

Broadband: key to European recovery

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It has been a year of rationalising operations and dealing with tremendous uncertainty. But as we look to 2010, businesses can see signs of recovery and want to capitalise on the upturn. Fernando Gil de Bernabé, Cisco reports

One technology that is intrinsic to social and economic development is broadband. According to a recent World Bank study of 120 countries, for every 10-percentage-point increase in broadband penetration, there is an increase in economic growth of 1.3 percentage points (Qiang 2009). This growth effect is greater than that created by the deployment of fixed telephony, mobile and the internet. Broadband is also linked to increased labour productivity. By enabling easier sharing of information, the development of new applications and more efficient ways of working, through video and collaboration tools for example, broadband underpins the advancement of knowledge-based economies.

The quality and availability of broadband services are therefore paramount to economic recovery and increased competitiveness and should be top of mind for European leaders in 2010. But what exactly is broadband 'quality', why does it matter, how do you measure it, who are the broadband leaders when you take quality into account? And how do you become a broadband leader?

This year Cisco sponsored the second annual broadband quality study. Working with the Saïd Business School at the University of Oxford and the University of Oviedo's Department of Applied Economics, we analysed more than 24 million records from actual speed tests conducted by users around the world. Based on a combination of download speed, upload speed and latency (the delay in response from the internet) weighted according to their relative importance to delivering popular internet applications today and tomorrow, the "Broadband Quality Score" or "BQS" paints an accurate picture of a country's overall broadband capabilities and the likelihood of extracting economic benefit from it.

Broadband success

Global broadband access and overall quality has improved remarkably in just one year, with 62 of the 66 countries analysed reporting improvements since last year. The number of countries found to already have broadband infrastructures capable of meeting tomorrow's needs has also grown considerably from just one in 2008 (Japan) to nine countries today (including seven from Europe). The fact that all of these improvements have taken place during the onset of a global recession makes the achievements even more impressive and is a testimony to the significant capital expenditure investments that telecommunication services providers have made despite the challenging economic environment. What's more, these results reflect improvements achieved before any government stimulus packages could have made any significant impact. There is no question that access to good quality broadband is now recognised as a priority for countries the world over, and is regarded as having the same importance as utilities like energy supply, roads and water.

In just one year, average worldwide download throughput has increased by 49 percent to 4.75 Mbps and more impressively still, global average upload throughput has increased by 69 percent to 1.3 Mbps. Global average latency has improved by 21 percent decreasing to 170 milliseconds. It is particularly reassuring to see improvements in these last two metrics as they are increasingly important for delivering tomorrow's internet applications, such as consumer telepresence, high-definition video streaming, or even just speedier sharing of large files. Although we describe these as 'tomorrow's applications', all of these services are already available and in use today. Poor broadband quality will simply prevent them from reaching their mass market potential.

Creating broadband leaders

In order to be truly defined as a broadband leader, a country must not only deliver good quality broadband, but also have a high take-up of the service. Due to its heavy investment in fibre optic networks over the last few years, South Korea has the highest broadband quality of any country (with a BQS of 66) and one of the highest broadband penetration rates (97 percent of households) in the world. Combined, this ensures South Korea's place as the global broadband leader of 2009.

Europe has posted impressive rankings among the world's broadband leaders, with six of the top 10 broadband leaders coming from the continent (Sweden, Switzerland, Netherlands, Luxembourg, Denmark and Norway sit alongside the Asian Tigers). Emerging European economies such as Lithuania and Estonia have also ranked in the top 20. With this sort of infrastructure already in place, these countries have a real opportunity to become serious players in the global knowledge economy in the coming years.

The broadband quality divide

Countries that place broadband high on their national agenda generally have the highest broadband penetration and quality. The digital divide has changed beyond the simple question of who has broadband internet access and who does not. As bandwidth-intensive applications such as video become pervasive, the broadband gap is being redefined as a quality divide.

While quality is improving significantly around the world, there is still a tremendous gap between the broadband leaders and the broadband laggards.

Many of the countries in the middle-to-upper ranks of the broadband quality scale today have built their broadband infrastructures by developing their existing copper telephone lines. This strategy particularly helped these countries to achieve high levels of broadband penetration very quickly and claim early leadership in broadband.

Emerging countries do not necessarily have the same extent of legacy copper networks that are suited to upgrades. They have the opportunity to simply bypass this stage and invest immediately in the latest optical fibre and upgraded cable networking technologies available today. Indeed, European emerging economies such as Lithuania, Latvia, Romania and Bulgaria have entered the "ready for tomorrow" category in this year's study as a result of their investments in these technologies. With the same approach, there is no reason why those lowest down the scale today cannot jump into leadership positions in a few year's time.

With a clear link between a country's broadband quality and its advancement as a knowledge economy, broadband leadership should continue to be a goal for all countries. As new internet applications continue to demand faster and faster connections, it is imperative that policy makers put as much emphasis on broadband quality as broadband penetration and create an environment that fosters private investment. Our research has shown that putting broadband leadership on the national agenda is essential to ensuring good quality broadband positioning your country for the economic recovery ahead.