

Critical Infrastructure

In the 21st Century, broadband networks are today basic national infrastructure – just like transport, energy and water networks. With increasing machine-to-machine (M2M) communications – ‘The Internet of Things’ – these networks will underpin a vast array of services in areas like healthcare, education, energy management, transport systems, emergency services and much more.

The Broadband Commission engages in advocacy and high-level thought leadership to demonstrate that broadband networks:

- are basic infrastructure in a modern society - just like roads, electricity or water;
- are uniquely powerful tools for accelerating progress towards the MDGs;
- are remarkably cost-effective and offer impressive returns-on-investment (ROI) in both developed and developing economies alike;
- underpin all industrial sectors and are increasingly the foundation of public services and social progress;
- Need to be promoted by governments in joint partnership with industry, in order to reap the full benefits of broadband networks and services.

The Commission believes that high-speed, high-capacity broadband connections to the Internet are critical infrastructure in modern society, conferring broad social and economic benefits. Without broadband infrastructure and services, developing countries risk exclusion from participation in the burgeoning global digital economy. For example, broadband infrastructure and services can deliver:

More efficient Infrastructure and industry

In the power industry, broadband networks can show consumers and suppliers how much power is being used in real time, and where. This means that demand and supply can be stabilized as power is delivered or stored on ‘smart grids’. And in ‘smart buildings’, energy is saved through constant monitoring of heating and lighting. The manufacture and distribution of goods can be constantly tracked using broadband networks, which are also the foundation for cloud computing that offers rapid scalability of resources for businesses — as well as flexible access for individuals.

Promoting Education

Through e-learning, broadband improves access to digital resources, extending education to more people of all ages, at all levels of need, and reaching out to previously deprived communities. It also helps in training teachers and linking databases to improve administration. **Facilitating Research**

Using broadband, it is now possible for universities and research institutes to share vast amounts of data worldwide, and for students to read books in libraries on the other side of the globe. This speeds up work in countless fields, including areas such as medicine and agriculture that have an especially important impact on the lives of people in the poorest regions.

Preserving the Environment and responding to emergencies

One particularly important area of research involves monitoring the Earth's environment, through sensors on the ground or data collected by satellite. Broadband networks ensure that data can be transmitted swiftly to show, for example, the effects of climate change, crop shortages, or impending natural disasters. Broadband also helps by supporting emergency communications and medical assistance.

Monitoring Transport

Safety on the roads is improved by broadband delivering real-time information to traffic control systems and individual drivers. It helps streamline traffic flows, cut fuel consumption and minimize accidents, making it much easier to integrate all types of transport safely and efficiently.

More flexible Lifestyles

Videoconferencing removes the need for travel, and with a broadband connection, people will increasingly be able to work away from the office, while on the move. Whether through a mobile device or at home, they can also enjoy a huge range of content produced by the publishing, music and video industries, for which broadband networks have become a leading delivery channel.

Improving Healthcare

Network-based monitoring of chronic medical conditions and low-cost remote consultation and intervention will be increasingly favored by medical professionals, particularly those serving remote communities or ageing populations. Telemedicine, as it is known, will give many more people a better chance of health.

Taking Democracy and culture online

By putting information online, local and national governments can not only keep citizens up to date with what is happening, they can also offer immediate and interactive access to services, such as applying for licenses or registering to vote. Citizens themselves have a powerful platform on which to create spaces for sharing ideas and for expressing the creativity of their particular cultures.

Sources: World Bank Broadband Strategies Toolkit, citing various sources – R.Katz, S.Vaterlaus, P. Zenhäusern & S.Suter (2010), The Impact of Broadband on Jobs and the German Economy, Intereconomics: Review of European Economic Policy. Vol. 45, Issue 1, p. 2 (Jan. 2010); Analysys Mason, Assessment of Economic Impact of Wireless Broadband in India (2010); McKinsey (2010), Fostering Economic and Social Benefits of ICT, The Global Information Technology Report 2009-2010, World Economic Forum; Qiang & Rossotto (2009) Economic Impacts of Broadband, 2009 Information and Communications for Development, World Bank (2009); Czernich et al. (2009) Broadband Infrastructure and Economic Growth (2009).

Notes: * Only includes Germany; ** Average of five country studies, including United Kingdom, Australia, New Zealand, Malaysia and a Middle Eastern country, from various sources 2003 and 2004, and Qiang and Rossotto 2009 study; *** Limited to mobile broadband impact in India; + Various countries, upper range applies to developing countries and lower range to developed countries; ++ Sample of 20 OECD countries.