



BROADBAND: A PLATFORM FOR PROGRESS

Major new report highlights the impact of high-capacity connectivity

Broadband: a Platform for Progress is the second major Commission publication, and follows its initial report¹ that was presented to UN Secretary-General Ban Ki-moon in September 2010 outlining recommendations for action, especially related to the Millennium Development Goals (MDGs).

The aim of the new report is to look in detail at *what* broadband is, *why* it is so valuable in driving economies and societies forward, and *how* these networks can be created. Significant *policy issues* are considered too, along with an overview of the *status of broadband* around the world.

Broadband brings growth and jobs

The Internet has revolutionized our way of life. Even with access at low speeds, it brings connectivity and knowledge in a way that could hardly have been dreamed of a few years ago. Since technology is advancing so fast, the Commission decided not to define broadband as a specific speed; rather, the report defines it as *always-on* (not needing the user to make a new connection to a server each time), and *high-capacity*: able to carry lots of data per second. The result is that broadband enables the *combined provision* of voice, data and video at the same time.

Nowadays, some 30% of people worldwide are Internet users. The extent to which broadband in particular has grown is illustrated in Figures 1 and 2 (see page 2). In developed countries, around half the population has mobile broadband and about a quarter has fixed (wired) broadband. In developing countries, however, the figures are a small fraction of these, at 5.4% for mobile broadband and 4.4% for fixed (estimated, end 2010).

There is still a long way to go to spread the benefits of broadband to every home, business and institution in all countries, and in rural as well as urban districts. But why should broadband be seen as a priority, especially in countries that already have to deal with pressing problems?

First, the report makes clear that investment in broadband boosts GDP. In China, for instance, every 10% increase in broadband penetration could contribute an extra 2.5% to GDP growth. World Bank research (Figure 3) indicates that, for high-income countries, a 10-percentage-point rise in broadband penetration adds a 1.21-percentage point rise in economic growth - or an added 1.38 percentage points for low- and middle-income countries. This is more than any other type of communication service.

Broadband raises productivity, and brings jobs too. For example, an analysis for the European Commission estimated that broadband could create more than two million jobs in Europe by 2015. A study in Brazil reported that broadband added up to 1.4% to the employment growth rate.

The jobs come with the construction of networks, and with their spill-over effects on most other sectors of an economy. It is because of this that *Broadband: a Platform for Progress* notes the importance of adopting a 'trans-sectoral' approach for expanding networks. Instead of

¹ "A 2010 Leadership Imperative: The Future Built on Broadband", available at www.broadbandcommission.org

piecemeal or duplicated projects, a national strategy involving all sectors encourages the sharing of infrastructure and synergies among the applications that use it.

Figure 1 Fixed broadband subscriptions per 100 inhabitants, 2000-2010*

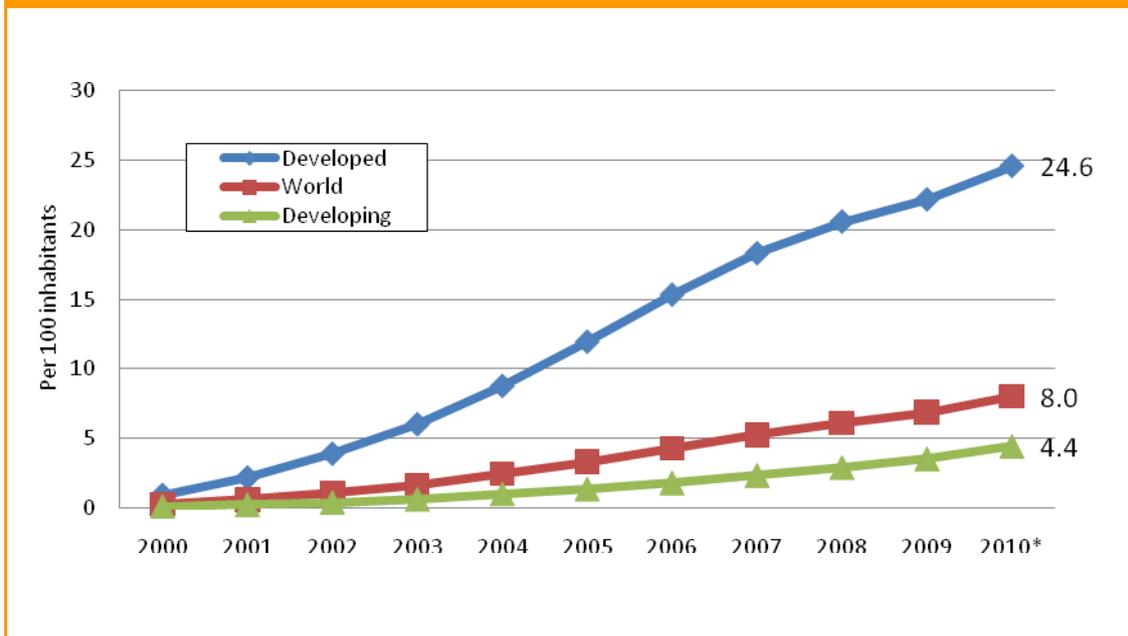
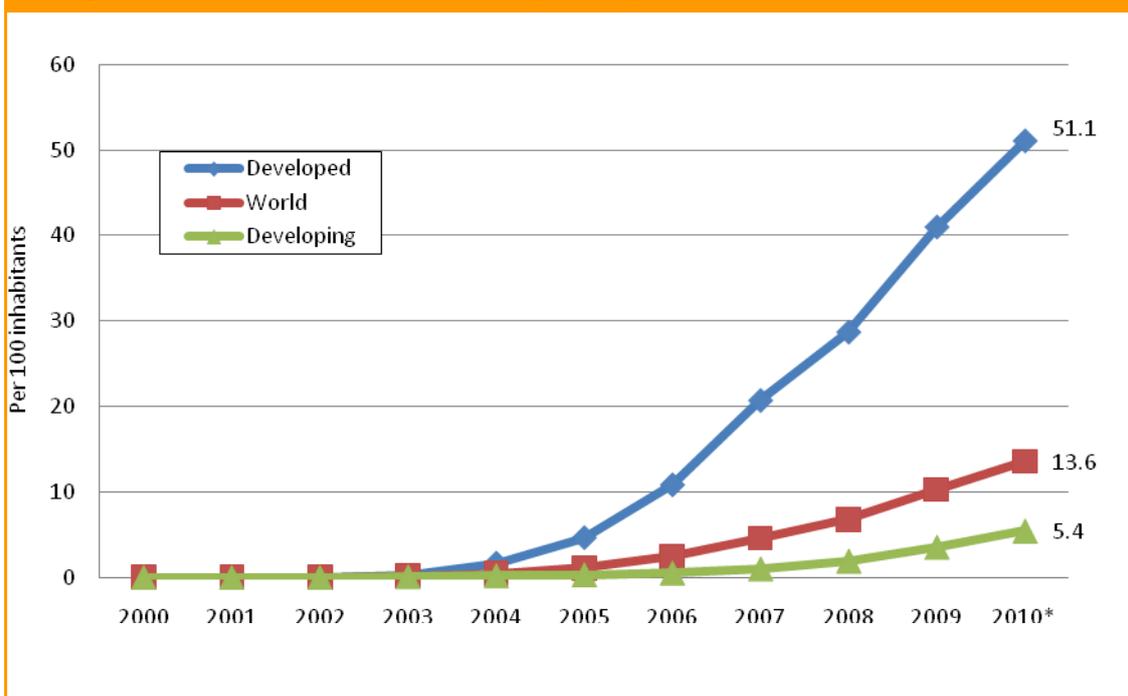


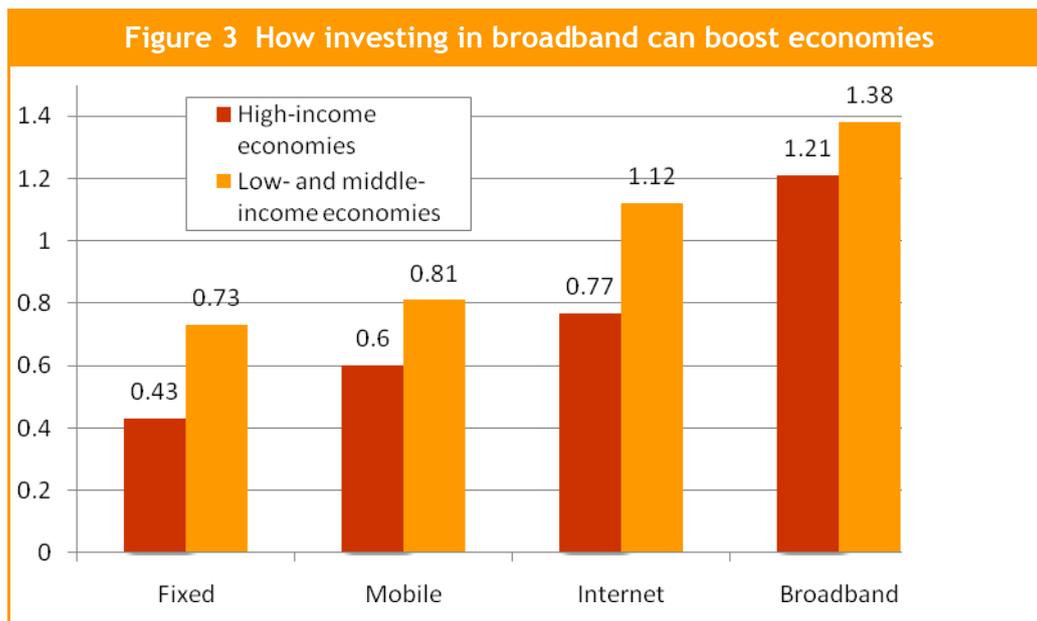
Figure 2 Mobile broadband subscriptions per 100 inhabitants, 2000-2010*



* Estimates for 2010 figures

(For developed/developing country classifications, see www.itu.int/ITU-D/ict/definitions/regions/index.html)

Source: ITU World Telecommunication /ICT Indicators database



Source: World Bank (2009) Note: The vertical axis is the percentage-point rise in economic growth per 10-percentage-point rise in penetration.

Services delivered by broadband

Broadband applications and services are becoming more and more embedded in our societies. And they will be essential – not only in efforts to reach the MDGs by the target year of 2015 (see Figure 4), but also to help sustain our quality of life into the future.

The new report gives an overview of the quickly expanding range of services that are boosted by broadband. E-commerce, for example: according to one analysis, in 2012 more than a billion people worldwide will spend over a trillion US dollars on business-to-consumer transactions, while the value of business-to-business trade will be ten times greater. Banking is also a fast-growing application carried over broadband. For mobile devices, m-banking is particularly significant in developing countries, where many people would not otherwise have access to such services.

Governments, too, are increasingly using broadband to provide online portals where citizens can receive information and interact with the administration – so-called e-government. Teaching of children and the training of professionals can be delivered through broadband video and other applications. This has the potential to take education and many new opportunities to every school or home, however remote.

Healthcare is potentially one of the most important areas where broadband can make an impact. It has been estimated that at least USD 5.5 trillion is spent worldwide on providing healthcare, but cost savings of between 10% and 20% could be achieved through the use of telemedicine delivered by broadband. And if such systems are *not* put in place, many people could be left without adequate care: a World Health Organization report revealed an estimated shortage of more than four million medical staff worldwide, with the situation being most severe in the poorest countries. Medical advice, monitoring, diagnosis and training delivered through broadband can help a great deal to overcome these gaps – in richer countries too, with their ageing populations.

Scientific research on a major scale is greatly assisted by broadband networks. Not only can researchers now exchange vast amounts of data of all kinds extremely rapidly, but new ways have emerged for tackling highly complex topics. Distributed or ‘grid’ computing permits thousands of small computers to be joined together to analyse and share huge amounts of data.

The power of broadband also underpins the collection, sharing and analysis of vital data on the environment, gathered via satellite, for example, or via direct sensor technology. This information can be used to predict natural disasters such as floods or famines. Wireless broadband in particular also provides a platform for reliable communications in the event of natural disasters, when terrestrial communication networks are often damaged or destroyed.

When it comes to power supplies themselves, 'smart grids' allow electricity companies to limit losses, prevent outages and provide customers with real-time information they can use to manage their own energy use at home or at a business. In addition, smart grids make it easier for locally generated electricity (including from renewable sources) to be integrated, stored and shared as demand fluctuates across the grid.

Broadband networks will also be a cornerstone of 'the Internet of things', by which objects and machines communicate without the need for human intervention, making processes more efficient while improving our lifestyle. One example is intelligent transport, which reduces accidents as well as fuel consumption.

All these benefits bring greater energy efficiency that, alongside monitoring and data analysis, help significantly in meeting the challenge of climate change.

Social effects of broadband

Broadband networks are, of course, pointless without connectivity – not simply to objects, but to people, in every community around the globe. The report looks at the essential role of broadband in the creation of 'Knowledge Societies', which are based on the principles of freedom of expression; universal access to information and knowledge; respect for cultural and linguistic diversity, and high quality education for all.

Efforts to create such societies include ensuring that Internet access becomes easier for people with disabilities. The report notes the need for well-trained personnel – especially among women and girls, who tend to be on the wrong side of a digital divide. The global roll-out of broadband networks offers vast potential for development. Stated simply, without broadband, progress towards the MDGs will be seriously hampered.

Figure 4 The Millennium Development Goals

Eradicate extreme poverty and hunger	Achieve universal primary education
Promote gender equality and empower women	Reduce child mortality
Improve maternal health	Combat HIV/AIDS, malaria and other diseases
Ensure environmental sustainability	Develop a global partnership for development

The message of the report

The report provides a roadmap of various policy issues that must be addressed as broadband expands – allocation of additional radio-frequency spectrum, for example. A new vision is needed which encompasses reduced regulatory burdens, innovative incentives, and coordinated efforts by all links in the broadband value chain, in order to unleash opportunities for commercial deployment.

The overall message of the report is that broadband is not an end in itself: it is an important means of meeting a wide variety of goals in highly diverse sectors. And without these networks, countries and communities will miss the golden opportunities of the 21st century. Broadband is a truly essential platform for progress.

For more information visit
www.broadbandcommission.org