

Remarks Prepared for Delivery
Vice President Al Gore
International Telecommunications Union
Monday, March 21, 1994

I have come here, 8,000 kilometers from my home, to ask you help create a Global Information Infrastructure. To explain why, reading you something that I first read in high school, 30 years

"By means of electricity, the world of matter has become a g thousands of miles in a breathless point of time. The round globe instinct with intelligence!"

This was not the observation of a physicist -- or a neurolo visionary words were written in 1851 by Nathaniel Hawthorne, one greatest writers, who was inspired by the development of the tele Much as Jules Verne foresaw submarines and moon landings, Hawthor we are now poised to bring into being.

The ITU was created only 14 years later, in major part for t an internationally compatible system of telegraphy.

For almost 150 years, people have aspired to fulfill Hawthor nerves of communications around the globe, linking all human know

In this decade, at this conference, we now have at hand the breakthroughs and economic means to bring all the communities of We now can at last create a planetary information network that tr images with the speed of light from the largest city to the small continent.

I am very proud to have the opportunity to address the first conference of the ITU because the President of the United States essential prerequisite to sustainable development, for all member is the creation of this network of networks. To accomplish this regulators, and businesspeople must do this: build and operate a Infrastructure. This GII will circle the globe with information s all people can travel.

These highways--or, more accurately, networks of distributed allow us to share information, to connect, and to communicate as From these connections we will derive robust and sustainable econ democracies, better solutions to global and local environmental c health care, and--ultimately--a greater sense of shared stewardsh

The Global Information Infrastructure will help educate our to exchange ideas in within a community and among nations. It wi which families and friends will transcend the barriers of time an possible a global information marketplace, where consumers can bu

I ask you, the delegates to this conference, to set an ambit help all governments, in their own sovereign nations and in inte build this Global Information Infrastructure. For my country's p continued participation in achieving this goal--in the developmen other sectors and in plenipotentiary gatherings of the ITU, and i held by our Departments of State and Commerce and our Federal Com Commission.

The development of the GII must be a cooperative effort amon peoples. It cannot be dictated or built by a single country. It

effort.

And the distributed intelligence of the GII will spread part
To illustrate why, I'd like to use an example from computer

In the past, all computers were huge mainframes with a single
solving problems in sequence, one by one, each bit of information
between the CPU and the vast field of memory surrounding it. Now
parallel computers with hundreds -- or thousands --- of tiny self
distributed throughout the memory field, all interconnected, and
powerful and more versatile than even the most sophisticated single
they each solve a tiny piece of the problem simultaneously and when
assembled, the problem is solved.

Similarly, the GII will be an assemblage of local, national,
that are not only like parallel computers but in their most advanced
a distributed, parallel computer.

In a sense, the GII will be a metaphor for democracy itself.
democracy does not work with an all-powerful central government,
decisions to itself. That is why communism collapsed.

Instead, representative democracy relies on the assumption that
a nation to make its political decisions is for each citizen -- that
self-contained processor -- to have the power to control his or her

To do that, people must have available the information they
to express their conclusions in free speech and in votes that are
millions of others. That's what guides the system as a whole.

The GII will not only be a metaphor for a functioning democracy
promote the functioning of democracy by greatly enhancing the participation
in decision-making. And it will greatly promote the ability of each
each other. I see a new Athenian Age of democracy forged in the
create.

The GII will be the key to economic growth for national and
economies. For us in the United States, the information infrastructure
U.S. economy of the 1990s what transport infrastructure was to the
20th century.

The integration of computing and information networks into the
U.S. manufacturing companies more productive, more competitive, under
changing conditions and it will do the same for the economies of

These same technologies are also enabling the service sector
to grow, to increase their scale and productivity and expand their
offerings and ability to respond to customer demands.

Approximately 60% of all U.S. workers are "knowledge workers"
jobs depend on the information they generate and receive over our
infrastructure. As we create new jobs, 8 out of 10 are in information
our economy. And these new jobs are well-paying jobs for financial
programmers, and other educated workers.

The global economy also will be driven by the growth of the
Hundreds of billions of dollars can be added to world growth if we
I fervently hope this conference will take full advantage of this
growth, and not deny any country or community its right to participate

As the GII spreads, more and more people realize that information
that must be shared to be valuable. When two people communicate,
enriched--and unlike traditional resources, the more you share, the more
Thomas Jefferson said, "He who receives an idea from me, receives
without lessening mine; as he who lights his taper at mine, receives
darkening me."

Now we all realize that, even as we meet here, the Global Information

Infrastructure is being built, although many countries have yet to
Digital telecommunications technology, fiber optics, and new
satellite systems are transforming telecommunications.

And all over the world, under the seas and along the roads,
railroads, companies are laying fiber optic cable that carries th
per second over a single strand of glass.

These developments are greatly reducing the cost of building

In the past, it could take years to build a network. Linkin
major cities might require laying thousands of kilometers of expe
single satellite and a few dozen ground stations can be installed
much lower cost.

The economics of networks have changed so radically that the
competitive, private market can build much of the GII. This is d
sensible regulation.

Within the national boundaries of the U.S. we aspire to buil
highways according to a set of principles that I outlined in Janu
National Information Infrastructure, as we call it, will be built
private sector.

It will consist of hundreds of different networks, run by di
using different technologies, all connected together in a giant "
providing telephone and interactive digital video to almost every

Our plan is based on five principles:

First, encourage private investment;

Second, promote competition;

Third, create a flexible regulatory framework that can keep
technological and market changes;

Fourth, provide open access to the network for all informati

Fifth, ensure universal service;

Are these principles unique to the United States? Hardly.
international principles endorsed by many of you. I believe thes
and aid the development of the Global Information Infrastructure
to incorporate them, as appropriate, into the Buenos Aires Declar
drafted this week.

Let me elaborate briefly on these principles.

First, we propose that private investment and competition be
development of the GII. In the U.S., we are in the process of o
communications markets to all domestic private participants.

In recent years, many countries, particularly here in Latin
privatize their state-owned telephone companies in order to obtai
incentives that drive competitive private enterprises, including
investment, efficiency and responsiveness to market needs.

Adopting policies that allow increased private sector partic
telecommunications sector has provided an enormous spur to teleco
development in dozens of countries, including Argentina, Venezuel
I urge you to follow their lead.

But privatization is not enough. Competition is needed as w
make sense to have telecommunications monopolies.

In many cases, the technology and the economies of scale mea
to build more than one network. In other cases--Finland, Canada,
example--national networks were built in the early part of this c
small, independent phone companies and cooperatives.

Today, there are many more technology options than in the pa
possible, but desirable, to have different companies running comp

interconnected--networks, because competition is the best way to telecommunications sector more efficient, more innovative--and mo consumers make more calls and prices decline.

That is why allowing other companies to compete with AT&T, o largest telephone monopoly, was so useful for the United States.

Over the last ten years, it has cut the cost of a long-dista U.S. more than 50%.

To promote competition and investment in global telecommunic to adopt cost-based collection and accounting rates. Doing so wi of the GII.

International standards to ensure interconnection and intero as well. National networks must connect effectively with each ot simple vision of linking schools, hospitals, businesses, and home Infrastructure.

Hand in hand with the need for private investment and compet of appropriate and flexible regulations developed by an authorita

In order for the private sector to invest and for initiative competition to be successful, it is necessary to create a regulat and protects competition and private sector investments, while at consumers' interests.

Without the protection of an independent regulator, a potent would be hesitant to provide service in competition with the incu that the incumbent's market power would not be adequately control

Decisions and the basis for making them must also be made pu consumers and potential competitors are assured that their intero

This is why in the U.S., we have delegated significant regul independent agency, the Federal Communications Commission. This equipped to make difficult technical decisions and to monitor, in National Telecommunications and Information Administration and th Justice, changing market conditions.

We commend this approach to you.

We need a flexible, effective system for resolution of inter that can keep up with the ever-accelerating pace of technological

I understand that the ITU has just gone through a major reor to increase its effectiveness. This will enable the ITU, under t Tarjanne, to streamline its operations and redirect resources to most. This will ensure that the ITU can adapt to future and unim

Our fourth principle is open access. By this I mean that te network owners should charge non-discriminatory prices for access principle will guarantee every user of the GII can use thousands information--video programming, electronic newspapers, computer b every country, in every language.

With new technologies like direct broadcast satellites, a fe longer be able to control your access to information--as long as permit new entrants into the information marketplace.

Countries and companies will not be able to compete in the g they cannot get access to up-to-date information, if they cannot with customers around the globe. Ready access to information is training the skilled workforce needed for high-tech industries.

The countries that flourish in the twenty-first century will telecommunications policies and copyright laws that provide their wide choice of information services.

Protecting intellectual property is absolutely essential.

The final and most important principle is to ensure universa

Global Information Infrastructure is available to all members of is a kind of global conversation, in which everyone who wants can

We must ensure that whatever steps we take to expand our wor telecommunications infrastructure, we keep that goal in mind.

Although the details of universal service will vary from cou from service to service, several aspects of universal service app clearly includes making service available at affordable prices to levels.

It also includes making high quality service available regar location or other restrictions such as disability.

Constellations of hundreds of satellites in low earth orbit telephone or data services to any point on the globe. Such syste service both practical and affordable.

An equally important part of universal access is teaching co communications effectively. That means developing easy-to-use ap of contexts, and teaching people how to use them. The most sophi efficient networks will be completely useless if users are unable access and take full advantage of their offerings.

Another dimension of universal service is the recognition th economics should not be the sole determinant of the reach of the infrastructure.

The President and I have called for positive government acti to extend the NII to every classroom, library, hospital, and clin of the century.

I want to urge that this conference include in its agenda fo to determine how every school and library in every country can be Internet, the world's largest computer network, in order to creat Each library could maintain a server containing books and journal along with indexes to help users find other materials. As more a stored electronically, this global library would become more and

It would allow millions of students, scholars and businesspe information they need whether it be in Albania or Ecuador.

Private investment ... competition ... flexibility ... open

In addition to urging the delegates of this conference to ad part of the Buenos Aires Declaration, guiding the next four years development, I assure you that the U.S. will be discussing in man outside the ITU, whether these principles might be usefully adopt

The commitment of all nations to enforcing regulatory regime is vital to world development and many global social goals.

But the power of the Global Information Infrastructure will cannot reach large segments of the world population.

We have heard together Dr. Tarjanne's eloquent speech setti challenges we face. As he points out: the 24 countries of the OE of the world's population. But they account for 70 percent of gl and 90 percent of mobile phone subscribers.

There are those who say the lack of economic development cau telecommunications. I believe they have it exactly backwards. telecommunications systems causes poor economic development.

So we cannot be complacent about the disparity between the h nations, whether in how many phones are available to people or in such new technologies as high speed computer networks or videocon

The United States delegation is devoted to working with each

Conference to address the many problems that hinder development.

And there are many.

Financing is a problem in almost every country, even though has proven itself to be an excellent investment.

Even where telecommunications has been identified as a top priority, countries lack trained personnel and up-to-date information.

And in too many parts of the world, political unrest makes it impossible to maintain existing infrastructure, let alone lay new capacity.

How can we work together to overcome these hurdles? Let me show things industrialized countries can do to help.

First, we can use the Global Information Infrastructure for communication between industrialized nations and developing countries. All governments are potential sources of information and knowledge and can be partners across the globe.

The Global Information Infrastructure can help development in every nation and enable them to solve common problems. For example, the World Health Organization has conducted hemisphere-wide teleconferencing new methods to diagnose and prevent the spread of AIDS.

Second, multilateral institutions like the World Bank, can help in the building of telecommunications infrastructure.

Third, the U.S. can help provide the technical know-how needed for these new technologies. USAID and U.S. businesses have helped the Telecommunications Training Institute train more than 3500 telecommunication professionals from the developing world, including many in this region.

In the future, USTTI plans also to help businesspeople, bankers and others from the developing world find ways that computer network technology, satellites, video links, and other telecommunications can improve their effectiveness and efficiency.

I challenge other nations, the development banks, and the UN to provide similar training opportunities.

The head of our Peace Corps, Carol Bellamy, intends to use Peace Corps volunteers both to help deploy telecommunications and computer systems and to find innovative uses for them.

Here in Argentina, a Peace Corps volunteer is doing just that.

To join the GII to the effort to protect and preserve the global environment, the Administration will soon propose using satellite and personal computers to create a global network of environmental information.

We will propose using the schools and students of the world to disseminate environmental information on a daily basis and communicate that data through television.

But regulatory reform must accompany this technical assistance for it to work. This requires top-level leadership and commitment, investment in telecommunications and commitment to adopt policies that encourage deployment and widespread use of the information infrastructure.

I opened by quoting Nathaniel Hawthorne, inspired by Samuel Morse

Morse was also a famous portrait artist in the U.S.-- his portrait of Monroe hangs today in the White House. While Morse was working on the General Lafayette in Washington, his wife, who lived about 500 kilometers away, fell ill and died. But it took seven days for the news to reach him.

In his grief and remorse, he began to wonder if it were possible to overcome the barrier of time and space, so that no one would be unable to reach a loved one. Pursuing this thought, he came to discover how to use electricity

so he invented the telegraph and, indirectly, the ITU.

The Global Information Infrastructure offers instant communication to the human family.

It can provide us the information we need to dramatically improve their lives. By linking clinics and hospitals together, it will allow patients to have access to the best possible information on diseases and providing early warning on natural disasters like volcanic eruptions and typhoons, it can save the lives of thousands of people.

By linking villages and towns, it can help people organize and solve local and regional problems ranging from improving water supply to deforestation.

To promote; to protect; to preserve freedom and democracy, with telecommunications development an integral part of every nation's infrastructure, the link we create strengthens the bonds of liberty and democracy and opening markets to stimulate the development of the global information open lines of communication.

By opening lines of communication, we open minds. This country cameras will bring the World Cup Championship to well over

To those of you from the 23 visiting countries whose teams I wish you luck--although I'll be rooting for the home team.

The Global Information Infrastructure carries implications greater than soccer.

It has brought us images of earthquakes in California, of the Berlin Wall in Red Square, of the effects of mortar shells in Sarajevo and So Berlin Wall. It has brought us images of war and peace, and tragedy we all can share.

There's a Dutch relief worker, Wim Kat, who has been broadcasting his diary from Zagreb for more than a year and a half on the Internet, sharing his observations of life in Croatia.

After reading Kat's Croatian diary, people around the world have organized relief efforts. The result: 25 houses have been rebuilt in

Governments didn't do this. People did. But such events are a part of the future.

When I began proposing the NII in the U.S., I said that my home States, born in revolution, can lead the way to this new, peaceful path. I believe we will reach our goal faster and with greater certainty if we walk the path together. As Antonio Machado, Spanish poet, once said, "Path, we create the path as we walk."

Let us build a global community in which the people of every nation view each other not as potential enemies, but as potential partners in the same family in the vast, increasingly interconnected human family. Let us seize this moment.

Let us work to link the people of the world.

Let us create this new path as we walk it together.

AS PREPARED FOR DELIVERY

REMARKS OF
VICE PRESIDENT GORE
AT THE RELEASE OF
GII AGENDA FOR COOPERATION
FEBRUARY 15, 1995

It is a pleasure for me to be with you today for the official release of the Global Information Infrastructure: Agenda for Cooperation.

I would like to welcome all of you who braved the cold or came from distant cities to participate in this event. In particular, I would like to thank our foreign guests, ambassadors and members of the diplomatic community. By joining us you make it possible to resume the international dialogue we began almost a year ago on the significance of creating a Global Information Infrastructure.

Since the first days of the Administration and before that, during the campaign, the President and I have stressed the need for a National Information Infrastructure, which, using advanced computer and communications technology, will provide all Americans with the information they want -- wherever and whenever they need it -- all at an affordable price.

We have the technology to make this possible -- fiber optics, advanced computers, digital wireless systems, telecommunications satellites. One day soon, it will be as easy to have a videoconference as it is to send a fax today. We will all have instant access to huge digital libraries of electronic information -- the Library of Congress on-line -- at home, at the office, at school, almost anywhere.

Your daily newspaper, customized to your needs, will be delivered straight to your portable notebook computer and updated throughout the day for not much more than you pay today for a newsprint version. And when you come home from a hard day at the office, you'll have an almost unlimited choice of entertainment -- far more than 500 channels of cable TV. You'll have the ability to dial up the program you want, when you want it, just as you dial the phone today.

That's what the National Information Infrastructure will make possible. It will improve the quality of our lives in hundreds of different ways -- making workers more productive, providing better and more cost-effective health care, giving students powerful, new ways to learn, making it easier to buy the products and services we need, and making government more accessible and user-friendly.

Yet the National Information Infrastructure, the NII, is only part of the picture. For we will not enjoy all its benefits unless the NII is linked into a global "network of networks," a Global Information Infrastructure, linking every country, every town, every village, providing not just telephone and fax service, but high-speed data and video as well. Such a global network would enable Americans to communicate across national boundaries as easily as we communicate across state boundaries today. Time zones, not cost, will be the biggest barrier to keeping in touch with family, friends, and co-workers, no matter where they are.

The difference between today's global telecommunications system and the GII of the future, will be as dramatic as the difference between the "packet ships" of the 1700s and the overnight mail services we have today.

Two hundred years ago, if you wanted to send a letter to London, you had to give it to someone who was traveling there. Today, for less than twenty dollars, you can have a package picked up at your doorstep and delivered the next day.

The Global Information Infrastructure will make possible a global information marketplace, where ideas, software, books, movies, music, data, and other information in digital form will be bought and sold by billions of people every day. This will open new markets for American products and give American consumers an even wider choice of information services.

Such a network would lead to more open markets not just for information products but for products of all kinds, because companies in this country will be better able to find customers and business partners in other countries and will be able to provide customer service no matter where the customer might be. The result will be more and better jobs not just for Americans but for our trading partners as well.

Besides opening new markets, the Global Information Infrastructure will give us new perspectives, enabling each of us to meet and work with people from places that we'd only heard about in travelogues. It will truly lower the barriers of time and distance, making the world ever more interdependent, while at the same time fostering and preserving the different cultures and customs that make the world such a fascinating and diverse place.

Perhaps most important, by making the countries of the world more interdependent, by enabling more effective communications, the GII can lead to a more peaceful, democratic world, where information and cooperation replace fear and uncertainty.

That is our vision of the Global Information Infrastructure. More than ten months ago, I flew to Buenos Aires, Argentina, to articulate that vision and to outline the principles that the Administration believes should guide us as we strive to make that vision a reality. Since

then, we have consulted with other countries on how to implement those principles. At the Summit of the Americas in Miami, at the APEC meeting in Indonesia, at the recent Gore-Chernomyrdin meetings in Moscow, we have agreed on actions that will accelerate the development of the GII.

But this is just a start. Today, Secretary Ron Brown and I are pleased to release a new report, Global Information Infrastructure: Agenda for Cooperation, which outlines the steps that the Administration intends to take, in concert with the Congress, the private sector, and other countries, to promote innovation and investment in the Global Information Infrastructure. In many ways, this report is like the NII Agenda for Action, which Secretary Brown and I released in September of 1993. Like that report, the GII Agenda provides a clear vision and a number of specific goals. And like the NII report, this report is a work in progress; it's not the final word, it's an invitation for further dialogue with the private sector on how best to accomplish our common goals.

The private sector will build and run the GII; governments neither can nor should make the huge investments needed. Our role is to provide a favorable regulatory and investment environment and then let private companies get on with the job of developing the equipment, deploying the infrastructure, and producing the information services that will make the GII more than just a nice acronym.

This report is also designed to foster dialogue between the U.S. and our foreign partners. That's why today this report is being made available worldwide on the Internet. This will enable tens of thousands of people in countries around the world to read it. (And it will enable the U.S. government to save thousands of dollars in postage and handling.)

Since the GII will be a network of many national networks, building it will require close and constant international cooperation. We look forward to talking to representatives of other countries, in both the industrial and the developing world, about this report and about how we can work together to develop and apply new digital technologies for the betterment of all.

This report lays out what we believe the Administration should do to foster the development of the GII. We haven't tried to set a global agenda; it is not our place to set goals and timetables for other countries. Each country has its own needs and constraints and will have to plot its own course.

But we hope that this agenda will spur other countries to examine how they can adopt policies that will spur the kind of investment needed to make the GII happen. And we hope they will work with us on a common agenda in international fora, like the up-coming meetings of the OECD and APEC in Vancouver, Canada, and the G-7 ministerial meeting in Brussels next week. Digital diplomacy is not easy but it is essential, because a Global Information Infrastructure requires global teamwork.

Before I close, I want to commend the dozens of people at the Commerce Department, the State Department, the White House, and elsewhere who worked on this report and the hundreds of people in the private sector who provided input and ideas. I particularly want to commend Larry Irving, Carol Darr, and Suzanne Seitle, at NTIA in the Department of Commerce, who have put a lot of long hours into the production of this document.

Now I would like to turn the program back over to Secretary Brown.

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REMARKS AS DELIVERED
BY VICE PRESIDENT GORE
TO THE
NETWORKED ECONOMY CONFERENCE
September 12, 1995

There is a saying that if you see a tusk sticking through your tent you can assume there is an elephant outside. Those of us in Washington who focus on the politics of communications reform sometimes spend too much time focused on the tusks and not enough on what is standing just outside the tent.

I would like to focus today on the emergence of information as the central organizing force of our society and the world as embodied in the emerging Global Information Infrastructure.

The United States was born out of a commitment to the free flow of ideas and communication -- freedom of religion, freedom of assembly, freedom of speech. "No taxation without representation" was a battle cry of 200 years ago against a centralized government deaf to the pleas of its citizens. It is no accident that the first amendment to our Constitution guarantees free speech.

Throughout our history we have defined ourselves by hitching our desire to communicate to the star just over the next horizon. From the Pony Express to the telegraph to the transcontinental railroad to the interstate highway system, we have built one dream upon the other to strengthen the bonds that tie our nation together.

When Neil Armstrong strode upon the moon, we realized that our dreams could extend beyond our nation to the entire world. But today's dream is not about breaking speed barriers or sending pioneers into the new frontier.

It is about breaking the barriers that limit our knowledge of the world, our neighbors and ourselves. It is about millions of individual journeys to explore the frontiers of knowledge whether it is a child's e-mail conversation with a scientist at the south pole or a tour of the Louvre right from your living room -- with a side trip to look at the newly discovered cave paintings that France put on the Internet.

We will not enjoy all of the benefits that the NII can bring unless it is linked to a global network of networks, a Global Information Infrastructure, or GII, linking every country, every town, every village, providing not just telephone service, but high-speed data and video as well. Such a global network would enable Americans to communicate across national boundaries and continental boundaries as easily as we communicate across state boundaries today. Time zones, not cost, will be the biggest barrier to keeping in touch with family, friends and co-workers, no matter where they are.

We talk about the GII as if it were a thing, a product, a collection of hardware and software, satellites and telephones, and switches and fibers. It is all of that, and it is more than that. It is a concept that has changed our perception of our human potential.

- the legislation would allow an excessive number of in-region buyouts between telephone companies and cable operators, substituting consolidation for competition and leaving consumers in rural areas and small towns with no rate protection from monopoly providers in most cases and no foreseeable expectation of competition -- no competition and no regulation is a dream for some people and a nightmare for others;
- it would deregulate cable programming services and equipment rates before cable operators face real competition and without providing any consumer protection provision after deregulation;
- it would preempt the states from implementing certain rate regulation schemes and opening their local phone markets to certain types of competition as they might choose to do.

And the cumulative effect of these provisions would be to harm competition and to weaken the benefits to the public.

Since the House and Senate bills passed, the Senate went on to cut the budget of the FCC by 20%. As you may know, both bills give the FCC more responsibility for implementing telecommunications reform, and as a result this action implies that telecommunications reform itself is either a failure or a fraud. A failure because the Congress is not serious about the FCC having anything to implement, or a fraud because it purported to give the FCC the power to make decisions in the public interest but is not interested in giving them the resources to actually do it.

This is not the way to lead the world into the Information Age. And believe me, the world is watching what we do and watching very carefully.

I urge the Congress to keep telecommunications a non-partisan issue. Don't look upon it as an opportunity to merely grab and display trophies for financial supporters and contributors. Support and strengthen our world leadership and the well-being of hundreds of companies by presenting the President a reform bill he can sign.

The United States should be on the leading edge, not the extreme ragged edge, of reform. We should lead the world in assuring a role for the public interest in our telecommunications system.

The second area where we are called upon to demonstrate our commitment to our own vision and values is in the area of the budget. And here, too, the Congress appears to be mindless of our past and blind to our future.

Our nation's leadership in developing the Global Information Infrastructure is rooted in our leadership in science and technology -- leadership made possible by 50 years of unprecedented bipartisan commitments. Since World War II, Americans have built a technological base that is bringing us economic rewards today -- creating new jobs and spawning new industries. The story is a remarkable one, unique in all human history. In fact, over the past 50 years, innovation has been responsible for at least a quarter -- and possibly as much as half -- of the nation's economic growth. Does anyone seriously wish to make the case that it would have occurred without a significant government role?

Prepared remarks of
Vice President Al Gore
Information Society and Development Conference
Midrand, South Africa
(via satellite)
May 13, 1996

Good evening from North America, where it's still morning. I'm speaking to you in person, but I'm delighted that this satellite -- part of a new information infrastructure -- allows me speak to you from the White House here in Midrand.

I'm here today to talk about the Global Information Infrastructure principles that I believe will speed its development and ensure it were adopted in Buenos Aires two years ago at the meeting of the International Telecommunications Union and affirmed last year at the G-7 Telecommunications Summit in Brussels. They have also been reaffirmed in a wide range of regional meetings, including the Asia Pacific Economic Cooperation meeting, the Summit of the Americas conference this week.

Before I discuss those principles, I have an announcement. I will announce the Leland Initiative, a 5-year program by the United States to expand Internet access in 20 African countries. This initiative is named after Mickey Leland, a man who cared deeply about Africa's future.

Access to the Internet can be a powerful tool for Africa's economic development. Doctors will be able to tap in to medical databases, farmers will have access to information on techniques for increasing crop yields, and African students will be able to learn by browsing through digital libraries with their peers around the world.

The United States is committed to working closely with Africa on this initiative. We will discuss what policy changes, such as competition policy, are needed to create the right environment for rapid expansion of the Internet. We will offer training for those who want to run and manage Internet Service Providers, and we will identify specific end-users, such as doctors, teachers, and private businesses that will benefit greatly from Internet access. Working together, we can help accelerate Africa's full participation in the Global Information Society.

I'll get to my specific remarks about the GII in a moment. I will also say a few words about one of the GII's champions, Ron Brown, who was killed in a plane crash earlier this spring.

Ron Brown was the United States' Secretary of Commerce -- for 10 years -- and a great man, including President Clinton and me. Many people may remember him as the first African-American Commerce Secretary. But I'm convinced that he was also the United States' most effective Commerce Secretary.

Ron Brown led U.S. trade missions to every corner of the world, and he was the nation's commitment to free and fair trade. And he opened new avenues for

to the continent where all of you sit today... Africa. Ron Brown Secretary to set foot in many African countries, including Botswana the north. And each time he arrived in an African country, he w outpouring of pride, joy, and love.

Our nation and the world will miss Ron Brown for years to co

I am especially pleased that Dr. Joseph Stiglitz, Chairman Economic Advisers and a world leader in the study of economic dev the United States' delegation to this conference. He brings the and integrity to this conference on our behalf.

Among the matters that Secretary Brown worked on during his development of a Global Information Infrastructure. This network village to browse through the most advanced library. It would al examine patients on another. It would help a family in the North with relatives in the Southern Hemisphere. And it would instill sense of their shared stewardship of our small planet.

As I mentioned, at a number of different international gathe developing nations have forged a consensus that the best informat certain core principles.

These principles are:

Private investment . . . competition . . . flexible regulati universal service.

I'd like to discuss each of these principles in turn -- keep tightly linked and depend on one another for their force. And I these principles can advance both the particular interests of you interests of all citizens of the world.

Let me begin with private investment and competition. Here President Clinton signed into law the Telecommunications Reform A our communications markets to free-wheeling competition among a h believe that liberating private businesses to compete with each o be the best technique for sparking creativity, creating jobs, boo of new services to consumers.

This is a tremendous opportunity for the private sector -- a America, in Asia, and now in parts of Africa. But private invest be accompanied by robust competition.

We've learned that lesson in the U.S. When a federal judge largest telephone monopoly, the results surprised even the fierce The price of a long-distance telephone call dropped dramatically. jobs, burst onto the scene. And AT&T itself eventually became a competitive and innovative.

The nation of Chile also illustrates benefits of private inv In 1994, Chile put in place a strongly pro-competitive regulatory And here's what happened:

The number of long-distance carriers increased from one to c

with telephone service jumped by more than 50 percent. And price dollars per minute to about one-fifth of a US dollar per minute. increased, too -- about twice as fast as the overall economy.

Let me say it again: Private investment and competition are development.

So is smart, flexible regulation. In order for investors to take hold, regulations must ensure stability, freedom and flexibility consumers fair prices and wide choices.

Here in the United States, we regulate many communications independent agency known as the Federal Communications Commission the know-how to make technical decisions. And -- along with other of Justice and Department of Commerce -- it has the capacity to meet conditions.

Just as these new technologies are overthrowing the old government must topple outdated regulatory structures while remain values and ideals.

Another core principle -- tightly linked to the principles of competition, and flexible regulations -- is open access. All nations to connect to the GII. And the reason can be illustrated, in part computer science -- Metcalfe's Law. Metcalfe's Law holds that the increases at roughly the square of the number of people connected

That's why the Internet is growing so fast. The more people people there are who want to connect. If you double the number of quadruple the number of possible ways to link people and combine

And that is why open access is so important. Keep people of network's won't be as valuable. Let people on, and the value even. Therefore, the owners of networks must charge non-discriminatory networks. The only way to realize the true promise of the GII is connects has access to thousands of different information sources electronic newspapers to computer bulletin boards -- from every nation

The fifth and final principle is perhaps the most important. believe that universal service can be a natural outgrowth of the combination of open access, flexible regulations, competition, and in that direction. But by themselves, they will not take us fully

That is why President Clinton and I have challenged our nation connect every school in America to the information superhighway by. And that is why I renew my call to all of you to help create a GII the world's citizens will have quicker and richer access to all the

Of course, in each nation, the exact contours of universal basic shape should be similar in most locales -- for instance, per people at all income levels can afford . . . making high quality persons geographic location or physical disability . . . and teaching technologies effectively.

Private investment . . . competition . . . flexible regulati
universal service. I urge you to embrace these five principles.

And what better moment and what better place than the nation
today. Just last week, South Africa approved a new Constitution
way, a constitution is like a map. It lays out the terrain of a
and dangers of a society -- but ultimately leaves it to citizens
suits them and does not abridge the rights of others. And a cons
people connect -- as more and more people affirm their faith in t
shared ideals.

The same is true with the GII. It is an historic undertakin
participation, bolstered by openness, and fortified by strong nat
dreams of a better tomorrow.

So on the occasion of this gathering, let me commend you on
urge you to embrace the five principles I've discussed and contin
world-wide development of the GII. And let me ask you to join me
first great achievement.

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THE WHITE HOUSE

Office of the Vice President

For Immediate Release
Monday, October 12, 1998

Contact:
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VICE PRESIDENT GORE ANNOUNCES FIVE CHALLENGES TO BUILD A GLOBAL INFORMATION INFRASTRUCTURE

Minneapolis, MN -- In a speech today before the United Nations' chief telecommunications organization, Vice President Gore challenged delegates representing over 180 nations to use our newest technologies to preserve our oldest values.

"Four years ago, I asked you to help create a global information superhighway," Vice President Gore said. "Today, I thank you for what you have done to bring about the most stunning revolution the world has known, and I challenge you to build on this unprecedented opportunity by putting these new global networks to work helping people."

"Today, we can build on our progress and use these powerful new forces of technology to advance our oldest and most cherished values: to extend knowledge and prosperity to the most isolated inner cities at home, and the most remote rural villages around the world; to bring 21st century learning and communication to places that don't even have phone service today; to share specialized medical technology that can save and improve lives; to deepen the meaning of democracy and freedom in this Internet age," he said.

The Vice President proposed five new challenges, which he characterized as a "Digital Declaration of Interdependence."

- First, he challenged the world community to improve access to technology so everyone on the planet is within walking distance of communication services within the next decade. For all our progress, 60% of the world's households still have no phone service.
- Second, he challenged the world community to bridge language barriers by developing technologies with real-time digital translation so anyone on the planet can talk to anyone else. Such technologies could reduce the cost of doing business and increase international cooperation.
- Third, he challenged the world community to create a global knowledge network of people working to improve the delivery of education, health care, agricultural resources, and sustainable development, and to ensure public safety. The Vice President challenged the education community to link together practitioners, academic experts, and not-for-profit organizations working on our most pressing

REMARKS PREPARED FOR VICE PRESIDENT AL GORE
15TH INTERNATIONAL ITU CONFERENCE
Monday, October 12, 1998

This is the third time in four years I have had the honor of speaking to this distinguished audience. The first time, I traveled 8,000 kilometers from the White House to Buenos Aires. The second time, I spoke to you by way of satellite in Kyoto, and invited you to come here this year. I want to thank all of you for the distance you traveled to be here today, and on behalf of President Clinton and the American people, I want to welcome all of you to the United States of America.

We meet today in Minnesota: the land of 10,000 lakes, at the very center of North America. One of our great writers, Sinclair Lewis, once wrote that "to understand America, it is merely necessary to understand Minnesota. But to understand Minnesota, you must be an historian, an ethnologist, a poet, and a graduate prophet all in one."

Of course, people might say the same thing about the Global Information Infrastructure -- a network of networks that transmits messages and images at the speed of light and on every continent -- ultimately linking all human knowledge. Its creation is so revolutionary -- the changes it has wrought are so vast -- that even those of us who have worked on it for years cannot predict its full impact.

For all the stunning capabilities of the Global Information Infrastructure, we must remember that at its heart it is a way to deepen and extend our oldest, and most cherished global values: rising standards of living and literacy, an ever-widening circle of democracy, freedom, and individual empowerment. And above all, we must remember that -- especially in this global economy and Information Age -- we are all connected, from Minnesota to Mongolia, from Madrid to Mali.

That is what I want to talk about today. Thanks to the people in this room -- and people listening around the world -- this is truly an open moment in world history, a moment when we can come together across our communications networks to rediscover and renew our shared values -- and build the 21st century our children deserve.

That is a vision that was not even imaginable back in 1947, when the International Telecommunication Union last met in the United States. That year, two scientists working at Bell Labs -- John Bardeen and Walter Brattain -- made an amazing discovery. Using a little slab of germanium, a thin plastic wedge, a shiny strip of gold foil, and a make-shift spring fashioned from an old paper clip, they were able to boost an electrical signal by more than 450 times. They called their invention a "transistor."

Incidentally, one of those two scientists -- Walter Brattain -- first learned about quantum mechanics less than five miles from where we meet today, as a doctoral student at the University of Minnesota.

There are now more than half a billion transistors manufactured -- every second. Every hour, more than a trillion of them are packed into everything from computers to car engines, satellite systems to gas pumps. Within two years, a single microchip will routinely contain one billion transistors -- and the patterns etched on them will be as complicated as a roadmap of the entire planet. Fifty years ago, it cost \$5 for every transistor. Today, it costs 1/100th of a cent. In just a few years, it will cost a billionth of a cent.

I once used the old cliché with a college audience that if the automobile had made the same exponential advances as the transistor, a car would get 100,000 miles to the gallon and cost only 50 cents. And then one of the students in the first row said, "Sure, Mr. Vice President, but it would be less than a millimeter long."

These new advances are allowing us to explore new frontiers -- from a galaxy 12 billion light years away to the smallest genetic switch inside a human cell. Within three weeks, the first of several brand new low-earth orbiting satellite systems will make it possible to make a phone call from any point on the earth's surface to any other point. Within three years, we will have high-speed wireless Internet access from anywhere on Earth.

Just two short years ago, the United States was able to land a rover on Mars equipped with an off-the-shelf wireless remote modem -- which prompted more than three-quarters of a billion hits on the Internet when those images were broadcast back to Earth. In the coming months, NASA will work with several of your governments to launch the new international space station, which is the size of two football fields.

At MIT in Boston, researchers are even busy adding a third sensation to virtual reality: not just sight and sound -- but touch. By using an electronic thimble, you can touch an object on a computer screen, and it immediately appears as a hologram next to you. If you run your fingers over it, the object can become rough or smooth -- whatever the computer commands.

It means that in a few short years, the blind will be able to feel a computer image, and armchair tourists will be able to run their hands over the rough sandstone of Stonehenge or the smooth marble of the Taj Mahal.

None of these stunning achievements would have been possible without telecommunications. Thanks to all of you, we know that today, we are at the dawn of a new technology and telecommunications renaissance, one that is still in its infancy.

But perhaps the greatest promise of this electronic and digital age lies not in what is new, but in the values that are renewed.

As each breathtaking new development brings us closer together in communication, and in common cause -- building a true global electronic village -- we have chance to spread a new prosperity, a new literacy, a new love of freedom and democracy -- and even a new sense of community to the farthest regions of the world.

That is why, four years ago, I set forth five principles that I believe are essential to reap the full harvest of the Global Information Infrastructure. Those five principles were: private investment, competition, open access, flexible regulatory framework, and universal service.

These are not just common principles, but common values we all need to strengthen. I am heartened to report enormous progress on all five.

First, we have encouraged private investment, because private investment is the lifeblood of innovation. Today, we see the results -- over \$600 billion of private capital has been invested in telecommunications since 1994. More than 48 telecom operators have been privatized. I invite any remaining doubters to go back to Buenos Aires and ask Argentina how well privatization works -- just since we met there they have gone from four million telephone lines to more than 18 million. Not only is their privatized system more efficient and more profitable -- it is bringing an entire generation of Argentines closer together.

Second, we have promoted competition, because competition leads to innovation, better services, and better prices for consumers.

In 1994, only seven countries had competitive markets for basic voice service. Today, 47 countries either have full competition or are committed to it. One of those is South Africa, which last year decided to license a second cellular operator. And in just one year, the number of subscribers jumped from 40,000 to 340,000.

Here in the United States, we have also taken broad steps to promote competition as well. Since 1996, when we signed a landmark telecommunications law that advances all five principles, the birth of dozens of new competitors has raised \$20 billion to invest in advanced communications, and created over 50,000 jobs. Now, we need competition between fiber-optic cables around the globe, especially with the stunning expansion of broad-band capacity. The bottom line is: competition works if we let it.

Third, we have made open access a priority, because open access guarantees that every user of the GI will be able to reach thousands of different sources of information from every country, in every language. Today, the Internet is turning that goal into a reality. Here in the United States, it took radio 38 years to reach 50 million people, personal computers 16 years, and television 13 years. The Internet took only four years.

Today, there are 100 million Internet users. By the year 2000, there will be 320 million. Maintaining open access means that we will speed up the day when every child in any village or city is able to reach across a keyboard and reach every book ever written, every song ever composed, and every painting ever painted.

We have seen the dramatic benefits of open access to the telephone network. Similarly, as new technologies emerge, open access will increase competition and deliver great benefits to users and service providers alike. The ITU's role in setting standards is crucial to this goal.

Experience has shown that competition among multiple standards is the best way to meet users' diverse needs -- as long as each individual standard is designed to increase, and not reduce the potential for interoperability.

Fourth, we have worked toward a flexible regulatory framework, because it promotes competition and investment while protecting consumers.

A growing list of nations agree: over the past four years, 18 independent regulatory agencies have been established in the Americas, 17 in Africa, and 11 in the Asia Pacific region. I was pleased to see 58 nations recently commit to the World Trade Organization's Reference Paper on Regulatory Principles. I want to commend one of them -- OSIPTEL of Peru -- which recently moved to promote competition by ending Telefonica's monopoly one year ahead of schedule.

Fifth, we have promoted universal service to basic telecommunications services, because the ability to pick up a phone or hook up a computer and have instant access to your village, your nation, and your world is one of the most liberating and empowering forces in human history, and it should be available to all people. Since 1994, the principal of universal access has led to more than 200 million phone lines being added. For example, China is installing 14.5 million lines per year -- equal to half of Britain's entire network.

This isn't just a story of numbers and statistics, but families and faces. In Thailand, a group of students with disabilities use the Flying Wheelchair Bulletin Board to talk to other students with disabilities around the world. They have been amazed to learn about legislation passed in other countries to help the disabled become full members of society -- and now they are trying to raise awareness at home. In Longreach, Australia, a woman named Christene Chapel lives on a sheep ranch in the Australian outback. By telecommuting through the GII, she recently earned a bachelor's degree at a university more than 1,500 kilometers from her home.

Thanks to the work we set in motion four years ago, the structure for the Global Information Infrastructure is largely in place. The information superhighways of many nations are beginning to take shape. Now more than ever before, we must all decide where they will lead.

My message to you is simple: today, on the eve of a new century and a new millennium, we have an unprecedented opportunity to use these powerful new forces of technology to advance our oldest and most cherished values. We have a chance to extend knowledge and prosperity to our most isolated inner cities, to the barrios, the favelas, the colonias and our most remote rural villages; to bring 21st Century learning and communication to places that don't even have phone service today; to share specialized medical technology where there are barely enough family doctors today; to strengthen democracy and freedom by putting it on-line, where it is so much harder for it to be suppressed or denied.

Today, we are more connected than ever before. Now, let us use our new tools and technology to build on that interdependence -- to build a stronger global community, and make real our common values.

Today, I want to pose five great challenges that still remain to be met. Together, they make up a Digital Declaration of Interdependence that can create a brighter world for us all.

First, we must improve access to technology so everyone on the planet is within walking distance of voice and data telecommunications services within the next decade.

Right now, 65 percent of the world's households have no phone service. Half of the world's population has never made a phone call. Iceland has more Internet hosts than all of Africa. Today, I challenge the business community to create a global business plan -- to put data and voice telecommunication within an hour's walk of everybody on the planet by the end of the next decade. This plan should include ways to stimulate demand. It should involve local business. It should allow for access to distance learning and telemedicine. It should provide hands-on training. We know it can be done -- and it must be done.

Second, we must overcome our language barriers and develop technology with real-time digital translation so anyone on the planet can talk to anyone else.

Just imagine what it would be like to pick up a phone, call anywhere in the world, and have your voice translated instantly so you could have a conversation without language being a barrier. Just imagine if the translation many of you are receiving through your earphones here today could be accomplished digitally and instantly. I can see the day when we have a true digital dialogue around the world -- when a universal translator can instantly shatter the language barriers that so often hold us back in this global and Information Age.

Imagine also a world where computers don't need keyboards, where you can simply speak into your p.c., and have every word perfectly translated and typed. Imagine how much it could reduce the cost of doing business, and increase international cooperation. Imagine if there were no barriers between basic literacy and computer literacy -- where any person who can speak can operate a computer and tap into the world's information simply by speaking into a small device.

Today, I want to challenge the research community: take these discoveries and develop new technology that allows people around the world to communicate with each other; that makes international cooperation easier; and that allows people to participate in our global community without losing their linguistic and cultural heritage.

Third, we must create a Global Knowledge Network of people who are working to improve the delivery of education, health care, agricultural resources, and sustainable development -- and to ensure public safety.

Just imagine what it would be like if a sick child in rural Mongolia could be linked through videoconference to the Sydney Children's Hospital. A small sensor, like a mouse, could broadcast x-rays or an MRI back to Australia. A blood sample could be put on a slide and scanned for sickle cell anemia. A leading doctor could prescribe treatment -- and the tests would be waiting when the child arrived. Within a few short years, this technology can be in our hands.

In an age when information is everywhere, we should be able to find ways to group information by need. Just think if every farmer in Africa could tap into a local weather channel that provides them with the information they need to plant and rotate their crops. And in natural disasters, we know that just an hour's advance warning can save thousands of lives.

Today, some of the most forward-thinking companies are using new "knowledge management" techniques that share best practices and take advantage of accumulated knowledge. Today, I issue a challenge to the education community to use these same techniques to link practitioners, experts, and non-profit organizations that are working on our most pressing social and economic needs.

For example, in the world today, five billion people don't have access to secondary and higher education. If we can create a "knowledge network" that extends distance learning around the globe, we can quadruple the number of people who have access to higher education and lifelong learning.

Fourth, we must use communications technology to ensure the free-flow of ideas and support democracy and free speech.

Four years ago in Buenos Aires, I said that the GII would promote democracy and greatly increase people's participation in decision-making, by making available the information they need to express their speech freely.

Self-government is built on the assumption that each citizen should have the power to control his or her own life. More than five centuries ago, this concept was alive in Europe -- but it didn't become functionally possible until the printing press helped to widely spread a large body of shared civic knowledge to an informed and engaged public.

Just as the printing press delivered that knowledge 500 years ago, I believe the GII can deliver a new wave of civic knowledge -- comprehensive enough to strengthen the capacity for self-government everywhere. The continuing challenge to all of us -- governmental and non-governmental organizations alike -- is not to tell other nations what to do, or what values to pursue, but rather to empower people to recognize and act upon their own choices. We must continue to work to ensure that the GII promotes the free-flow of ideas and supports democracy around the globe.

Fifth, we must use communication technology to expand economic opportunity to all families and communities around the globe. Everyone in every part of the world should have the opportunity to succeed if they are willing to work for it.

In a remote farming village near Chincchos, Peru, life has changed more in the past two years than in the previous half century. In 1996, an Internet service provider set up a Net-link for 50 peasant families. The village leaders formed an on-line partnership with an international export company, which arranged for its vegetables to be shipped and sold in New York. Before e-mail, the village's income was about \$300 a month. Today, it has jumped to \$1,500 a month.

Across the globe, microenterprise -- which often starts with initial loans of as little as \$50 -- has been a path out of poverty for millions. Today, there are more than 500 million micro-entrepreneurs-- like those Peruvian farmers who eke out an existence by selling their wares and service to their immediate communities. There are countless micro-entrepreneurs whose quality of life and incomes would change dramatically overnight if they had access to the same tools.

Today, I challenge the non-profit community to work with development organizations to provide more of these opportunities. These networks will create jobs and enable micro-entrepreneurs to avoid a middle-man and keep more of their profits.

Some estimate that global electronic commerce will grow to more than \$300 billion per year in just a few years. By the year 2010, we can triple the number of people who are able to support themselves and their families because they are able to reach world markets through the Internet. It will also help give consumers access to a whole new world of goods and services.

Today, I want to announce two additional steps our government will be taking to increase opportunity and empower micro-entrepreneurs across the globe.

First, I am pleased to announce today that our Peace Corps has committed to make technology and communications an increasingly important strategic tool in the work of Peace Corps volunteers. Before Peace Corps volunteers go into the field, the Peace Corps will make sure they have the know-how to enable people to use technology to gain information, improve education, and enhance economic development. Whenever possible, the Peace Corps will also help increase access to telecommunications in the communities it serves.

Second, I am proud to announce that USAID will lead a new initiative to promote Internet access and electronic commerce for development in eight countries. This initiative will go hand-in-hand with legal and regulatory reforms aimed at liberalization and universal access, to stimulate new businesses through electronic commerce, and demonstrate applications in democracy and governance, economic growth, environment, education, and medical assistance. This initiative will build on the Leland initiative, a \$15 million effort to provide 21 African countries with support for Internet connections.

This is our Digital Declaration of Interdependence -- five challenges that can strengthen our global community for the 21st Century.

Before I conclude, I want to say a special word about how we must work together to avoid the Year 2000 computer problem -- which could stall much of our progress in international telecommunications if we do not mount a major, worldwide, public and private crusade to fix it.

Today, we potentially have hundreds of millions of computers and devices that literally cannot read the year "2000." This means that when the clock strikes midnight on January 1, 2000, everything from air traffic control to water systems, heart monitors to nuclear power plants could be affected.

Here in the United States, we have a major effort underway to cope with the challenge. Within the White House, we are pursuing a top-priority, high-level initiative to make sure our national government is prepared.

But in an era of global interdependence, there is a shared global responsibility to meet the challenge. And I say to every single company, and every single nation, that has benefited from global trade, and global telecommunications: just as you have shared the benefits of this global and Information Age, you have an obligation to help shoulder this critical burden.

All of our economies will be hurt if the Year 2000 problem is not solved in time. One weak link in the system will weaken us all. I appreciate the work being done by our Federal Communication Commission and the ITU on this issue -- but we have more work to do.

Let us meet the Year 2000 challenge together, so we can begin the 21st Century with confidence, and without computer problems. Our ambassadors are ready to work with you and provide any technical assistance you need. Together, we must solve this problem.

Throughout this millennium, the story of human achievement has been a story of wonder, a story of discovery, a story of imagination, but also of a story of courage -- to try new things, to believe in what we can't see, and to boldly follow wherever the road may take us.

Today, that road of discovery is a highway of light and speed to connect the largest city to the smallest village across the globe. In a world once limited by borders and geography, the only limits we face today are the borders of our imagination. More than any other time in our history, the promise of new discovery and new technology has made it possible to renew and strengthen our oldest and most cherished values.

As we move into a new a new century and a new millennium, let us take that same sense of wonder, that same sense of discovery, and that same sense of courage to make real the values that centuries of human experience have aspired to create -- to end suffering, to eradicate disease, to promote freedom, to educate our children, and to lift our families and our nations up.

We don't have a moment to waste. Because our children and our world are waiting.
Thank you.

