Modern markets - getting the framework right

Summary

Our goal is:

To develop the UK as the world's best environment for electronic trading by 2002.

The Government will now:

- take forward an action plan with industry to drive broadband roll-out and take-up;
- modernise the regulatory and legal framework in the UK to meet the needs of e-commerce;
- promote a secure environment for e-commerce; and
- take action with international partners to develop an effective, light-touch global framework for e-commerce.

Broadband

'Broadband' is the term used for 'always on', higher speed access to the Internet. This additional bandwidth, over and above the typical 56kbps provided by a standard dial-up modem, allows new value-added services to be delivered to consumers and businesses. Consumers will benefit from video and audio streaming, new forms of interactive entertainment and new ways of learning over the Internet. Businesses stand to benefit from productivity improvements; for example, improved low transaction cost communications with customers and suppliers. Broadband also enables application service provision that permits the outsourcing of IT functions and enables companies to focus on their core business.

The Government believes that rapid roll-out and adoption of broadband across the UK is important to both its social and economic objectives. In February 2001, the Government published *UK online: the broadband future*, [3] which set a new target - "*for the UK to have the most extensive and competitive broadband market in the G7 by 2005*". The report also committed the Government to establish a Broadband Stakeholder Group to develop a detailed strategy for meeting that target. This section sets out:

- where the UK stands on broadband; and
- the Government's strategy.

Broadband: where does the UK stand?

In July we awarded a contract to Analysys Consulting for a rolling programme of research into the broadband markets in the UK and the rest of the G7. The objective is to fulfil our commitment to publish research on a six-monthly basis of the UK's standing in the G7. Since July, Analysys have been working closely with the Broadband Stakeholder Group to identify the market performance metrics that really matter as we track progress over the next four years. Consensus has emerged around a dashboard of six indicators:

- **broadband service price:** a weighted average price for broadband services at purchasing power parity. Prices are weighted by population coverage for the service.
- **broadband take-up:** broadband take-up as a percentage of the population.
- **broadband choice:** a composite measure with three elements: the market concentration index as a measure of retail and technology competition; the number of broadband retailers with a market share greater than 5% as a measure of retail competition; and the total broadband infrastructure coverage as a measure of technology competition, e.g. cable vs Digital Subscriber Line (DSL).
- **broadband service availability:** the percentage of the population covered by at least one affordable broadband technology.
- **broadband market regulation:** an index formed from a generic bundle of actions taken by the regulator on broadband, including local loop unbundling, line-sharing, spectrum licensing, satellite licensing, wholesale DSL, wholesale cable, and separation of incumbent networks.
- **broadband addressable market/market context:** a measure of the size of the consumer market that is already 'half-way' towards adopting broadband and that would rapidly substitute given reduced price differentials or the development of compelling content. This composite measure includes the percentage of the population with flat-rate Internet access, ISDN and digital television (DTV) services.

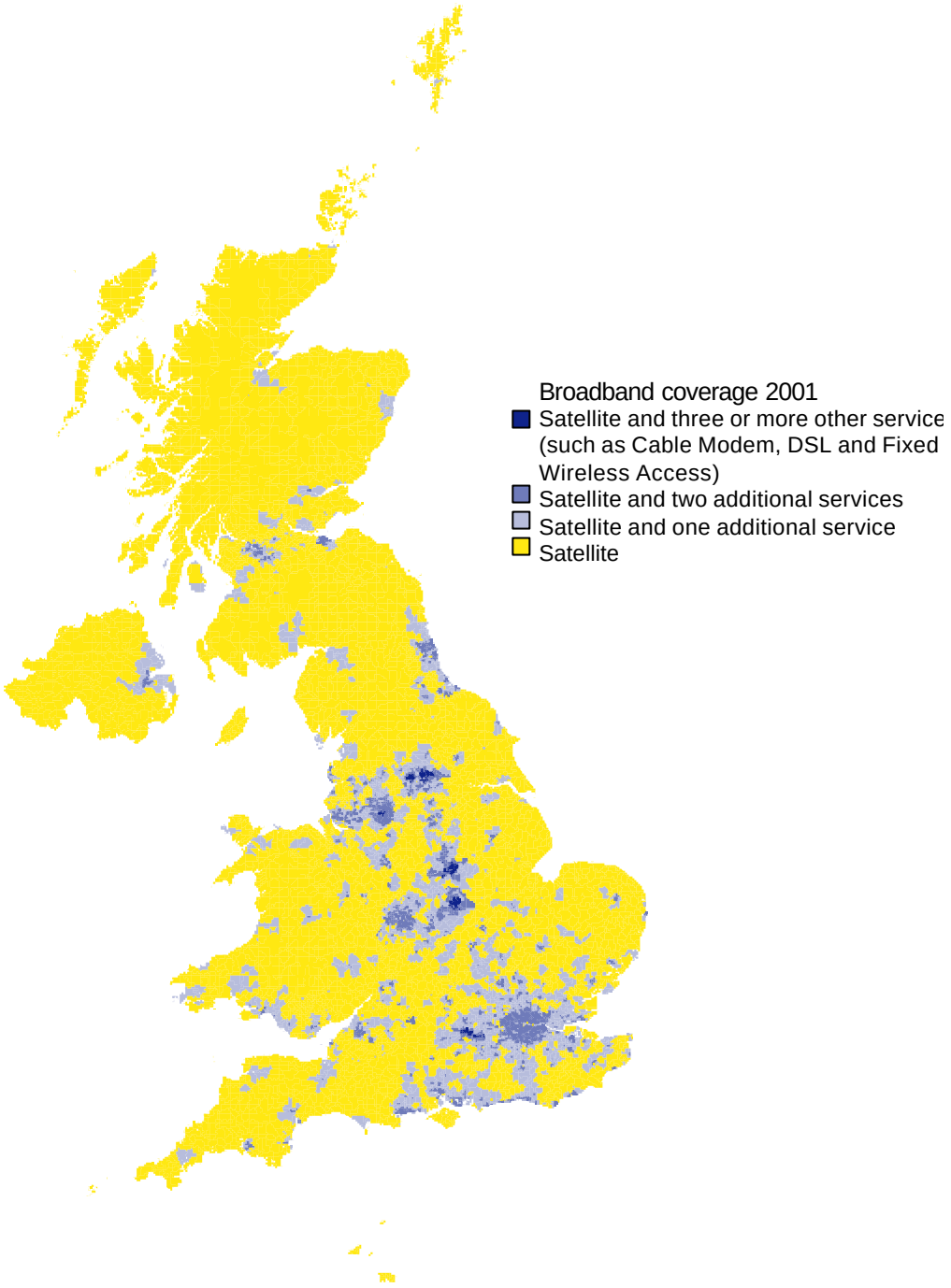
We can combine these dashboard performance measures to define competitiveness and extensiveness indices - the two components of our 2005 broadband target. We define **competitiveness** as a composite measure of market regulation (a leading indicator), market choice, and service price (a lagging indicator). We define **extensiveness** as a composite measure of addressable market (a leading indicator) and service availability. Our 2005 target for extensiveness and competitiveness is therefore about getting the broadband market conditions right. **Take-up** is a lagging indicator of meeting this target. We will now review performance against each of these three indicators.

Broadband market extensiveness

Broadband services in the UK have continued to develop over the past year and 60-65% of the population is now covered by an affordable broadband technology, e.g. cable service or Asymmetric Digital Subscriber Line (ADSL) - see Figure 1. This is comparable with the rest of the G7; ahead of France, but behind Canada and Germany.

UK coverage is forecast to continue to increase. However, early roll-out has concentrated in urban areas, where terrestrial services can be delivered more economically. Terrestrial service roll-out to rural areas has been much slower. Satellite services and leased lines are universally available and offer a potential solution to current gaps in rural provision, but they are priced well above cable and ADSL and are presently more suited to business, rather than residential, applications.

Figure 1: Broadband coverage in the UK, August 2001



Those consumers who are currently on flat-rate Internet access packages (flat rate is a key feature of broadband), higher speed digital packages, e.g. ISDN (speed is a key feature of broadband) and consumers with interactive digital television (iDTVs) (a platform for broadband service delivery) represent an addressable market for broadband service providers. These consumers are 'half-way' to adopting broadband and the size of this consumer group is a leading indicator of the future extensiveness of the UK's broadband market.

Against the extensiveness indicator, a combination of availability and addressable market, the UK currently lies in fifth place in the G7. However, it is expected that the

UK’s position will improve with increased broadband roll-out and continued growth in the take-up of Internet and iDTV services.

Broadband market competitiveness

Many consumers now have a choice between packages. Infrastructure competition is provided between cable and DSL technologies, with over 75% of households in urban centres, [4] representing about 37% of the population, having a choice between the two. There is also competition to British Telecom (BT) for DSL services; for example, from Internet Service Providers (ISPs) Freeserve and lomart. By August 2001, around 180 customers, including operators and service providers, had signed up to BT’s wholesale services, which allow them to provide services to end-users over BT’s upgraded network.

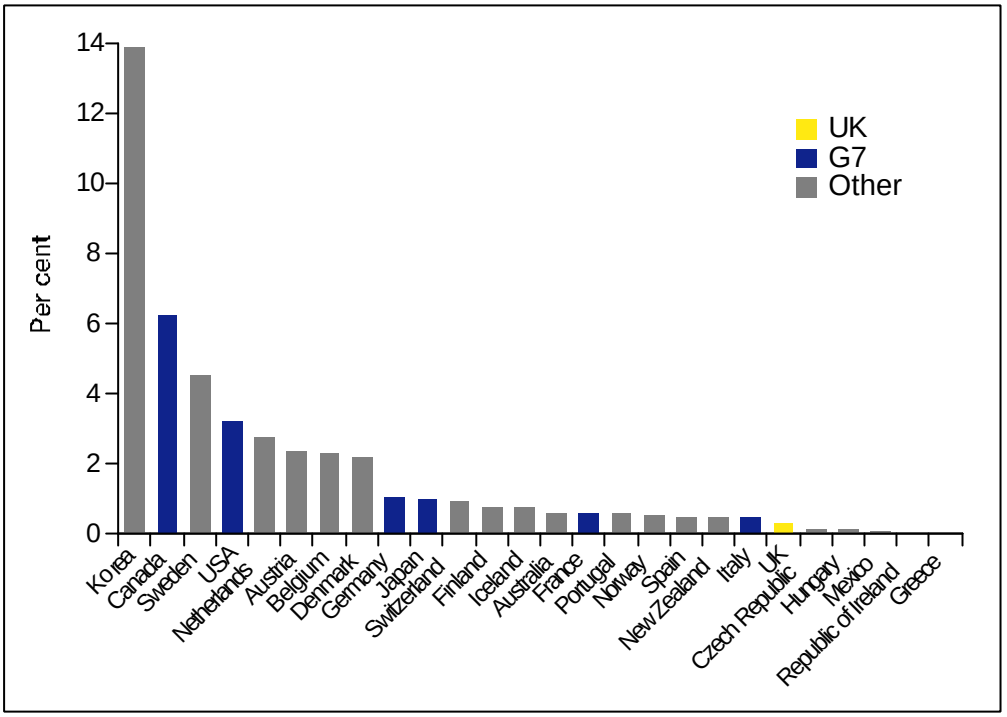
Competition in the upgrade of the local loop is also being facilitated through the Local Loop Unbundling (LLU) process. This provides operators with access to BT’s local loop in order to allow them to decide when, where and how to offer high-bandwidth services direct to end-users. Since September 2000, operators have been able to order co-location space in BT’s local exchanges to access local loops. Trials began in April and the UK’s first unbundled loops are now operational. There are signs that competition is impacting on price, with reductions in cable prices announced early in the year and BT’s recent announcements of a reduction in wholesale DSL prices, installation costs, and of its plans to roll out lower cost self-install DSL services from December.

The UK arguably already has one of the most competitive broadband markets in Europe, ahead of those countries with less infrastructure competition or lower retail competition in the absence of wholesale DSL services. Based on our competitiveness index, we are currently in fourth place in the G7, ahead of France, Italy and Germany. With continued infrastructure and retail competition putting downward pressure on prices, we expect to climb up the competitiveness rankings.

Broadband service take-up

As at September 2001, around 180,000 broadband cable and DSL lines had been rented, representing less than 1% of households [5] (see Figure 2). We expect the high availability, infrastructure and retail competition and recent price reductions to feed through to increased take-up. As we get the market framework right and move closer to achieving our 2005 target, we can expect our international position on take-up to improve.

Figure 2: Population with broadband connection, OECD, June 2001

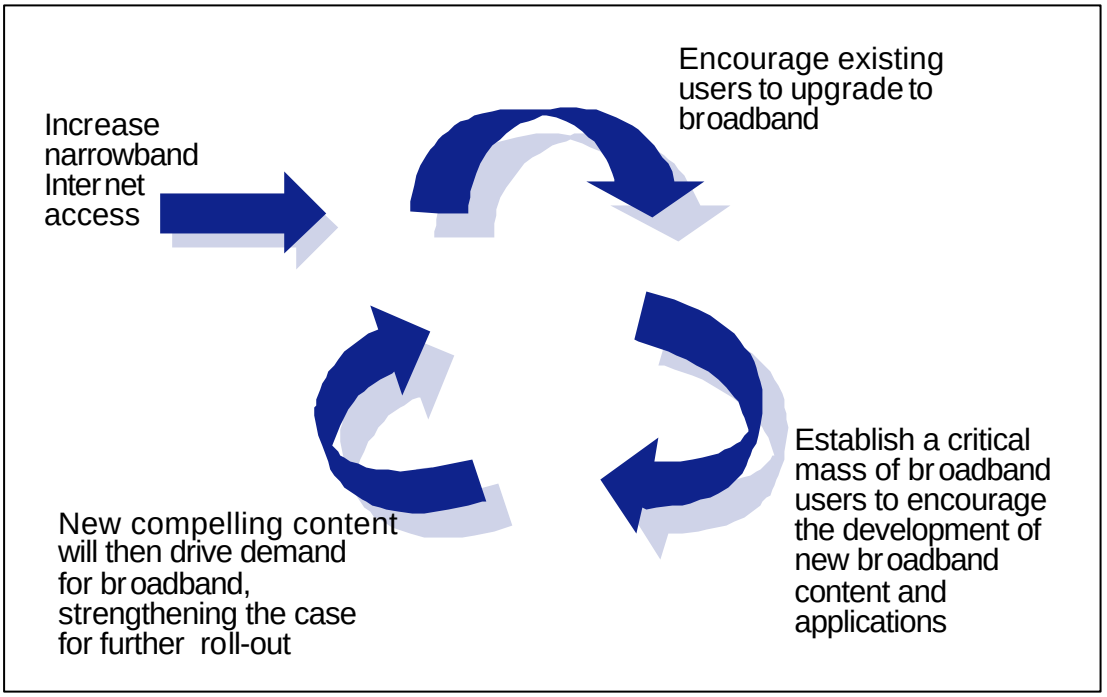


Broadband: the Government's strategy

Following publication of *UK online: the broadband future*, the Government has been working with the Broadband Stakeholder Group - which brings together broadband infrastructure, service and content companies, broadband users in the public and private sectors, and consumer representatives - to develop a detailed strategy to meet its broadband goals. The Stakeholder Group recommendations and the Government's detailed response to them are being published alongside this report.

The Group's broad analysis was that there is no 'magic bullet' which will deliver a step change in broadband roll-out and use in the UK. Instead, we need to stimulate a virtuous circle in which demand and supply grow in parallel, each reinforcing each other. Market players will be the main drivers of this, but Government can influence the pace of change.

Figure 3: Building the broadband virtuous circle



To help set this virtuous circle in motion, we need first to stimulate adoption of narrowband Internet, as a key first step on the ladder. (The Government's strategy for doing this, ensuring universal access to the Internet, is set out in Chapter 3 of this report). In addition we need to:

- continue to ensure that the regulatory framework for the broadband market promotes competition;
- take action to stimulate demand for broadband; and
- take action to stimulate investment in the supply of broadband.

Maximising competition in the broadband market

The best way to drive down prices and encourage innovative service offerings, which match consumer needs, is through competition. As discussed in the previous section, the UK already has one of the most competitive broadband market places in Europe:

- **Infrastructure competition:** most broadband consumers in the UK can choose between competing access technologies (ADSL, cable modem and, shortly, Broadband Fixed Wireless Access). This choice does not exist in many other countries.
- **Wholesale competition over BT's network:** following the Office of Telecommunications Regulation's (Oftel's) insistence that BT launch a wholesale product, there are now over 100 competitive providers of ADSL. No such competition exists in Germany or France, for example.
- **LLU:** for the first time, operators can invest directly to upgrade BT's network to broadband, rather than purchase wholesale capacity from BT. The LLU regime is now fully in place; uptake, however, has been disappointing.

The Government's aim is to maximise competition at all parts of the broadband value chain, from infrastructure (both over physical networks and using radio spectrum, including delivery of broadband services through DTV) to service delivery.

Oftel will:

- continue to drive forward competitive access to BT's local loop via LLU by: close monitoring of take-up of LLU and the details of implementation, and acting swiftly to resolve new and existing disputes relating to any aspect of LLU;
- continue to promote competition in retail DSL by ensuring BT's wholesale DSL services are available on fair and non-discriminatory terms;
- work to increase competition in DSL by requiring BT to provide interconnection services to enable operators to offer competing DSL services; and
- work to increase competition in leased lines used by larger businesses for Internet access, by requiring BT to provide partial private circuits (PPCs) at wholesale prices.

The Radiocommunications Agency (RA) will:

- make more radio spectrum available, opening up the potential for more wireless broadband services, by:
    - auctioning the remaining franchises [6] for Broadband Fixed Wireless Access at 28 GHz (which allows high-speed data connections using radio links between an aerial located on the user's premises and a base station, rather than using a telephone line or cable);
    - making further spectrum available, at 3.4 GHz, throughout the UK for Broadband Wireless Access (BWA) services in 2002;
    - considering allocation of spectrum for BWA at 40 GHz, where there is even more bandwidth available that could make even higher speed access possible; and
    - reviewing the scope for further changes, including the use of spectrum management tools such as spectrum valuation, pricing and trading, in the light of the independent review of radio spectrum management which will report to the Chancellor and the Secretary of State for Trade and Industry by the end of 2001. [7]

Stimulating demand for broadband

Broadband take-up stands at less than 1% of households, even though it is currently available to over 60% of households. Lower prices and greater consumer choice in access services will be key drivers of take-up, and the pro-competitive strategy outlined above will help deliver these. But additional measures are also needed. We will therefore take the following measures to stimulate demand for broadband services, thereby:

- making it easier to access broadband services;

- stimulating demand for current broadband content and applications; and
- stimulating production of new broadband content and applications by the public and private sectors.

To facilitate easy access to broadband services, the Government will:

- pilot teleworking facilities in UK online centres, exploring different commercial models for engaging the private sector in provision of teleworking space;
- consider how regional and local portals can best provide a focal point for public sector broadband content; and
- consult with the building industry and broadband service providers to identify the best approach to ensure cable ducting is installed in all new buildings (i.e. via self-regulatory commitments or via changes to Building Regulations).

To stimulate demand for current broadband content and applications, the Government will:

- use fiscal measures to stimulate demand for broadband by:
    - more intensive marketing of the existing measure which allows businesses to offset 100% of Information and Communication Technology (ICT) investment, including investment in broadband access equipment, against tax in the first year;
    - encouraging teleworking, by waiving personal benefit taxation for employees whose employers provide them with broadband connectivity for teleworking at home; [8]
- work with the broadband supply industry to facilitate an industry-wide collaborative campaign to promote the benefits of broadband and give impartial advice on the different technological options available; and
- provide more encouragement to small and medium enterprises (SMEs) to adopt e-commerce solutions. The Department for Trade and Industry (DTI) are now expanding the £66 million *UK online for business* programme to:
    - provide more effective advice to businesses on the introduction and setting up of e-business solutions, with particular emphasis on the benefits of broadband; and
    - introduce a web-based guide to broadband availability for SMEs and a network of demonstrators of practical applications.

To stimulate production of new broadband content and applications in the public sector, the Government will:

- stimulate the market for online content for teaching and learning and enable schools to have access to rich materials, including broadband content as part of taking forward the Government's proposals for *Curriculum Online*;
- develop Culture Online to offer children and adults tailored access to the nation's arts and cultural resources through the Internet and other digital channels. This will enable millions more people to engage in cultural activities and will open new opportunities for participation, learning and enhancing skills;
- introduce broadband support services for health professionals, including development of the National Electronic Library for Health; and
- develop an infrastructure to promote blue-skies in public sector broadband applications. As a first step, we will establish in partnership with the National Endowment for Science, Technology and the Arts (NESTA) a centre of excellence in broadband learning, based at Futurelab in Bristol, and an Industry Placement Scheme to enable small digital content firms to participate in Futurelab.

To stimulate production of new broadband content and applications in the private sector, the Government will:

- as part of DTI's current review of all its business support activities, ensure that, where applicable, they meet the needs of the digital content sector and identify the scope for improved marketing of existing support to the sector;
- work with the Digital Content Forum to raise the content industry's awareness of the R&D tax credit and how it works, and to intensify marketing of the tax credit as a driver for R&D in the content sector; and
- work in partnership with the digital content sector and other interested parties to stimulate pilots which test different commercial models around broadband content (such as secure micro-billing platforms) and which facilitate the smooth flow of innovative ideas through to the market where the market is not yet mature enough to do so itself.

Stimulating broadband supply

The measures set out above should help accelerate the growth of demand for broadband services in those parts of the country where they are available (covering two-thirds of the population). But they may not make a strong enough business case for broadband investment in the remaining rural and remote areas. The primary barrier to broadband roll-out in rural areas is the high cost of capital. The investments needed are large and attract a high-risk premium. Roll-out to rural areas is therefore likely to be very slow and patchy, even under benign market conditions.

Our strategy to stimulate rural broadband supply is threefold:

- encourage infrastructure-sharing by telecommunications companies to reduce the cost of roll-out;
- cut red tape which may be holding back deployment of satellite broadband services (potentially a major contributor to rural broadband access); and
- aggregate broadband procurement by the public sector in order to provide guaranteed levels of demand in rural areas.

To encourage broadband infrastructure-sharing, the Government will:

- encourage the telecommunications industry to come forward with specific proposals. These will, of course, need to reviewed by Oftel, to ensure that they are within the bounds of competition law. But Oftel believes there is scope for collaboration within those bounds, although no specific proposals have been received from industry. Oftel would also be happy to issue guidance on the approach it would take on specific forms of infrastructure-sharing, such as pole-sharing.

To facilitate satellite broadband deployment, the Government will:

- introduce a fast-track, light-touch licensing regime for small transmitting satellite earth stations and a quick online clearance system for new satellite sites; and
- review planning regulations pertaining to satellite terminals to determine how current rules restricting a residential property to a single antenna could be relaxed, while continuing to minimise the environmental/visual impact of residential satellite terminals.

The public sector currently spends around £1.7 billion on communications, a figure likely to rise as we move towards electronic government. Yet this expenditure is piecemeal and unco-ordinated. Research undertaken for the Office of the e-Envoy by Analysys and Rothschilds suggests that significant benefits could be achieved by moving towards a nationally co-ordinated set of regional procurements, each guaranteeing a given number of public sector sites and given levels of demand for broadband at each site.

The Government will:

- task the Office of Government Commerce (OGC) to consider what more they can do to help Government departments procure broadband more effectively, including acting as a source of consistent guidance on broadband procurement;
- draw up detailed departmental communications and IT expenditure plans, as part of the 2002 Spending Review, in order that activity in this area is co-ordinated; and
- establish on a pilot basis in one region initially a Broadband Brokerage Service. This will allow companies, public sector organisations, communities and individuals to register their interest in pursuing broadband and then broker aggregated solutions once a pattern of demand for a particular area has reached critical mass.