



Remarks as Prepared
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**“A Smarter Planet:
The Next Leadership Agenda”**

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Thank you, Bob. And thank you, Richard. It is a pleasure and an honor to be here today in this distinguished assembly, and at this extraordinary moment: a major political transition in the United States, the global economy in flux, our financial markets restructuring themselves – and an acutely felt need for leadership.

Our political leaders aren't the only ones who've been handed a mandate for change. Leaders of businesses and institutions everywhere confront a unique opportunity to transform the way the world works.

We have this chance for reasons no one wished. The crisis in our financial markets has jolted us awake to the realities and dangers of highly complex global systems. But in truth, the first decade of the 21st century has been a series of wake-up calls with a single subject: the reality of global integration.

Two years ago, I published an essay in *Foreign Affairs* that described the changing structure of the corporation, which I felt had been largely left out of the discussion on globalization. I described the emergence of a new kind of corporation – the globally integrated enterprise, which was replacing the multinational.

Today there is growing consensus that global integration is changing the corporate model and the nature of work itself. But we now see that the movement of information, work and capital across developed and developing nations – as profound as those are – constitute just one aspect of global integration.

In the last few years, our eyes have been opened to global climate change, and to the environmental and geopolitical issues surrounding energy. We have been made aware of global supply chains for food and medicine. And, of course, we entered the new century with the shock to our sense of security delivered by the attacks on 9/11.

These collective realizations have reminded us that we are all now connected – economically, technically and socially. But we're also learning that being connected is not sufficient. Yes, the world continues to get “flatter.” And yes, it continues to get smaller and more interconnected. But something is happening that holds even greater potential. In a word, our planet is becoming *smarter*.

This isn't just a metaphor. I mean infusing intelligence into the way the world literally works – the systems and processes that enable physical goods to be developed, manufactured, bought and sold... services to be delivered... everything from people and money to oil, water and electrons to move... and billions of people to work and live.

What's making this possible?

- First, our world is becoming *instrumented*: The transistor, invented 60 years ago, is the basic building block of the digital age. Now, consider a world in which there are a billion transistors per human, each one costing one ten-millionth of a cent. We'll have that by 2010. There will likely be 4 billion mobile phone subscribers by the end of this year... and 30 billion Radio Frequency Identification tags produced globally within two years. Sensors are being embedded across entire ecosystems – supply-chains, healthcare networks, cities... even natural systems like rivers.
- Second, our world is becoming *interconnected*: Very soon there will be 2 billion people on the Internet. But in an instrumented world, systems and objects can now “speak” to one another, too. Think about the prospect of a trillion connected and intelligent things – cars, appliances, cameras, roadways, pipelines... even pharmaceuticals and livestock. The amount of information produced by the interaction of all those things will be unprecedented.
- Third, all things are becoming *intelligent*: New computing models can handle the proliferation of end-user devices, sensors and actuators and connect them with back-end systems. Combined with advanced analytics, those supercomputers can turn mountains of data into intelligence that can be translated into action, making our systems, processes and infrastructures more efficient, more productive and responsive – in a word, smarter.

What this means is that the digital and physical infrastructures of the world are converging. Computational power is being put into things we wouldn't recognize as computers. Indeed, almost anything – any person, any object, any process or any service, for any organization, large or small – can become digitally aware and networked.

With so much technology and networking abundantly available at such low cost, what wouldn't you enhance? What service wouldn't you provide a customer, citizen, student or patient? What wouldn't you connect? What information wouldn't you mine for insight?

The answer is, you or your competitor – another company, or another city or nation – will do all of that. You will do it because you can – the technology is available and affordable.

But there is another reason we will make our companies, institutions and industries smarter. Because we must. Not just at moments of widespread shock, but integrated into our day-to-day operations. These mundane processes of business, government and life – which are ultimately the source of those “surprising” crises – are not smart enough to be sustainable.

Consider:

- How much energy we waste: According to published reports, the losses of electrical energy because grid systems are not “smart” range as high as 40 to 70 percent around the world.
- How gridlocked our cities are: Congested roadways in the U.S. cost \$78 billion annually, in the form of 4.2 billion lost hours and 2.9 billion gallons of wasted gas – and that’s not even counting the impact on our air quality.
- How inefficient our supply chains are: Consumer product and retail industries lose about \$40 billion annually, or 3.5 percent of their sales, due to supply chain inefficiencies.
- How antiquated our healthcare system is: In truth, it isn’t a “system” at all. It doesn’t link from diagnosis, to drug discovery, to healthcare deliverers, to insurers, to employers. Meanwhile, personal expenditures on health now push more than 100 million people worldwide below the poverty line each year.
- How our planet’s water supply is drying up: Global water usage has increased six-fold since the 1900s, twice the rate of human population growth. According to the Asian Development Bank, one in five people living today lacks access to safe drinking water, and half the world’s population does not have adequate sanitation.
- And, of course, the crisis in our financial markets: This will be analyzed for decades, but one thing is already clear. Financial institutions spread risk but weren’t able to track risk – and that uncertainty, that lack of knowing with precision, undermined confidence.

It’s obvious, when you consider the trajectories of development driving the planet today, that we’re going to have to run a lot smarter and more efficiently – especially as we seek the next areas of investment to drive economic growth and to move large parts of the global economy out of recession.

Fortunately, we now can. We see this in how companies and institutions are rethinking their systems and applying technology in new ways.

- Stockholm’s smart traffic system has resulted in 20 percent less traffic, a 12 percent drop in emissions and a reported 40,000 additional daily users of public transport. Smart traffic systems are strengthening the competitive positions of cities from London to Brisbane to Singapore – with many more being planned.
- Intelligent oil field technologies can increase both pump performance and well productivity – in a business where only 20-30 percent of available reserves are currently extracted.
- Smart food systems – such as one now running in the Nordics – can use RFID technology to trace meat and poultry from the farm through the supply chain to supermarket shelves.

- Smart healthcare can lower the cost of therapy by as much as 90 percent – as ActiveCare Network is doing for more than 2 million patients in 38 states, whom it monitors for the proper delivery of their injections and vaccines.

There are many other examples I could cite. Smart systems are transforming energy grids, supply chains and water management. They are ensuring the authenticity of pharmaceuticals and the security of currency exchanges. And they are changing everything from organizations' business models to how they enable their employees to collaborate and innovate.

And remember, the opportunity to become smarter applies not just to large enterprises, but to smaller and mid-sized companies – the engines of economic growth everywhere. When we think about systems like supply chains, healthcare delivery and food systems, we're really talking about the interactions of hundreds, even thousands of companies, most of them small.

This opportunity also applies beyond business. Smart infrastructure is becoming the basis of competition between nations, regions and cities.

In a globally integrated economy, investment and work flow not only to the places in the world that offer cost advantages, skills and expertise. It is flowing to countries, regions and cities that offer smart infrastructure -- everything from efficient transportation systems, modern airports and secure trade lanes... to reliable energy grids, transparent and trusted markets, and enhanced quality of life.

Certainly, as you travel the world, you see countries everywhere leapfrogging – not only to the latest technology and to digital infrastructures, but to the most modern business designs, processes and models. Ultimately, this is about competitiveness in a globally integrated economy.

The importance of this moment, I believe, is that the key precondition for real change now exists: People want it. But this moment will not last forever.

Isn't it true that the hardest part of driving any kind of change is whether the individual – the employee, the citizen – feels the need to change at a deeply personal level? And in hindsight, when the circumstances that cry out for change are gone, when things have returned to "normal" – don't we always wish we had been bolder, more ambitious, gone faster, gone further?

Well, today, from the boardroom to the kitchen table, people everywhere are ready, eager for a new way of doing things.

That's why a period of discontinuity is, for those with courage and vision, a period of opportunity. Over the next couple of years, there will be winners, and there will be losers. And though it may not be easy to see now, I believe we will see new leaders emerge who win not by surviving the storm, but by changing the game.

To do that, they will practice forms of leadership that are very different from the models of the past.

Think about the way the world today actually works: Very few of our systems are the responsibility of a single entity or decision-maker. So leaders will need to hone their collaboration skills, because we will need leadership that pulls across systems. We will need to bring together stakeholders and experts from across business, government and academia, and all of them will need to move outside their traditional comfort zones. This is something on which the Council on Foreign Relations has been showing the way for many years.

There is much serious work ahead of us, as leaders and as citizens. Together, we have to consciously infuse intelligence into our decision-making and management systems... not just infuse our processes with more speed and capacity.

But I think one thing is clear: The world will continue to become smaller, flatter... and smarter. We are moving into the age of the globally integrated and intelligent economy, society and planet. The question is, what will we do with that?

The world now beckoning us is one of enormous promise. And I believe it is one that we can build – if we open our minds and let ourselves think about all that a smarter planet could be.

Thank you.