

Broadband everywhere: the role of government



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Enabling the digital society is a key priority for governments worldwide as the social and economic benefits of access to broadband services are increasingly recognized and accepted. How can governments and regulators help ensure that the benefits of broadband are available to every individual and business? Ulf Pehrsson, Vice President Government & Industry Relations, Ericsson, offers his view.

There are now well above 400 million broadband subscriptions worldwide – an impressive statistic when you consider that there were none less than a decade ago – and this figure is predicted to grow to around three billion by 2013 (of which 80 per cent will be mobile). But there is still a long way to go until the majority of the world's population has access to broadband. Only a handful of countries have exceeded 60 per cent broadband penetration. Even in highly developed telecom regions like Europe and the USA, typically less than half of all households have broadband, and most of these are in urban areas – rural areas have been left behind.

Making access to broadband available to everyone has to be a top priority for any forward-thinking government. Broadband connectivity truly benefits both society and the economy – providing tangible benefits to individuals, enterprises and governments. It not only delivers services that are entertaining and fun for individuals, it also generates economic growth, opens up new business opportunities and increases efficiency.

Growth, efficiency, quality of life

Studies undertaken by a wide variety of organizations have consistently demonstrated a proportional relationship between access to broadband and GDP growth – and, the higher the proportion of people who have access to broadband, the greater the economic benefits.

A well built-out broadband infrastructure contributes to economic growth in developed countries, as well as in developing countries.

When emerging economies leapfrog technology, they advance their development and bridge the 'digital divide'.

Furthermore, as more and more mobile broadband networks are rolled out around the world, the economic benefits of cost-effective broadband access are being enjoyed by more people, faster than ever before.

Broadband engenders a more sustainable society by enabling e-services that reduce reliance on physical transport, improve accessibility to government services, permit dematerialization and help reverse the global trend to urbanization by making it easier for people to live and work in rural areas.

Access to broadband also enables cost reductions, and productivity and efficiency enhancements by providing easier access to, and sharing of, information, reducing the amount of time and money spent on traveling, and encouraging entrepreneurial activity and job growth.

Finally, broadband contributes to better quality of life by reducing time wasted on travel and letting people use the Internet for work, study or having fun wherever and whenever they choose.

So what can governments and regulators do to ensure that the benefits of broadband are available to the widest possible population?

The answer lies in giving broadband delivery systems – both fixed and mobile – the best conditions for being rolled out quickly and cost-efficiently to provide high-speed broadband to everyone, everywhere. Policymakers must consider activities that both stimulate investment in high-speed networks and encourage broadband usage.

Holistic, even-handed approach

Governments and regulators should adopt a holistic view of the broadband marketplace and set policies that stimulate competition as well as bridge the digital divide. Holistic regulation of television

services, for example, would solve many issues relating to distribution via broadcasting, the Internet, broadband and cable.

When it comes to delivering the vision of broadband everywhere, success is as much about providing mobility as it is about delivering certain speeds. Broadband offers the biggest advantages when it is available as people move around, as well as when they are at home or in the office. People want access to broadband from a multitude of devices, wherever they happen to be.

This implies that governments and regulators must maintain a technologically neutral approach that does not favor any particular broadband technology over another. In the absence of significant market imbalances or failures, this means regulators must apply even-handed network oversight that recognizes operators' needs to manage their networks and does not burden them with overly prescriptive regulations.

The single most important measure that a government can take to boost investment by commercial players is to liberalize its telecoms market and create a level regulatory playing field for all. Clear regulatory frameworks reduce investor uncertainty: through regulations, governments should encourage competition among operators of all delivery platforms providing similar services. This drives innovation and cost reduction.

On the fixed broadband side, regulation is needed to stimulate fiber build-out so that operators can offer the bandwidth-demanding services that consumers will expect. Investment in high-capacity next-generation access infrastructure may be commercially justified by demand for services that require such new capabilities – such as high quality, on-demand video services. But in addition to such services, which are mostly entertainment-related, the capabilities of these access networks will also facilitate e-health, e-learning and e-government services that are of great benefit to both the individual and to society.

Where appropriate, governments should support broadband roll-outs – through initiatives like the National Broadband Plan in the USA – to open up opportunities for all citizens, regardless of economic status or location to get a broadband connection.

Non-communications players such as municipalities, utilities and property owners may have different reasons for investing in broadband access than the commercial telecom player. Their main justification may be the promotion of an attractive business or living environment. Access to passive civil-works infrastructure is important for all communications-network investors, because it constitutes the majority of the costs involved in deploying a next-generation access network. Local, regional and national governments have an important coordinating role here.

The need for new radio spectrum

Given that the vast majority of future broadband users will use mobile access exclusively, ensuring that there is sufficient capacity to meet such demand is a top priority, and that means ensuring that sufficient radio spectrum is allocated.

Meeting the challenge of mobile subscriber growth is one thing; satisfying the significant increase in data usage demand is another. Even though mobile network technologies like WCDMA/HSPA are being continuously developed to cater for more users, deliver higher speeds and offer improved services, there is also rapid evolution in

the mobile applications and devices that people use – with higher-resolution cameras, greater processing power and larger high-resolution screens driving data usage. Broadband-related traffic volumes in mobile networks are predicted to grow at least 30-fold by 2012. By 2010, more traffic will be generated by data and information-based services than by voice in mobile networks.

As the capabilities of mobile broadband technologies rapidly approach those of legacy ADSL and ADSL2+ access, mobile networks must be viewed as a way of stimulating broadband growth and competition.

For mobile broadband to achieve the mass-market penetration that will deliver the highest levels of adoption and use, governments must ensure that spectrum policies deliver wider bandwidth allocations and maximize international harmonization.

Advanced technologies such as HSPA and LTE will provide coverage, data speeds and capacities suitable for most broadband applications and users. Allocating spectrum for these services in a globally harmonized way will minimize interference and allow for global roaming and economies of scale – helping to bridge the digital divide.

By making and following agreements on globally harmonized spectrum, governments and regulators can significantly enhance the economic benefits enabled by mobile broadband.

The International Telecommunications Union (ITU) has identified that, in order to cater for ever-increasing mobile traffic up to the year 2020, a total of around 1,300–1,700MHz of spectrum is needed for public mobile broadband services, meaning that a further 700–1,200MHz of additional spectrum is needed to meet demand beyond 2015. But where, and how, should this additional spectrum be allocated?

It makes sense to allocate this new additional spectrum in sub-5GHz frequencies to enable true wide-area mobility in a cost-effective manner. Parts of this new spectrum are needed in lower frequencies, like the 470–862MHz range, to enable cost-effective coverage and capacity in rural areas, while other parts are needed in higher frequency bands, like the 3,400–4,200MHz band, to allow for very high traffic needs in more densely populated areas.

The allocation of spectrum below 1GHz is especially important since it can support the spread of broadband to wider areas and address the digital divide cost-effectively. As TV goes digital in many nations, for example, freeing up frequencies previously used for analog TV is critical for future mobile broadband services and associated mobile technology development.

In addition to the width and position of the chosen frequency band, it is crucial that the new additional spectrum is globally harmonized and made available to enable international roaming and provide affordable services as well as the necessary economies of scale in both user devices and network equipment.

New spectrum can help pave the way for a truly global, mobile digital society and enable the next generation of mobile networks and services to be introduced to everyone. New spectrum will allow greater network capacity and the introduction of new technologies such as LTE.

Governments and regulators hold the key to fostering an environment that balances free-market competition with the need for long-term investment that will deliver socio-economic benefits for decades to come.