



**INTERCONNECT COMMUNICATIONS**

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# A DIFFERENT REGULATORY EMPHASIS FOR UK BROADBAND DEVELOPMENT

Is There a Place for Public Sector Intervention?



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## Synopsis

*Accepted regulatory doctrine clearly sets out that public sector intervention (PSI) in the provision or operation of telecommunications services should only be entertained as an option of last (or near-last) resort in demonstrable cases of market failure.*

*In recent months, a series of studies on the question of broadband development in the UK have opined that the case for major public sector intervention – such as a large subsidy or structural change to regulation – to encourage the rollout of broadband services and supporting Next Generation Access networks is not a strong one. Reasons cited in support include existing broadband penetration levels, indications of ongoing private sector investment, and concerns that the widespread availability of subsidies might duplicate or even discourage such investment.*

*Yet there continue to be arguments both from within and outside the industry that some sort of impetus is necessary in order to encourage the provision of the facilities and services necessary to assure the widespread availability of high-bandwidth Internet to end users, not least those in geographically remote and/or economically disadvantaged areas.*

*In order to consider the issues and the future options open to regulators and policymakers, this paper examines the various arguments against PSI and also contrasts them with what appear to be rather more ambivalent attitudes towards local broadband initiatives.*

Is there a place for public sector intervention (PSI) in broadband development? Over the past year, this question has been addressed on several occasions by government and industry bodies. For instance, in June 2008, Kip Meek of the Broadband Stakeholders Group (BSG) introduced a commissioned study<sup>1</sup> in this area with the following:

*In our 2007 Pipe Dreams report, the BSG took a cautious approach to this issue. We argued that, although we could see a role for the public sector in the future – extending coverage into areas of persistent market failure – the UK market was still in a pre-investment phase and the risks of intervention today outweighed the risks of non-intervention. For this reason we argued that, as a general rule, the public sector should forbear from intervening at this stage. This remains our position today.*

A few months later, the Caio Report<sup>2</sup> came to broadly the same conclusion:

*The high costs of NGA [Next Generation Access], and high expectations of what it can deliver, tend to raise expectations in some quarters that the Government should make a major intervention – such as a large subsidy or structural change to regulation – to support the market. However, it is the conclusion of this review that the case for such a major intervention is weak at best.*

Most recently, Lord Carter's interim report on Digital Britain<sup>3</sup> endorsed the Caio findings and again argued against PSI, i.e.

*The Government is not persuaded that there is a case now for widespread UK-wide public subsidy for Next Generation Network deployment...*

A number of reasons were cited for the avoidance of intervention, i.e.

- UK broadband penetration is already at about 60% (Caio);
- There are strong indications the market is delivering investment in NGA (Caio);
- There is little evidence that, in the short term, UK consumers will experience a detriment due to the lack of an extensive NGA network (Caio);
- Widespread subsidy could simply duplicate existing private sector investment plans or indeed chill such plans (Broadband Britain).

In order to consider future regulatory options, the rest of this paper looks at these arguments against PSI and also contrasts them with what appear to be rather more ambivalent attitudes towards local broadband initiatives.

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## Broadband Penetration

The Caio report notes that the UK's 60% broadband penetration rates puts it 5th in the OECD rankings, and that coverage of DSL now exceeds 99%. These are impressive figures for first-generation broadband but it is not clear how much comfort they provide for the deployment of next generation services. The technical limitations of DSL-based broadband are well understood, and the development of higher bandwidth offerings will have massive implications for LLU operators – both in terms of stranded investment and in establishing an alternative competitive access mechanism. The Digital Britain report does at least acknowledge that past performance has little bearing on the success or otherwise of the UK's NGA provision, i.e.

*Unlike the current generation of broadband which flows off an already ubiquitous, sunk network (both physically and in cost terms), every additional home or business connected to Next Generation fixed networks represents new network build<sup>4</sup>.*

### 'The Market Will Deliver'

The nature of NGA investment, as described above, must at least question whether market-based solutions will deliver the necessary network infrastructure on a national basis, and in time to anticipate – not just respond to - the demand for new services. This is partly because, unlike some other jurisdictions, the UK has so far turned its face against allowing those market forces to operate freely and in the absence of regulation, i.e. by adopting a policy of 'regulatory forbearance', such as that seen in the US and Germany. The more pertinent question, therefore, in the UK at least, is whether a regulated market can deliver the required investment in broadband infrastructure.

There are different views about the merits of regulatory intervention but few would argue that the UK regime has done much in recent years to encourage infrastructure competition in the fixed sector. The last serious attempt to do so was by Oftel in the early 1980s, the ambition then being that every consumer should ideally have a choice of at least three suppliers of network services. (Interestingly, this policy was itself heavily influenced by government's desire to improve the international competitiveness of the City of London, and not just a pro-consumer agenda). As is well recorded, however, the UK's infrastructure-based policies were gradually eroded by the enthusiastic adoption of service-based competition models elsewhere in Europe. These service-based models - indirect access, carrier selection and so on – worked pretty well in the context of traditional telephony but were clearly challenged by the emergence of internet services. Even when the prolonged battle to establish a flat-rate wholesale access product (FRIACO) was

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won, the UK followed European precedent by mandating the unbundling of BT's access network.

The UK's unbundling efforts in the early years of implementation were nothing short of failure until the Communications Act of 2003 gave regulatory control over to Ofcom and LLU became a key element of its Strategic Review of Telecommunications in 2005. In an effort to encourage investment by alternative operators, Ofcom focused on two key initiatives: further reductions in the pricing of unbundled local loops and the creation of a separate access services division within BT (Openreach) to ensure equality of treatment between competing operators.

Following these changes, local loop unbundling efforts by alternative operators began to accelerate at the beginning of 2006, and the pace of expansion was maintained thereafter. As already noted, however, the regulatory juggernaut of LLU – including massive intervention in BT's products and processes – may simply have driven the UK into a broadband cul-de-sac. In particular, while VDSL technology might meet the needs of next generation broadband services, it will require a wholly new network access and backhaul system, i.e. sub-loop unbundling (SLU) at the street cabinet. Not only would this strand existing LLU investment at the exchanges, but it is also generally accepted that SLU does not represent a viable competitive alternative to LLU except under highly favourable, and hence unlikely, conditions<sup>5</sup>.

At the same time, there are some who believe that the improving performance of Openreach may, perversely, have acted as a disincentive to investment in competing infrastructure. In its quest for a new regulatory wonder-remedy, the EU's embrace of functional separation might therefore come to be seen as yet another wrong turning. As with all competition policies that rely on somehow sweating the incumbents' assets, there is a recurring risk that such policies will backfire by reinventing national monopolies. To be fair to the EU, it wasn't entirely blind to the fact that unbundling is essentially an unnatural act, a regulatory instrument that asks an ageing copper access network to do something it was never designed for. In order to rationalise such intervention, the LLU enthusiasts espoused a useful new idea, the so-called Ladder of Investment. The theory was attractive enough: unbundling would enable market entrants to establish direct retail relationships with end-users, and a natural drive to extend and differentiate their services would encourage the LLU operators to start building their own infrastructure. Plausible perhaps, but this is not what has happened in practice: there is very little evidence that these operators have made any serious inroads into network construction.

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## Duct Tales

So, if service competition, LLU, functional separation and the Ladder of Investment are all unlikely to deliver a broadband future, where does the EU go from here? If heightened expectations for broadband mean that the key to that future is next generation access, how should regulation respond? The European Commission's rather surprising answer, announced as part of its September 2008 draft recommendation on NGA regulation, is the thorny issue of duct access. 'Surprising' because this is a remedy that has been considered by many NRAs over the years and, with the notable exceptions of France and Portugal, few member states have shown much appetite for it. For instance, in 2002 Ofcom's predecessor (OfTel) concluded that the challenges to offering duct access were substantial<sup>6</sup>, i.e.

- No commercial demand for access to BT's passive infrastructure (ducts and poles);
- Health and safety;
- Risk of network damage during rollout of new fibre in shared ducts;
- Availability and knowledge of spare capacity;
- Business rates;
- Code powers;
- Property rights.

Reviewing OfTel's conclusions, Ofcom's view at the time was that the 'technical, competitive, regulatory and deployment landscape' had changed considerably since 2002, and that there may now be a stronger case for duct access – particularly for new-build environments. Nonetheless, many real-world challenges still exist. In a recent report<sup>7</sup>, Oxera articulated these as follows:

- The existence or otherwise of ducts (Belgian and Dutch incumbents, for example, have typically buried copper cables directly in the ground, not within ducts);
- The definition of ducts, and assessment of dominance (e.g. 66% of France Telecom's access lines rely on aerial posts, rather than ducts);
- Designing a mechanism to grant duct access in a non-discriminatory manner (e.g. what if demand for duct sharing exceeds available space?);
- Determining the optimal duct access price.

The issue of duct pricing was not included in the original list of OfTel challenges but it is a significant addition. Oxera notes that NGA architecture might be deployed across both old and new duct infrastructure, raising the possibility of a differential pricing mechanism, and the 'Commission's guidelines do indeed advocate such a differentiated tariff. It is also suggested in the guidelines that even old duct should

be priced on the basis of depreciated historic costs'. Oxera appears to be mildly sceptical of this approach but a much more robust criticism is contained in a response to the proposal by Cable Europe<sup>8</sup>, i.e.

*We believe that the consequences of the EC's proposal to rely on historical costs as the basis for pricing access to passive infrastructure are potentially very serious for preserving infrastructure-based competition. If the proposal is successful in stimulating alternative fibre deployment through ducts, it however risks creating inefficient competitors supported by perpetual regulatory intervention to deliver wholesale inputs at prices below the true economic costs faced by cable or a new entrant building from scratch today....*

InterConnect Communications has studied in depth the question of mandated, cost-oriented duct access, particularly for incumbent operators in the Middle East, where several NRAs seem keen to impose such obligations. As part of that work, InterConnect was asked to look for international precedents for successful duct sharing schemes. Like Oxera, we concluded that the effectiveness of the French and Portuguese regulatory initiatives were at best unproven, relying either on atypical infrastructure arrangements (France) or on the imposition of onerous information requirements on the incumbent (Portugal). The only real success stories we could identify in this area were duct sharing schemes developed by local broadband ventures. For example:

- In the United States, the Mid-Atlantic Broadband Co-operative (MBC) was set up in 2002 to promote the delivery of ICT services to 20 counties and 4 cities in the state of Virginia. Funded by Federal Government and the Virginia tobacco industry, MBC operates solely as a wholesale carrier and offers backbone services that anyone can use – including competitive carriers such as Verizon and Sprint. In return for obtaining rights of way, MBC also gave two fibre strands to each of the local authority bodies which they could use for their own purposes;
- In Sweden, Stokab was founded in 1994 and is ultimately owned by the City of Stockholm. Stokab's core tasks are to build, operate and maintain the fibre optic communication network in the Stockholm region and to lease fibre connections. The company is competition-neutral and provides a network that is open to all players on equal terms. Stokab also co-operates to facilitate the rollout of wireless infrastructure and drives development of the broadband market in the region. The City of Stockholm reportedly sees Stokab as providing a "public service on commercial terms".

There are other international examples of how joint ventures between the public and private sectors can form the basis for an effective sharing of infrastructure, and this does appear to offer a much more workable model than mandated access to incumbents' ducts. Happily, and despite the EU's enthusiasm for the idea, Ofcom

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presently appears to agree that duct sharing is not the way forward. In its most recent announcement on broadband development<sup>9</sup>, Ofcom concludes that:

*“...duct access could play a role in the future, and we will be continuing to investigate this potential. However, at this time, access to BT ducts on its own does not appear to be an effective immediate solution to competition issues in fixed access networks”.*

## No ‘Detriment’ to the UK?

While the Caio report confines its ‘no detriment’ conclusion to the short term, the very long planning cycles required for new network investment mean that there has to be some urgency in decisions on future broadband provision. Caio was also referring specifically to the deployment of next generation access networks, and it is beyond the scope of this paper to weigh the societal benefits of ‘super-fast’ broadband: plenty of others will make that case. What is at question is whether current regulatory strategies will deliver even a basic broadband service to the whole of the UK. If not, few would argue that the economy will not suffer. And the losers here are not just remote rural communities: they include urban and suburban areas throughout the UK, many in otherwise prosperous areas where EU-type economic development funding is not readily available. For example, Basingstoke is a thriving town with a high proportion of broadband-hungry consumers but where, because of the way housing has developed, over 70% of residents live more than 4km from the nearest BT exchange<sup>10</sup> – restricting many to broadband speeds of less than 1Mbps. So this is not about industrial scale file-sharing or cloud computing or even about web-based medical diagnostics. It’s about the availability and resilience of existing on-line facilities, - shopping, banking, government services etc. - and finally beginning to deliver on the benefits of a paperless economy.

In that sense, the universal service obligation proposed in the latest Digital Britain report is a very positive development: it highlights the fact that the ‘digital dividend’ is not just about broadcasting spectrum but also about potentially massive improvements in the UK’s administrative efficiency. But to realise those efficiency savings will require broadband connectivity that is as ubiquitous as electricity or water distribution. It’s also about the urgent need for the provision of more upstream DSL capacity, allowing broadband networking to move beyond a passive, download model.

The USO idea also represents some acknowledgement that, for a service as important as broadband access, it is not always enough to rely on market signals. Ofcom prides itself on being an ‘evidence-based’ regulator: it can, and does, point to the fact that a significant proportion of UK households are simply not interested in accessing on-line

services. But if we wait for the day when such demand emerges, it will already be too late. The long road to building a truly national broadband infrastructure has to be tackled now – even if that means government and regulators committing the heresy of anticipating the demand curve.

## Duplication of Investment Plans

It is irresistible to point out that the Caio report was published just days before the onset of the credit crunch and the ensuing slide into global recession. Subsequent announcements by governments and regulators have understandably taken a less bullish attitude towards private sector broadband development, and it has to be right that – like the UK's FSA – the telecoms authorities should now be thinking deeply about whether their regulatory policies are still on target. The ITU itself has already put out a report which considers how ICT strategies might need to adapt to the economic downturn<sup>11</sup>. For instance, in relation to new network investment, it notes that:

*...one of the major implications for regulation driven directly by the financial crisis will be the need to promote shared infrastructure to reduce the cost of network roll-out as operators seek to control their operational expenditures.... for some remote areas, the risks of implementing active infrastructure-sharing have to be weighed against the costs of having no services at all.... Countries seeking to address the economic downturn by introducing financial stimulus packages that fund broadband network investments could also require these networks to be shared. Not only will this bring down costs for deploying networks, it will also allow more efficient use of government funds. Indeed, infrastructure sharing looks set to become an integral part of the changing regulatory environment in order to promote widespread and low-cost broadband access.*

As to the more general fear of duplication of investment, it seems fair to say that greater diversity of infrastructure would be no bad thing. If the UK is ever to rely on broadband delivery for some or all of its essential communication, there will be a growing need for realistic levels of network redundancy and resilience. However, the more realistic objection to PSI is that it will somehow crowd out network investment that would otherwise have been supplied by the private sector. How likely is that? Well, if the market intervention is on a nationwide scale, such as that envisaged by Lord Carter's broadband USO, the risk must be quite high. Once the supply-side and demand-side of such investment decisions are separated, there has to be a real danger of some kind of market failure. Put another way, the inherent risk of PSI on a national scale is that the level of investment is almost bound to be wrong: too little results in poor quality public service provision of broadband; too much investment frightens off the competitive players.

The challenges to market intervention, however, are not just about equating supply and demand characteristics. There are also important choices to be made in relation to the basis of funding and the appropriate technology options (e.g. the role of wireless networks). This matrix of planning issues makes a national broadband plan enormously challenging but reconstituting the plan on a local/regional basis makes it significantly easier, i.e.

	<b>National USO</b>	<b>Local Initiative</b>
Matching supply and demand	Difficult. Uncertainty of demand requires arbitrary decisions on broadband supply	Demand can be measured and aggregated, allowing more precision in the level of broadband supply
Technology options	Difficult to determine at a national level, requiring averaged 'design rules' on appropriate deployment	With knowledge of demand side and local geography, much easier to design suitable network delivery – particularly for technologies such as WiMAX.
Competition issues	Real risk that PSI will slow or pre-empt private sector investment	Working with potential local providers, community groups can establish whether/where PSI is really needed
Funding	At a national level, investment needs are daunting. Few companies or agencies will volunteer involvement	Locally, investment requirements can be assessed against demand. Development funding may be available, and local operators might see opportunities for tactical investment

This is not to argue that tackling a USO is not necessary in the longer term, but a different regulatory approach to some of the current gaps in broadband provision might at least focus the requirement for more radical structural intervention.

## A New Regulatory Model?

Broadband deployment has to be a vital issue of public policy for all developed economies, and available evidence indicates that this process will be best served by a competitive market in network provision. Realistically, we can't go back to Oftel's aspiration of 'at least three providers' to every home but the innovation and resilience needs of broadband applications are unlikely to be met by a monopoly supplier. The challenge for all NRAs is therefore how to design a route-map for broadband development that doesn't also risk the re-establishment of incumbent dominance. To date, the regulatory 'scorecard' on these objectives has not been very encouraging:

- Indirect access policies for telephony acted as a major disincentive to network competition;

- LLU reinforced the strategic significance of legacy access networks, and probably created a technology cul-de-sac;
- Functional separation has arguably entrenched the market power of incumbents;
- The likely trajectory towards sub-loop unbundling threatens the viability of existing broadband competition;
- Mandated duct access is not a realistic remedy.

Ofcom has just announced its latest attempt to square the regulatory circle of NGA investment, essentially by conceding that it will protect BT's planned fibre investment by allowing the dominant UK operator to set its own levels of wholesale pricing. This is not an unreasonable compromise but it is inescapable that incumbents around the world have spotted the broadband dilemma for NRAs and will seek to exploit this. For instance, the chairman of ECTA, Innocenzo Genna, was recently reported as saying<sup>12</sup> that some European incumbents are:

*threatening governments and European politicians that they will not invest in next-generation access unless there is a relaxation of competition rules that allow rivals to offer services over these networks... For companies such as Telefonica and Deutsche Telekom, investment in next-generation fibre networks should be part of their normal upgrade strategy to replace decades-old copper networks, which have been fully paid for, and not a licence for stifling competition*

There is therefore an urgent need for an addition to the regulatory toolkit, a new policy direction that could meet at least some of the identified broadband challenges without reinforcing historic monopolies. As this paper has hinted already, the answer might well be provided by local broadband initiatives.

## The Home-Brew Brigade

The 'home brew' label was apparently coined by BT itself, and says quite a lot about the incumbent's attitudes towards community broadband – happy for this to be seen as something of a jokey alternative but also slightly nervous about the competitive threat. Unfortunately, some would say that there are elements in government and the NRA that are not immune from this slightly patronising attitude. Nonetheless, the Caio report made the following, rather modest commitment:

*Establishing standards for local NGA developments. In order to maximise the opportunities for scale deployment, local access networks across the country can organise to standardise technical requirements and present a coherent front to service providers. The Government should ask the Community Broadband Network to organise such a development.*

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The post-credit crunch tone of the Digital Britain interim report was slightly more encouraging, and it did indeed establish the suggested action point, i.e.

*The Government will help implement the Community Broadband Network's proposals for an umbrella body to bring together all the local and community networks and provide them with technical and advisory support.*

The call for co-ordination is undoubtedly valid: there's nothing wrong with a 'patchwork' of community projects as long as they hold together. This means that there have to be standards that allow service providers to interface with each of the community networks in a reasonably consistent way – just as there have always been national standards and protocols for telephony interconnect. In a report last December<sup>13</sup>, the BSG identified the particular need for:

- A set of comparable access products offered to service providers with consistent pricing;
- A uniform mechanism for provisioning, billing and error reporting;
- Appropriate arrangements for interconnection and peering.

It also said that:

*The BSG intends to work with the Community Broadband Network to establish a process to address these issues. It will clearly be important to ensure that appropriate standardisation enables innovation rather than stifles it.*

Again, the point about not stifling innovation is well taken but this sounds rather like regulating competition, the sort of thing we might expect Ofcom to handle. So it is perhaps a little surprising that the responsibility has actually been delegated to the Community Broadband Network (CBN), an organisation that describes itself as a co-operative of community-run independent broadband operators. CBN says that it 'aims to encourage and support the provision of local broadband services through shared community ownership as an alternative to conventional national service providers'. It has been working hard lately to promote awareness of the growing network of community broadband projects, and recently initiated a series of 'road shows' to focus on developments in particular regions.

Following on from the Caio recommendations, CBN has also announced that it is preparing to set up two new co-ordinating bodies – the Independent Networks Co-operative Association (INCA) and the Joint Operating Network (JON), described as follows:

*The purpose of INCA is to enable local projects to work together more effectively and to speak with a unified voice to government and industry... The purpose of JON*

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*is to establish common technical and operating standards for local networks*

It remains to be seen how these two bodies will be constituted, and whether CBN itself will continue to rely on commercial sponsorship. But there appears to be a concern among some aspiring broadband groups that tasks of this magnitude and importance should more properly sit with the regulator itself. Perhaps, once Ofcom is required (later this year) to begin tackling the practical challenges posed by Digital Britain, we will learn whether community projects are finally to be seen as a serious element in UK broadband policy.

## Conclusions

This short paper did not set out to be prescriptive about the role of PSI but the logic of its arguments is that, without some such intervention, the current regulatory toolkit is unlikely to meet the UK's broadband aspirations. Encouragingly, the tone of the latest Digital Britain report is noticeably more vital (and proactive) than some other recent announcements. The 'seize the day' attitude of the report is captured well by Lord Carter's introductory remarks<sup>14</sup>, e.g.

*The digital information and communications sector is one of the sectors in the economy, alongside energy and financial services, upon which the whole of the economy rests. The success and health of this sector is of interest and concern not just to those employed in it but also to the 22 million of us who depend upon it for our daily work*

The need now is to begin addressing these rhetorical ambitions through some practical changes in the regulatory regime. This paper has advocated that a useful first step in the intervention process would be for government, Ofcom and local development agencies to play a more active role in community broadband projects – this conclusion being based on the arguments summarised below:

- There can be doubt that there is a need for further investment in the UK's broadband infrastructure – either to roll out new NGA networks or to fill gaps in existing broadband coverage.
- Government and regulators are still pinning their hopes on the private sector meeting these investment demands but the economic downturn makes that look like a very risky strategy. For instance, much is made of the potential deployment of superfast broadband by Virgin Media but that company's recent decision to sell its content operations suggests that there will be real commercial challenges to any widespread investment in new cable infrastructure.

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- BT has just won important concessions from Ofcom in relation to new fibre deployment but if that means increased reliance on a dominant broadband supplier, how are current/future needs for network resilience and innovation to be met?
  - On the competition front, the prevailing broadband access mechanism - LLU – appears to face extinction as NGA markets develop, and available evidence suggests that SLU cannot offer a viable alternative. Does that mean that the UK is destined for, at best, a fixed broadband duopoly?
  - The EU's preferred solution to this problem, mandated duct access, cannot reasonably be seen as a regulatory remedy in other than exceptional circumstances. However, the sharing of new passive infrastructure provided by some form of local co-operative has been successful in several overseas markets, and this should be considered as a possible model for the UK.
  - The government has proposed a universal broadband commitment for UK consumers and, while many will question the 'shelf-life' of a 2Mbs product, the universality concept itself is certainly to be welcomed. While the planning and funding requirements will be formidable, one way of mitigating these challenges would be to focus more attention on open-access infrastructure projects at the community level – probably with the involvement of local authorities and development agencies. Indeed, rather than a universal service fund, the way forward for PSI might be through some form of 'passive infrastructure fund'.
  - The CBN has done a good job so far in assisting and increasing awareness of such community projects. However, the important requirements for co-ordination and the imposition of common standards/interfaces should be central to Ofcom's ongoing regulation, rather than a delegated task. Such an approach might also provide a better basis for seamless management of the remaining universal service requirement.

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## Notes and References

- 1 *Models for efficient and effective public sector interventions in next-generation broadband access networks* - final report by Analysys Mason for the Broadband Stakeholder Group, 9 June 2008
- 2 *Review of barriers to investment in next generation access* – final report by Francesco Caio, September 2008
- 3 *Digital Britain: the Interim Report*, 29 January 2009
- 4 *Digital Britain: the Interim Report*, p.20
- 5 See for example WIK-Consult: *The economics of Next Generation Access: Final Report*, study for ECTA, September 2008
- 6 As reported in a presentation by Chinyelu Onwurah, Ofcom, January 2008
- 7 *Ducting the issue: what role might duct access play in an NGA environment?* - Oxera, Agenda report, February 2009.
- 8 Cable Europe response to the Commission's Consultation on its Draft Recommendation on Next Generation Access Networks, 17 November 2008
- 9 *Delivering super-fast broadband in the UK* - Ofcom, 3 March 2009, page 7
- 10 *Next Generation Access Broadband Infrastructure Review*, Hampshire County Council
- 11 *Confronting the crisis: its impact on the ICT industry* - ITU, February 2009
- 12 Total Telecom, 3 March 2009
- 13 BSG response to Ofcom consultation *Delivering Superfast Broadband in the UK* – December 2008
- 14 Foreword to the *Digital Britain* Interim Report by Lord Carter

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## InterConnect Communications

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