



The Promise of Broadband and the ICT Industry:

Bridging Gaps, Boosting Economies

Our Nation is in a time of change. With new leaders and new economic challenges, the over 500 member companies of the Telecommunications Industry Association (TIA) are committed to working with President Obama and his new Administration on policies that will allow all Americans to participate in a 21st Century economy through broadband deployment over a modern communications infrastructure.

TIA companies lead the consumer and business revolution being built on the world's broadband networks. For over 80 years, we have represented the global information and communications technology industry through standards development, advocacy, tradeshows, business opportunities, market intelligence and world-wide environmental regulatory analysis. TIA enhances the business environment for broadband, mobile wireless, information technology, networks, cable, satellite and unified communications. The products and services of our member companies empower consumers in every industry and market, including healthcare, education, security, public safety, transportation, government, the military, the environment and entertainment.

We share the President's vision for America to lead the world in broadband penetration and Internet access. The ubiquitous deployment of next-generation networks directly impacts the productivity of our industries and our economy, and pivotally affects public safety, education, health care, and countless other functions in our daily lives.

The member companies of TIA will lead this effort. We want to work with the public sector to realize a common goal of a modern communications infrastructure deployed for all Americans, no matter where they live; what their economic status; what language they speak; and what special needs they might have. A modern communications infrastructure that can deliver broadband to all Americans can form a solid foundation for many important policy goals and objectives. TIA looks forward to supporting the Administration in its effort to implement the policies that stimulate investment, innovation, and the deployment of new information and communications technologies.

I. Policies and Priorities to Further Broadband Deployment

In these difficult economic times, TIA has looked closely at the Information and Communications Technology (ICT) industry to see how its member companies can facilitate a rapid recovery and promote the continued expansion of the Nation's information and communications infrastructure. TIA hopes to partner with Congress and federal agencies, such as the Federal Communications Commission, the Federal Trade

Commission, and the Department of Commerce, to create policies that deliver on the promise of broadband technology for the American people. TIA and its members have developed the following series of objectives and priorities to assist the new Administration in providing guidance and support for a policy framework that promotes a modern communications infrastructure:

- 1) Enhancing efforts to stimulate investment, innovation, and promotion of next-generation broadband deployment.
- 2) Advocating for forward-looking spectrum management, the allocation of additional spectrum for advanced wireless services on a technology-neutral basis, and the smooth digital television transition scheduled for February 17, 2009.
- 3) Providing persons with disabilities access to information through reasonable policies.
- 4) Facilitating open and fair market access for U.S. companies by promoting full, fair and open trade and competition in international markets.
- 5) Increasing the amount of federal funding dedicated to long-term, pro-competitive, communications network-specific basic research.
- 6) Promoting the development of an interoperable public safety network capable of protecting all communities in the event of further domestic disasters.
- 7) Encouraging maintenance and development of administrative and legislative initiatives that focus on broadband roll-out in rural areas.

II. The Economics of Broadband

It is without question that broadband is an accelerator of economic development, providing significant benefits for many industries. With broadband access, worker productivity increases, jobs are created, and wages grow. Broadband enables operators to offer more services to consumers for less, creating added efficiencies in both time and money. In addition, related industries grow with the continued deployment of broadband. As broadband penetration rates increase, there will be a resulting demand for more advanced computer and home networking equipment, wireless handheld devices, and other equipment that makes broadband use a reality.

However, the promising outlook for our ICT and broadband industry has been chilled by our nation's recent economic crisis. With investment capital dissipating, broadband deployment and the economic and social benefits it could reap are in jeopardy. It will take forward-looking approaches to our ICT policies to put our efforts for swift broadband deployment back on track.

Growing Nationwide Broadband Competition and Value

In its 2008 Market Review and Forecast (MR&F), TIA details the potential growth and promise for the ICT industry and continued broadband deployment. In 2007, the U.S. telecommunications market accounted for \$1 trillion in revenue – an 8.3 percent increase over 2006. This economic growth is attributed to double-digit revenue increases in wireless devices, wireless transport services, services in support of equipment, Internet access, unified communications, and Web conferencing.

Each component of the U.S. telecommunications market now is moving into the next phase of development. In the landline market, traditional telephone companies are actively competing in the television distribution market and are using their own facilities to provide expanded broadband Internet access, and television packages, with wireless services added in some cases. Traditional cable system operators continue to attract customers with new and more advanced broadband and video offerings and are increasingly branching into wireless mobility services. Direct competition is dramatically increasing and is reducing service costs for many consumers.

Further, providers are giving consumers increased Internet speeds at a lower cost. Faster speeds are required to transmit video, e-business, and gaming products -- high-demand applications whose use is only growing. Fiber-to-the-home (FTTH) and Data-Over-Cable Interface Specification (DOCSIS) 3.0, the next-generation cable modem, will provide much faster speeds than those currently available to most households. And the demand for faster Internet services in the U.S. grows exponentially; there were 69 million broadband subscribers in 2007, nearly twice the level of 2004. In fact, the U.S. broadband market should pass the 100 million subscriber level in 2010 and rise to 115 million by 2011.

TIA's Industry Outlook -- Prior to Our Economic Crisis

Prior to our nation's recent economic crisis, TIA's MR&F detailed the likely growth in the ICT industry in the coming years. At the time, there were significant economic benefits on the horizon. Recent policy efforts to swiftly and effectively deploy broadband have made great progress. The growth of the broadband product and service industries could be very large in the coming years. The overall wireline telecommunications landline market was projected to grow quickly in the next four years, increasing from \$299.3 billion in 2007 to \$322.6 billion in 2011. With regard to wireless broadband service, consumers have increased use of broadband wireless devices to search the Internet by 68 percent over the past year. Consistently, industry revenues from wireless broadband data application services in the United States were forecast to grow by over 30 percent from 2008 to 2011.

The remarkable growth in demand for wireless broadband services could in turn result in rapid growth in the wireless device market. TIA forecasts that, as consumers increase demand for new wireless broadband applications, annual revenues in the United States from wireless devices would increase by \$4 billion in 2011, compared to 2007. TIA also

found that sales of smartphones in the United States, most of which provide wireless broadband Internet access, would comprise over 30 percent of the mobile device sales in 2011 -- more than a 100 percent increase over 2007. In addition, mobile computers with advanced multimode integrated wireless technology are expected to be widely deployed in early 2009, helping businesses increase productivity and profitability with a mobile workforce. Further, the growing consumer demand for wireless broadband will drive the need for wireless infrastructure development; the number of wireless base stations was predicted to grow from 3.6 million in 2007 to 5.2 million in 2013.

It is this economic power that could help revive our economy, both domestically and internationally.

The Effect of the Economic Crisis on Broadband Deployment and Industry Growth and the Government's Ability to Turn the Tide

TIA's projections in 2008 for continued broadband and ICT industry growth did not take into account the devastating impact of our recent economic crisis. In fact, the significant pan-industry downturn has threatened the promising economic opportunities TIA forecast from several months ago. In the last months of 2008, orders for TIA members' products virtually collapsed. Member companies have begun reporting significant profit losses and are making workforce reductions on a large scale. In fact, technology sector job cuts in 2008 will rise to approximately 180,000 – the highest amount since 2003. Through October 31, 2008 job cuts by firms in the tech sector totaled over 140,000, a 31 percent increase over the tech-sector job cuts in all of 2007. Approximately 90,000 of these jobs cuts occurred after July 2008. Moreover, thousands more layoffs have come over the last two months of 2008, likely propelling the total tech sector job loss for the year over current estimates

This striking shift in the sector threatens a would-be thriving ICT industry that could lead our economic recovery and the social benefits that broadband innovation could provide for so many citizens. Under these market conditions, investors will not continue to support increased broadband infrastructure build-out. Yet, the U.S. cannot afford to sit idle while other countries continue to stride ahead in deploying widespread broadband networks. Our economic welfare, jobs, and leadership in research and development all depend on the continual success of broadband deployment.

At this time, there is an important role for the government in helping revitalize broadband deployment and the ICT industry. With billions of dollars of revenue losses and tens of thousands of lost jobs in the ICT industry of late, it is now critical that the government further support a national broadband strategy, promote policies that enhance broadband deployment, and provide the necessary fiscal incentives to help make widespread broadband deployment a reality.

III. Emerging Broadband Applications: Meeting Policy Priorities

TIA agrees with the Administration and Congress that many of our nation's needs can be met in part through the deployment of broadband. Not only can broadband networks connect our most rural communities with our largest cities, they will provide opportunity for education and advancement in areas that are in desperate need for economic opportunity. Moreover, with continued advancement in broadband technologies, diverse applications become possible that will benefit our economy, the environment, working conditions, the health of our citizens, and the operations of our government. These applications can drive success in a variety of policy goals including:

Telemedicine and Medical Records: Broadband deployment has led to revolutionary developments in the medical field. Telemedicine enables doctors to view and send medical images from locations outside their offices or hospitals securely and quickly. This is of particular importance in rural and other areas that do not have access to cutting-edge health care. TIA has also heard the Administration's call for the use of health information technology to lower the cost of health care. TIA members will continue to provide technologies and standards essential for enabling telemedicine and for promoting the broad adoption of electronic health information systems.

Teleworking: Teleworking will significantly improve workforce efficiency and satisfaction, allowing flexibility and maximizing an employee's time. Additionally, broadband-based teleworking will assist in energy conservation and environmental improvements: commuters will be fewer, traffic will be reduced, and resource consumption and emissions will lessen. Broadband expansion, with TIA members providing key teleworking applications, will speed this innovative work approach.

E-Government and Transparency in Government: This Administration has spoken clearly about its desire for a "transparent and connected democracy." An open government, informed citizenry, and the ability for increased public input on our nation's priorities is an essential part of the solution. Government is in a prime position to reap the benefits of broadband; it will transform outdated technologies into customer- and employee-friendly systems, create a citizen-centered government, and reduce government expense and resource waste. TIA's members offer a host of technologies that will play a key role in making government more transparent and efficient. TIA also will work closely with a new Chief Technology Officer to make sure that all Government agencies have the necessary technology tools for the 21st Century.

Reaching Rural Areas: Broadband technologies can bridge gaps between rural and other underserved areas and our nation's most populated areas. These technologies can combine voice, video, and data – media is as vital in less populated areas as it is in our major cities. But these technologies require infrastructure development not yet seen in some rural areas. Broadband technologies are essential to bringing our underserved citizens into an information age that is elemental to distance learning,

greater access to information and services, and better economic opportunities. TIA will continue its advocacy for policies both at the FCC and on Capitol Hill that will spread broadband to those communities who do not yet have viable opportunities to benefit from this vital technology.

Public Safety: The use of broadband technology to support public safety initiatives is essential in light of manmade and natural disasters that have plagued our nation over the past several years. As was demonstrated in the response to Hurricane Katrina, in order for those protecting our citizens to effectively do their job, they must be able to seamlessly communicate with each other. An interoperable public safety network is within our grasp, and can be realized through effective spectrum policy and government support. TIA has long led Project 25 and other initiatives that develop standards for the interoperability of public safety communications devices. Further, it has called for the swift creation of an interoperable wireless broadband public safety network in the 700 MHz spectrum. TIA wants to work closely with the new Administration to continue the push for interoperability as it such a critical element of keeping Americans safe during times of crisis.

National Security. The importance of broadband technology in the protection of national security cannot be overstated. New threats, akin to those of the September 11, 2001, tragedy, underscore the importance of instituting a more effective homeland security system through immediate interagency coordination, monitoring, and mobilization. Broadband technologies and networks will play a pivotal role in facilitating a national homeland security system that protects key governmental entities, informs essential personnel of threats on a real-time basis, and ultimately saves lives. Additionally, with growing concern regarding both physical and cyber attacks on critical infrastructures, TIA has a seat on the Communications Sector Coordinating Council and is actively engaged in advising how the ICT industry continues to provide support for protecting our vital infrastructures on a federal, state, and local level. Moreover, TIA continues in its role as a Sector Coordinator for Critical Infrastructure Protection (CIP) for the Information and Communications Sector. TIA has also worked with the Department of Homeland Security on national security grant awards and security communications methodologies.

More Efficient Transportation: Intelligent Transportation Systems (ITS) can offer real-time solutions to transportation-caused environmental concerns. Traffic congestion and inefficient transport of goods can be improved through wireless car navigation, variable transportation-based information transmissions, traffic signal control systems, and goods container management systems. Again, this burgeoning industry can grow significantly with TIA's standards and technology leadership.

Assisting All Americans: TIA will work with the Administration to promote technology opportunities for all Americans no matter the challenges they face. Broadband can provide great opportunities for persons living with disabilities. The use of broadband for remote interpreting, for example, allows persons with disabilities to access instantaneous interpreting from anywhere and at anytime,

provided the user has the necessary equipment. And, with broadband, an interpreter can work from a remote location, such as a home or office, while fielding a call on a computer equipped with a video camera focused on the user. TIA also has been active in the development and promotion of standards that allow our member companies to offer a high percentage of hearing aid compatible phones.

Helping Small Businesses Thrive. Main Street needs help, and the ICT industry can provide it. Broadband will assist entrepreneurs in making their businesses more efficient and profitable; it will help them thrive and expand to face new challenges. Broadband will assist the innovative in making e-commerce work for them; obtaining information about how to establish a small business; applying for permits and licenses online; and enabling business owners to conduct Internet market research advertisements and communication with customers and suppliers more easily. TIA's members and their technologies will make small businesses faster, smarter, and more profitable.

While this is not an exhaustive list, these applications are some of the most important for broadband use and our nation's policy priorities. TIA members are leading the effort to spread the benefits of broadband to all Americans.

IV. Conclusion

We are in a time of change – great challenges, but also great hopes. With a new Administration in place, the ICT industry stands ready to support key social and fiscal priorities in developing a modern communications infrastructure for the benefit of all Americans by promoting next-generation broadband deployment, forward-looking spectrum management, enhanced access for persons with disabilities, open and fair market access, increased research funding, the development of an interoperable public safety network, and expanded broadband access for rural America.

These are lofty goals, and they are dependent on a strong collaboration between the government and the ICT industry. TIA is up for the challenge and ready to work closely with the Administration to bring our nation into a 21st Century economy.