



**Whitepaper:**  
**The Business Benefits of**  
**Broadband**

## **Ready, steady, power**

OK, so broadband is green for go – and this is your starter for ten. But what does it all mean?

As with any change – and in particular with rapid change - there are bound to be lots of questions. In this text, we set out to provide some answers. We consider the choices you have and we briefly look at what broadband will mean for you in businesses, in schools, in communities and in your own home. So that's your 'starter for ten' – an overview of what's happening and what it means.

## **What is broadband power?**

Broadband means speed. It is the collective name given to a range of high speed internet connections that are (normally) always switched on. Always on, always available – just like your electricity or water supplies – broadband is ready, steady, communication power.

For businesses, organisations and individuals, the prospect of moving from an internet connection over a standard telephone line to a broadband connection has been described as like moving from a single track road to a ten lane highway – and one where you're allowed to drive forty times faster than before!

Broadband is the future of telecommunications – not just for business and personal web and email use, but also for other internet applications such as voice, video conferencing, e-business, radio, streaming video and digital TV. In business, in particular, broadband will impact across almost every sector from education and healthcare to manufacturing and tourism.

Offering speeds up to forty times faster than a standard internet connection, broadband makes it easy and cheap to transfer large quantities of data, images, graphics, video and high quality sound. It has obvious advantages for business – which we look at later – but it is also likely to revolutionise education, community life and home entertainment. In fact, the true impact of broadband is only now becoming apparent as individuals and businesses explore its full potential.

To begin our overview of broadband in the Highlands and Islands, we briefly consider the range of broadband connections available.

## **Measuring broadband power**

There is no definition of how fast an internet connection should be before it is described as a broadband connection. (It's a bit like asking how fast does a car have to be before it becomes a sports car?) However, most standard modems currently connect at 28 or 56kbps (where 'kbps' stands for kilo-bits per second, and a 'bit' is a single unit of information). But with a broadband

connection, you'll experience connection speeds of up to 2Mbps (megabits per second)!

### **Your choice of connection**

Different kinds of broadband connection will be available to you depending on your location. – and in particular depending on the size of the community in which you live or where your business is located. The main connection types available are:

#### *ADSL (Asymmetric Data Subscriber Line)*

ADSL is 40 times faster than an ordinary dialup connection. It uses an existing analogue telephone line and, once connected, you can still use the line for phone/fax calls. That means you don't need to get an extra line installed for this service. However, upload speeds are typically half or even only a quarter of the download speeds.

#### *Community Wireless Broadband*

Wireless broadband is 10 times or more faster than a dialup connection and is completely independent of your phone line. You connect via a small outdoor antenna to a network of small community-based radio repeater stations. Upload speeds are typically half the download speed and if the service uses a satellite feed to connect back to the internet there may be some limitations such as not being able to use video conferencing tools.

#### *Satellite (two-way)*

Using a dish antenna to connect to the internet via a satellite can provide a broadband connection which is up to 80 times faster than a dialup connection. Completely independent from any form of infrastructure, satellites can be used practically anywhere where there is an unobstructed line of sight to the south. However, due to the distance of the satellite from Earth, there is a time delay (latency) which can restrict certain applications such as voice, video conferencing and on-line gaming. Satellite is ideal for individuals or businesses which cannot access any other services – normally due to their remote location.

#### *Satellite (one-way)*

Same as two-way satellite, with the exception that only downloads take place via the satellite and are only up to 20 times faster than a dialup connection. Uploading takes place via a telephone or ISDN line. This means that this service requires both a landline and an unobstructed line of site to the south to work. Furthermore, with the exception of ISDN, additional telephone lines may also be required to enable simultaneous phone or fax use. Users will, however, experience less delay than with two-way satellite because of the upload via landline, but upload speeds will be restricted to less than 56Kbps for an ordinary telephone connection and up to 128Kbps for ISDN.

## **Broadband in your business**

Broadband has implications for every business in the UK. For broadband means faster access to information, lightning fast downloads of data, and improved communication through real time email, video conferencing and other tools.

For example, a 1Mb file accessed via a 56k modem would take approximately two minutes and 28 seconds to download. Using a broadband connection, the same 1Mb file will download in three seconds or less. So there are opportunities to save time – and, as everyone knows, that means saving money too. Even more so when you consider that you will be paying a flat monthly subscription fee for an always on, unmetered service.

And, perhaps more importantly, your always on connection will also open up a host of innovative business opportunities – by unlocking the door to e-business in a way you may never have thought was possible. In doing so, broadband may help you to reduce costs, increase sales by enabling customers to order on-line, and enhance your after-sales service. In short, broadband can help you to become more responsive to customer needs and to win more business as a result.

Below, we look in more detail at some of the specific business benefits. Although we consider these separately, they are part of a continuum – each one building on and underpinning the other. Enhanced communication, both internally and externally, will provide the springboard for ensuring that broadband connectivity delivers improved performance in your business. And likewise, a high-speed connection can help you to exploit the potential of e-learning to ensure that your staff have the skills they need to realise the full benefits of broadband in your business.

### **Enhancing communications**

Broadband can make a profound impact on the way you do business. And that impact is often most apparent in the area of communications, both internally among employees, and externally with customers, suppliers and other stakeholders. Broadband means that many small businesses can finally exploit the full potential of already familiar communication tools such as the web and email – while it also opens the door to using more sophisticated tools such as remote storage services and online meeting facilities.

The always on nature of broadband technology means that employees can communicate with each other much more easily. They can also have online information updates delivered direct to their desktop with no need to dial up. For smaller businesses, an always on connection will help to improve external relationships – particularly with customers. For example, it will help you to deal more effectively and efficiently with customer enquiries and orders. You will receive enquiries and orders as soon as they are sent, and so you should be able to respond much sooner too. Individual customers will enjoy greater personal contact with the key people within your business.

A broadband connection will also allow you to collaborate with partners and suppliers remotely – using advanced web-based meeting and planning tools. With high speed connections, collaborative communications can overcome any distance barriers and enable you to work with others in virtual private networks (VPNs).

Business communications can also be improved. Using your broadband connection to exercise constant control over your website, you can rapidly add or amend content and sales data as required. As a result, communication with your customers and potential customers will be more efficient. And, of course, using your broadband connection to ensure that your website is always up to date is the first step in beginning to exploit the potential of e-business.

### **Improving performance**

Getting the most out of business communications and e-business can help to improve productivity and performance within your business. The simple ways in which broadband may help small and medium sized businesses to improve performance will include:

- freeing up dial up and download times for other activities
- enabling employees to use the phone and internet simultaneously
- being able to connect different PCs to the web at the same time
- reducing paperwork by using web services to book travel, buy stationery, etc.
- improving employee satisfaction and, as a result, individual productivity
- creating more effective home working opportunities

Businesses will also be able to improve their customer service – and cut the time taken to process and manage customer orders – by operating web-based customer relationship management systems and on-line ordering facilities.

Similar opportunities to improve performance will extend throughout most areas of your business. Because, to put it bluntly, the full use of many existing business software applications is simply not practical with a traditional dial up service. For example, a broadband connection will make it much easier to use online procurement systems to find new suppliers.

And, of course, broadband will also break down many of the traditional barriers to export. The use of streaming video and conferencing facilities such as Net Meeting will make it easier to make business presentations, and market and sell your products, to potential customers anywhere in the world.

## Developing e-learning

The development of broadband will be critically important to the future of education and learning. For small and medium-sized businesses, broadband will mean that online learning and training for staff will become a viable option for the first time.

In the past, too many online training packages have been limited by restricted bandwidth. As a result, many have been relatively dull, short on interactive content, and lacked the power to engage learners. Broadband can now provide businesses with access to a new generation of training packages – which are designed specifically to take advantage of the new technology.

Covering everything from customer service to sales techniques, these new training packages are content-rich and designed to deliver a compelling and engaging experience. If a company is already committed to staff development, then on-line training via a broadband connection will offer many advantages – particularly to smaller and rural businesses. These will include:

- personalised content to reflect specific company or individual need
- staff access to training when they need it – at their own desks!
- the ability to log on and log off with ease
- no dial up charges with an always on connection
- flexible training tailored to meet the demands of the workplace

In short, broadband has the potential to make continuous learning in the workplace a reality. As the broadband network expands – both locally and nationally – so will training providers offer increasingly effective training packages that deliver relevant and exciting learning direct to employees' desktop computers. It is a development with the potential to transform the learning landscape in businesses and organisations of all sizes – and based in any location.

**For broadband packages, installation and advice**

**Call EBS: 0121 384 2513**

**[www.e-b-s.co.uk](http://www.e-b-s.co.uk)**