the physical and policy structures that support innovators, including network infrastructure, healthcare, transportation networks, energy provision, regulatory systems, intellectual property protection, innovation management and trade policy.

The United States needs an integrated strategy that strengthens our innovative capacity on many fronts. In December, the National Innovation Agenda will lay out this strategy with clear recommendations and identify how the different stakeholders – private sector, academia, labor and government – can participate. The table below illustrates issues the working groups currently are examining.

Charting a National Innovation Agenda

Talent	Investment	Infrastructure
What bold steps should academia, industry and government take – separately and in concert – to **develop world-class innovators** in services, manufacturing and the public sector?	What can we do to help markets **value long-term innovation strategies** more highly?	What should our priorities be to create **world-class infrastructures** for innovation, including transportation, energy, healthcare, and information?
How can we **help our workforce adapt to change** through a more agile system of training, support, and portable benefits?	How should we adjust our R&D strategies to produce more breakthroughs in areas that require **research across multiple disciplines** and over longer terms?	How can we **make the public sector more innovative** through competition and performance standards and early adoption of path-breaking systems and practices?
How can we stimulate a diverse next generation of Americans **skilled in science and engineering**?	What are the most powerful incentives to increase **early-stage investment in small business** innovation?	How can the **regulatory and legal system better support innovation** and entrepreneurship while protecting society?
As we protect the homeland, how can the U.S. assure that we remain an innovation **magnet for the best global talent**?	With services accounting for a dominant share of U.S. jobs and output, how should we invest to **accelerate innovation in the service economy**?	How do we build a **global 21st century intellectual property system** that protects the rewards of intellectual property and encourages collaboration?

Can we establish **innovation metrics** – similar to efforts that fueled booms in production and quality – to (1) bring more new ideas to fruition with higher returns and success rates; (2) align education and training strategies with key innovation skills; and (3) understand and manage innovation more effectively at the organizational, regional or national level?

Afterword

The United States must offer the world a new model to compete, a new path to grow – and give Americans the tools and freedom to succeed. The choices we make today will have a disproportionate impact on America's creativity, productivity and our very place in the world in the century ahead.

With that as our goal, the seven working groups, Advisory Committee, and Principals of the National Innovation Initiative will refine and focus the priorities and recommendations of the National Innovation Initiative, in preparation for the December 15, 2004 Summit.

Appendix
Participants in the National Innovation Initiative

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