

ENABLING IRELAND'S FUTURE

**A Labour Party Discussion Paper on Ireland's
Alarming Broadband Deficit & Proposals for Ending
Market, Regulatory & Government Failure**

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CONTENTS

	Executive Summary	4
1.	Introduction	11
2.	What is broadband?	15
3.	Why is broadband important?	20
4.	Failing the 21st Century: Ireland's Current Broadband Deficit	28
5.	Market Failure	35
6.	Regulatory Failure	42
7.	Government Failure	48
8.	Enabling the Future: Proposals for Market, Regulatory and Government Change	60
9.	References	76

Executive Summary - Enabling Ireland's Future

Why Broadband?

A broadband enabled nation is the future. An effectively functioning broadband network will be one of the critical foundations of Irish society as the 21st century progresses. Broadband will increasingly provide the key network infrastructure for Irish businesses and citizens, as well as facilitating the achievement of wider social and economic goals.

The internet plays an increasing role in everyday life and as such is helping to transform so many aspects of how we work and live. However, to acquire the broadest benefits of this transformation, a universal and affordable network of broadband services must be in place. Being a broadband enabled state will not just benefit the advancement of Ireland as a pre-eminent knowledge based economy, and maintain Irish competitiveness and productivity, it will also be essential for the ability of Irish society to utilise the most efficient and up-to-date advances in health, education, technology and personal entertainment.

The Labour Party believes that the provision of a widespread, accessible and affordable broadband service is a matter of national importance and interest. The present Irish broadband deficit, therefore, demands a concentrated government action to address this serious gap in our infrastructural and Information and Communication Technology (ICT) development.

What Is Broadband?

Broadband at its simplest is an always-on telecommunications network that allows for the transmission of digital content whether data, print, video or voice at very fast speeds. A broadband connection provides a considerably enhanced experience for the user as it provides for the super-fast transmission of digital content and transforms the potential of the internet into reality.

Broadband Nation? Ireland's Broadband Deficit

Broadband rollout in Ireland has been extraordinarily slow and the inadequate take-up rate is an ongoing area of concern. At present there are just 175,000 broadband subscribers in the country. This means that just approximately 20% of the total internet users are broadband enabled. The government set the year 2005 as a key year for the achievement of certain broadband targets including originally a connection rate of approximately 350,000 users by mid-year. There is significant demand for broadband services from Irish consumers and business people that is not being met by telecommunications operators, and considerable frustration around the country at the inability of so many to acquire a broadband connection.

Ireland has consistently ranked near the bottom of any international league table of broadband development. The last international benchmarking of broadband end user figures released by the OECD ranks Ireland in 24th place out of 30 states. Another recent OECD Industry, Science and Technology Scoreboard for the Advancement of the Knowledge Economy placed Ireland in 19th place out of a total of 22 states in the broadband rollout stakes. Ireland is increasingly being outperformed and overtaken in broadband infrastructure not just by most of our EU partners but also by less economically developed non-EU states.

Why has Irish broadband rollout been so problematic?

The reasons why Irish broadband rollout has been so dismal are complex, but the major overarching cause of this deficit has been the lack of political leadership and a coherent national strategy to promote broadband development. In this context the Irish broadband deficit will be addressed by examining three major factors that have bedevilled broadband development in this state; market, regulatory and government failure.

1. *Market Failure* - The Irish market has many deficiencies. There is a serious lack of inter-platform competition, with very low levels of non-DSL broadband services, especially cable and wireless, on offer for Irish consumers and businesses. Within the

DSL sector itself the incumbent Eircom dominates through its stranglehold on the local loop, and other third party operators find it difficult to provide differentiated broadband products. Problems with the network, most especially very high levels of line failure and significant numbers of homes and premises that are not connected to an enabled exchange have resulted in large swathes of the Irish population being unable to access a broadband connection. It has also helped ensure that Ireland continues to be one of the most expensive countries for broadband, with the most uncompetitive bandwidth packages on offer.

2. *Regulatory Failure* - The government has rejected a stronger role in directing the broadband market but has failed to create an adequate regulatory system to safeguard broadband's development within the framework of a privatised telecommunications industry. ComReg's powers and sanctions are seriously deficient and compare unfavourably with more successful telecom regulators abroad. There is a lack of strong competition in the Irish market that is compounded by the lack of coherent and strong regulation.
3. *Government Failure* - The flawed nature of broadband rollout in Ireland ranks as one of the FF/PD government's greatest public policy failures. The government's own words, in its unaccomplished targets and continuous downgrading of core broadband objectives, illustrate this in stark detail. The FF/PD government has been party to the regulatory and market failures in the broadband sector but has also exhibited a lack of leadership, vision, and planning mismanagement in overseeing the rollout of Irish broadband. As the broadband deficit has widened there has been a seeming unwillingness to recognise that greater measures are necessary to correct the problems in Irish broadband rollout. When the government has undertaken

measures they have not focused on the areas that would most facilitate the development of a universally accessible and affordable range of broadband services. Finally, the institutional structures in place to address the issues surrounding broadband rollout are deficient, with responsibility spread out over too many areas and between too many people.

Suggestions for Going Forward

It is clear that there must now be strong direction from the government to inject some much needed increased efficiency and dynamism into the Irish broadband market. This discussion paper will advance some proposals that would both address many of the problematic issues of broadband supply and demand, and at the same time ensure that the progression of any advanced telecommunications networks such as broadband does not intensify the digital divide and fuel a new type of social exclusion.

Given the fast moving world of broadband technologies these suggestions are not policy diktats written in stone. The purpose of the advancement of these proposals is to stimulate a renewed policy agenda and action that recognises the critical stage that broadband development stands at in Ireland at the moment, and the need for a new vision to drive broadband development in the country.

Developing a Broadband Enabled Ireland – 10 Points for Consideration

1. *Establish a new government vision of broadband connectivity in Ireland* – The present government strategy shows no ambition and vision for how Ireland's connectivity should develop and the wider economic and social benefits intensified broadband development will facilitate. Renewed objectives, vigorously approached targets and a commitment to delivering on these targets should be a policy priority.
2. *Establish a new Department of Communications and Broadcasting* – The critical importance of so many issues in the

telecommunications sector to Ireland's future economy and society demands the establishment of a dedicated government department. The present structure that sets Communications with the very different sectors of Marine and Natural Resources ensures that none of these important areas receive the attention they deserve.

3. *Launch a broadband task-force and accompanying e-envoy* – The institutional responsibility for broadband rollout is far too diffuse and spread between too many organisations, both within and outside of government, and between various ministerial roles. A specific broadband task force headed by an e-envoy will concentrate resources and responsibility in a central location to drive an intensified rollout. The ICT industry itself should lead this development.
4. *Internally restructure Eircom* - A settlement with Eircom to create an operationally separate network division would address the absolutely crucial problem of access to the Local Loop. This should ensure greater access for other broadband operators to provide services, and a greater variety and less expensive range of broadband products will be on offer for Irish consumers and businesses.
5. *Promote inter-platform competition* – Measures to encourage greater proliferation of cross-platform broadband services should concentrate on the cable and wireless sectors. With the prospect of a strong cable player finally emerging there is great potential for a much strengthened cable broadband sector in Ireland. There is also significant scope for innovative measures to promote wireless broadband. These would include a widespread designation of 'hot spots' for wireless transmission, and making entire urban areas 'hot zones' that are entirely wireless broadband enabled.

6. *Serious regulatory reform* – The Communications Regulator (ComReg) needs to be empowered to regulate the broadband sector much more effectively. A first step would be for ComReg to have the ability to impose much greater financial penalties on telecom operators, as the current rates of fines are ridiculously low. Operational changes should also be examined to allow ComReg to operate without the current intensely prohibitive legal restrictions and to strengthen its anticompetitive mandate. To expedite competition blockages and remove obstruction, a separate court division of regulation needs to be considered.

7. *Instigate a national information technology education programme* – In order to provide the essential knowledge and training for using the critical ICT infrastructure of a modern economy, a nationwide education programme in information technology has to be established. Although some schools provide such education, it is essential that all children regardless of the school they attend have access to a proper IT education so as to equip them with the knowledge and practical experience to participate fully in society. The provision of laptops, IT support and digital syllabus content will require major new investment and changes in Irish education.

8. *Laptops for secondary school children* – Broadband connectivity needs to have a practical application. An objective of a national ICT policy should be the provision of all secondary school students with laptops so the relevant knowledge of and necessary skills for advanced technology can be experienced within the classroom. All methods of practically facilitating such a scheme, such as a partnership agreement with the IT industry, should be examined to ensure the widespread provision of laptops to the secondary school sector.

9. *Incorporate local government institutions including partnerships, county leaders and county development boards in broadband*

rollout – In promoting the further roll-out of broadband and to address issues of social exclusion in urban and rural areas, local government and regional partnerships should be co-opted to co-ordinate rollout in chosen gateway centres. Local partnership and development organisations are best placed to understand and meet local connectivity needs and should be tasked with monitoring broadband rollout in their regions.

10. *Create a Universal Service Obligation (USO) for broadband* – Accessibility to broadband networks will assume the same character as the presently understood expectation of universal access to the postal service or telephone network. The development of mechanisms for ensuring that a broadband USO is in place creates considerable potential for ensuring a widespread and universally accessible broadband network. Broadband infrastructure must be ubiquitous.

1. Introduction

Broadband is invariably described as *the* critical economic and social infrastructure of the 21st century, yet so far its rollout in Ireland has been little more than a disaster. The experience of Irish broadband rollout has been characterised by many government pronouncements on the crucial role that broadband connectivity plays, and will play, in the development and maintenance of a competitive and modern economy and society. Yet the reality has rarely, if ever, matched this rhetoric. Very low levels of broadband take-up, high prices and a stagnating and uncompetitive market are all features of the Irish broadband story. In any league of international figures for broadband rollout Ireland stands at a very low ranking and is outperformed by most of our EU partners. Increasingly less economically developed non-EU states are also overtaking us. Broadband rollout as it has unfolded is failing the needs of Ireland in the 21st century.

2005 is a critical time to examine broadband in Ireland. For it is this year that key government broadband targets should have been reached and Ireland was supposed to begin to compete internationally, and demonstrate broadband parity with the rest of the economically developed world. The primary government target was for Ireland to have 350,000 broadband connections by mid-2005. At present, according to the latest government figures, there are just 175,000 broadband subscribers¹ in the country. That shortfall of nearly 200,000 users is indicative of the stark broadband deficit that exists in Ireland.

Still, that initial target of 350,000 broadband connections was a target that had already been significantly downgraded. In 2004 Dermot Ahern, then Minister for Communications, Marine and Natural Resources (CMNR), engaged in a considerable policy U-turn. He declared that instead of the long-standing commitment for Ireland to be in the top ten of OECD states for broadband

¹ Answer to Parliamentary Question by Communications, Marine and Natural Resources (CMNR) Minister Noel Dempsey October 12, 2005

connectivity it now aimed to reach the EU average by 2005. However, the EU average had been significantly reduced in 2004 with the accession of the new member states from Central and Eastern Europe whose less developed telecommunications networks had dragged the overall EU average down. Yet even this new devalued target of hitting the average EU rate of broadband penetration by mid-2005 has not been achieved. If Ireland was at the EU average of broadband penetration there should be around 450,000 broadband subscribers today. At present there is less than “35% of this figure, equivalent to a population penetration of 4.4%.”²

At present the government states that the level of internet users with a broadband connection is running at just 20%.³ In contrast in South Korea, which is the world leader in broadband connectivity, over 93% of internet users are broadband subscribers and critical mass in broadband take-off was achieved as early as 2000.⁴ Recent research⁵ has indicated that for Ireland to reach the present OECD average in broadband take-up in the next three years there would have to be over 700,000 new DSL lines installed in this period. Currently there are only around 6,000 new DSL lines being installed every month by Eircom. At such a rate it “will take over five years to reach the *current OECD average*.”⁶

Communications Minister Noel Dempsey has recently proclaimed it is the intention of the government to have achieved 400,000⁷ broadband subscribers in Ireland by the end of 2006. With this government’s track record on broadband the prospect of *any* such government target being attained in this area appears an impossible objective without serious changes in the Irish broadband sector.

² Citigroup Smith Barney. *Equity Research Ireland: Telecommunications Services*, August 3, 2005.

³ Answer to Parliamentary Questions by CMNR Minister Noel Dempsey, June 14, 2005.

⁴ ITU, *Birth of Broadband*.

⁵ See Irish Exporters’ Association. *Barriers to e-business development in the regions*. July 2005.

⁶ RTE. “Exporters warning on slow broadband rollout.” July 20, 2005, www.rte.ie/business/2005/0720/broadband2.html

⁷ This had been a target of 500,000 until last month when it was downgraded by 100,000 connections

Although broadband is often spoken about in a technological or economic context the societal wide implications for Ireland's ongoing failure in effectively rolling out broadband are enormous. Failure to compete internationally will adversely affect not only Ireland's ability to attract investment and business, productivity levels, be a leader in research and development and exploit new technologies but leave Irish society as a whole at a disadvantage in utilizing the most up-to-date services and practices in a huge spectrum of areas from health to education to home entertainment.

A metaphor that is often used in the literature to describe broadband is as this century's 'roads and railway network.'⁸ This illustrates the fundamental importance of the broadband infrastructure to any modern society. Failure to install a highly developed broadband network will leave Ireland as isolated and disconnected from the world as a faded provincial 19th century town that lies on no road and railway route and so is passed-by by the modern world.

Analysing broadband in a narrowly technological context also obscures the enormous political failings that have surrounded broadband rollout in Ireland. The Fianna Fail and Progressive Democrats coalition has overseen vast incompetence and lack of strategic thinking, planning and implementation in this regard since the late 1990s. The national planning that has existed on broadband rollout has been characterised by a complete absence of vision and rudderless management.

Any arguments that forfeit all blame to 'market forces' or 'market failures' erroneously ignore the international experience that indicates the necessity of some level of effective government direction and/or intervention in stimulating the broadband market. Internationally it has been shown that a committed and determined government can turn a state from a broadband laggard into an excellent performer.⁹ In no country in the world that has developed a first-

⁸ See *Australia's Broadband Connectivity and Joint Oireachtas Report on Broadband*.

⁹ Japan, Britain and Australia are excellent examples of government action yielding significant results. The Australian, Japanese and UK governments all recognised the necessity of a

class broadband network has there been such a government dereliction of responsibility and a hands-off and shrugged shoulders approach to broadband development as has occurred in Ireland.

In addition, broadband rollout is littered with well-informed and argued reports from various governmental and non-governmental agencies. These reports have highlighted Ireland's continual slippage in the ranks of broadband connectivity in developed, and now less well developed societies, but have not been heeded or implemented by the Irish government.¹⁰

Irish broadband development is a story of government, market and regulatory failure. This report will firstly examine the importance of broadband technologies, then analyse the state of Irish broadband, how this compares with the experience in other countries and the benefits we are missing out on. It will finally propose some suggestions for encouraging an intensified development of the Irish broadband market and the tackling of the deficit that has opened up in Irish Information and Communications Technology (ICT).

strong political lead if their states were to develop their broadband connectivity and broadband rollout has benefited accordingly in those states.

¹⁰ See reports from Forfas, Joint Oireachtas Committee on Communications, Marine and natural Resources, Telecoms Strategy Group, Information Society Commission, Dublin Chamber of Commerce.

2. What Is Broadband?

It is difficult to establish one standard and universally agreed definition of 'broadband.' Broadband describes "a very wide set of technologies, offering data rates that are orders of magnitude apart"¹¹ The term broadband has been described as approximating to a "moving target."¹² The most basic functional definition of broadband is simply an always-on telecommunications network that allows for the transmission of digital content, whether data, print, video or voice at very fast speeds. Narrowband speeds were the first generation of internet services that connected users via dial up modems and standard ISDN¹³ links. Broadband networks can use Digital Subscriber Lines (DSL), fixed wireless, satellite, cable modems or fibre optic cables technologies to transmit always-on access to data.

'Always on' capability

The two key characteristics of broadband that considerably enhance the user's experience of internet use are the 'always on' capability and the higher data transmission speeds that contrast strongly with the first generation dial-up systems. The 'always-on' capability refers to the fact that the "link does not require time or technical skill to make ready...(and) is as easy to use as turning on a television."¹⁴ This enables the user to listen to radio via the internet for example, or to watch live streaming of TV online. It also ensures that the telephone line to the house or premises is not tied up while accessing the internet.

Transmission Speeds

The issue of download speed is wherein the main dispute lies over just what properly constitutes broadband. The US Federal Communications Commission (FCC) defines broadband as denoting a network where the data

¹¹ Long, D., "Broadening Horizons."

¹² ITU. *Birth of Broadband*, p. 6

¹³ Integrated Services Digital Network.

¹⁴ISC. *Ireland's Broadband Future*, p. 4

speeds are greater than 200 kilobits per second (kpbs)¹⁵. However, other organisations such as the International Telecommunications Union (ITU) categorises broadband as a network that transmits data at speeds of 1.5 Megabits per second (Mbps) or faster. Internationally, the minimum common designation for broadband is of download speeds of 256 kpbs or faster. Although current average bandwidth speeds that consumers can access tend to be around the level of 512kbps.

This 512kbps speed is also predominantly the norm in the Irish broadband market. Therefore Irish consumers generally only have access to the most basic forms of broadband bandwidth packages that are on the market. The Secretary General of the DCMNR told a meeting of the Joint Oireachtas Committee on Communications, Marine and Natural Resources in 2004 “ASDL is an introductory technology. The government objective is to hit five megabits per second.”¹⁶ The Irish broadband market is at present a long way away from this goal.

The absolute minimum standard of connection speed that signifies a broadband network is being revised upwards all the time as the broadband sector develops and service providers offer more innovative and higher bandwidth packages to their customers. There is already some opinion that proposes that ‘broadband’ should only refer to a service that transmits at speeds of 10Mbps or faster. It is only with such third-generation technology that broadband is a transformed technology rather than merely a faster version of the present, second-generation internet service. This highlights a serious problem within the Irish market. Irish broadband is trying to catch-up with connection levels of second-generation technology and effective policy planning for the utilization of third generation technology is not yet taking place.

¹⁵ “FCC Releases Report on the Availability of High-Speed and Advanced Telecommunications Capabilities.” www.fcc.gov. February 7, 2002.

¹⁶ See *Joint Oireachtas Report on Broadband*.

Some of the most broadband connected states in the world such as South Korea, Japan, France or Sweden already have effectively functioning national fibre optic networks, which are currently the most advanced way of providing broadband services. In fact in Japan there is already planning underway for the convergence of “wireline and wireless”¹⁷ technologies and by 2010 it is envisaged that such “ubiquitous networks’ will permit the Japanese population to access the Internet at high speeds from a desktop, laptop, a hand-held personal digital assistant, or a mobile phone.”¹⁸

Voice Over Internet Protocol (VoIP)

Voice Over Internet Protocol (VoIP) is another advanced telecoms service that is facilitated by broadband technologies. VoIP enables the user to make telephone calls over the internet instead of via the existing telephone line. VoIP will significantly alter telephone practices because long distance telephone calls will be made at flat rate broadband charges, and calls are unmetered with this service. This would ensure that what are at present very expensive long distance calls could be made for a fraction of the cost, and will also significantly impact upon mobile call roaming charges. The use of wireless broadband technology will enable VoIP to be accessed from mobile phones and palmtop devices.

Although the development of software for such packages is still at a relatively early stage, most analysts predict that there will be huge expansion of VoIP providers in the next few years. In the UK it has been predicted that the whole BT network will be VoIP enabled by 2012.¹⁹ A recent comparative country study for the UK Department of Trade and Industry reported that quite a high proportion of business users within Ireland use VoIP technology “despite the low penetration of mass market broadband.”²⁰ This indicates the demand for

¹⁷ Bleha. “Down to the Wire.”

¹⁸ Ibid.

¹⁹ Dodson, S., “It’s your call”. *The Guardian*, July 7, 2005.

²⁰ Analysys. *Sophisticated Broadband Services: Final Report for the Department of Trade and Industry*. London: Department of Trade and Industry, June 11, 2005.

such services within Ireland but which will not be widely available with the present rate of broadband connectivity.

Convergence

VoIP services indicate the wider trend of convergence in communications that internet, especially in its broadband form, is acting as a catalyst for. Convergence is the merging of broadcasting, computers, telephones, video and more, on the same ubiquitous network. Because of the “digital revolution... 'information' now has a life of its own, separate and distinct from the medium which carries it.”²¹ The various different technologies that communicate information are “shedding their separate identities and coming closer together.”²² A common example of this is the practice of listening to the radio over the internet. In France the incumbent operator France Telecom offers one broadband package that also transmits digital television services through the copper broadband-enabled line to a house or premises. Interactive television is another example of the possibilities that convergence offers, as is the potential that converged wireless broadband technology and mobile phones offer.

In the advancement of convergence, however, the infrastructure networks through which these services are offered will come under increased strain unless ultra fast broadband channels are in place. If this does not take place, accessing the content of ubiquitous networks will be like attempting “to run high-speed, high capacity trains on (a) century old rusting rails.”²³

Beyond Broadband Take-Up

Most international indices for broadband examine what level of broadband availability and penetration exists in a given state, and are usually defined by data speeds. Some other countries that have already established superior broadband networks have suggested that international comparisons should

²¹ “Why Study Convergence?” The Centre for the Study of Technology and Society.
www.tecsoc.org

²² Ibid.

²³ Ibid.

include not just rates of take-up but also how effective the use of broadband within the state is. A definition that relies simply on take-up rates is too “simplistic because it does not address the real driver of enhanced outcomes in key sectors and of improved economic and social benefits.”²⁴

Broadband is important because of the benefits it brings to society and the opportunities it provides for enhancing the economic and social worth of the nation and its citizens rather than for any inherent value in the technology itself. This understanding of broadband provides a more helpful outcomes-driven classification of the technology. Even though Ireland has enormous catching up to do on the fundamental matter of broadband penetration it is important that the ultimate purpose of broadband technology for Irish society is kept in sight.

The Labour Party’s earlier document on ICT, *Towards an Intelligent Island*, emphasised the need to avoid perpetuating the ‘digital divide’²⁵ within Irish society. In pursuing the much-needed escalation of broadband rollout it is essential that this objective is not overlooked and that a “citizen centred approach”²⁶ is taken. Such an approach would not fuel greater social exclusion by creating strata in society that are excluded from participating in and benefiting from these new technologies because of their socio-economic status. An independent study conducted for BT in the UK regarding the digital divide, indicated that over 23 million people are at risk of being ‘digitally excluded’²⁷ by the year 2025 if efforts are not made to counteract this trend. The UK’s Broadband Advisory Group has noted that ICT can “either create the new class divide or can reduce barriers.”²⁸ It is essential that our policies make sure the latter occurs.

²⁴ *Australia’s Broadband Connectivity*, p. 16.

²⁵ In modern developed societies access to ICT and resources is increasingly considered a basic social need. The term ‘digital divide’ is used when any group of people is excluded from accessing such resources.

²⁶ The Labour Party. *Towards an Intelligent Island*.

²⁷ The Future Foundation. *The Digital Divide in 2025*.

www.btplc.com/Societyandenvironment/PDF/Digitaldivide2025.pdf. December 2005.

²⁸ Strategy Unit. *Connecting the UK: the Digital Strategy*, p. 29

3. Why Is Broadband Important?

*Grass is to an agricultural economy what broadband is to the new economy. It is the basic bedrock. You cannot have the new economy if you do not have broadband.*²⁹

*Broadband technologies will be the roads and railways of the 21st century, generating the next wave of economic expansion. Just as transport opened up new economic horizons in the last century, advanced communications networks will pave the way for productivity gains across global economies.*³⁰

Broadband connectivity will play a critical part in the future economic well being of states. The significance of broadband infrastructure lies firstly in the importance of the ICT industry itself to the Irish economy in terms of creating employment and wealth. Added to this is the ever-increasing role that ICT plays in wider economic and social processes. In being world leaders in broadband rollout, states such as Japan and South Korea, have “positioned themselves to be the first states to reap the benefits of the broadband era: economic growth, increased productivity, technological innovation and improved quality of life.”³¹

Trends both in Ireland and internationally have indicated the discernible shift towards knowledge-based economies. At the EU Lisbon Council meeting in 2000 all of the EU governments pledged to “turn the EU into the world’s leading knowledge based economy.”³² In Ireland there is already a considerable ICT based industry, which can only be enhanced by intensifying

²⁹ Mr. Brendan Tuohy, Secretary General of the DCMNR quoted in *Joint Oireachtas Report on Broadband*, 56.

³⁰ *Australia’s Broadband Connectivity*, 5.

³¹ Bleha. “Down to the Wire.”

³² See *Bridging the ‘digital divide’: EU policies*, November 16, 2004, www.euractiv.com

the quality of the broadband network. Increased broadband connectivity will be a key factor in preserving the Irish economy as an attractive place for establishing hi-tech industries. Establishing and maintaining a first class broadband infrastructure is also critical for attracting the type of high-value employment that is so valuable to the Irish state. Studies conducted in the US estimate that an extensive roll-out of broadband could “add \$500 billion to the U.S. economy and produce 1.2 million new jobs...(and that) as much as \$1 trillion might be lost over the next decade due to present constraints on broadband development.”³³ Similar gains and losses can be applied in the Irish context.

The DCMNR has stated, “Broadband connectivity forms a significant part of ICT development and is imperative to the maintenance of Ireland’s international competitiveness.”³⁴ Because of the nature of the Irish economy, that is a small open economy, the maintenance of Ireland’s international competitiveness is a fundamentally important consideration. If other states are surging ahead with broadband rollout and Ireland cannot match this pace then competitiveness will be affected as will the ability of the Irish state to successfully partake in the global economy. The Irish Exporters’ Association has recently warned that “Irish businesses, particularly those trading internationally, are facing serious disadvantages”³⁵ because of the slow rollout of broadband.

Productivity and Innovation

Broadband connectivity brings wider economic benefits outside of the specific ICT sector. The OECD has noted the “role advanced communications capabilities play in generating higher growth in productivity rates as well as new network-based economic activities.”³⁶ If broadband is exploited successfully than it will prove a critical stimulus for employment, wage rises

³³ See Bleha, T., “Down to the Wire.”

³⁴ *Ireland’s Broadband Strategy*.

³⁵ Shoemith, C., “Exporters warn on slow roll out of broadband.” *The Irish Times*, July 22, 2005.

³⁶ OECD, *OECD Information Technology Outlook 2002*, p. 246

and Irish Gross Domestic Product (GDP) and facilitate the achievement of wider social goals. As commentator Thomas Friedman has written:

“Jobs, knowledge use and economic growth will gravitate to those societies that are the most connected, with the most networks and the broadest amount of bandwidth – because these countries find it easiest to amass, deploy and share knowledge in order to design, invent, manufacture, sell, provide services, communicate, educate and entertain. Connectivity is now productivity.”³⁷

Advanced broadband networks enhance the ability of a state’s economic actors to be leaders in exploiting ICT in the rapidly changing environment of “business and user behaviour and...the way content and services are delivered and managed.”³⁸ As one report on developing ICT policy notes, “the boundaries between the ICT industry and other industries are becoming much more blurred as ICT products and services become an integral part of the activities of businesses in areas as diverse as mining and finance.”³⁹

The condition of the broadband network also impacts upon the research and development (R&D) capabilities of the state. Which in turn has a further bearing on the state’s ability to innovate and be at the forefront of technological advancement in the broadest sense. Furthermore advanced communication networks increasingly allow both greater collaboration between researchers within the state and in global research networks.

Broadband’s Role in the Transformation of Service Delivery

Broadband is becoming established at a time when “the revolutionary potential of the Internet has still to be fully tapped...(but) is serving to accelerate the process of integrating Internet technologies into everyday

³⁷ Friedman, T., *The Lexus and the Olive Tree*, London: HarperCollins, 2000.

³⁸ *Australia Broadband’s Connectivity*, p. 5

³⁹ *Enabling the Future*, p.19.

life.”⁴⁰ Broadband connectivity is also increasingly crucial for the transformations that are taking place in government and public service delivery.

Examples of how ICT can deliver advanced services are already being seen around the world in areas such as education, revenue and taxation, health, social welfare, employment, business registration and associated services and general interaction between citizens and their governments. In Ireland the excellent online service run by the Revenue Commissioners (www.ros.ie), has proved to be an extremely efficient and popular way for filling out tax returns.

Health

There are many different aspects to the use of ICT in the health sector. A primary and very visible role for advanced telecommunications networks is in patient interaction with the health system. For example NHS Direct is the website of the British national health system which provides a central information point for all patients, or potential patients. This includes information from health care professionals, specialised support groups, and charities as well as basic information regarding services available, primary care facilities, car parking arrangements and protocols for patients in dealing with their healthcare needs. There is also the NHS national patients appointments service that is used for online patient booking and provides a personalised, immediate and efficient service.

Within the hospital management structure, ICT services are also being pioneered in such areas as bed management and utilisation across the whole NHS. The use of wireless technology operating for example through Personal Digital Assistants (PDAs) will enable information to be collected at the point of care regarding beds in use and then transmitted quickly across the whole system. The NHS is also piloting the use of PDAs within emergency services medicine to provide the medical history of patients who have previously attended in a different hospital or different geographical region. The NHS

⁴⁰ ITU. *Birth of Broadband*, p.10

National Electronic Library for Health (NeHL) is an enormous source of online information, references and standards for healthcare professionals and managers.

This year in Australia, the Department of Health committed over €5.5 million (9 million AUD) to e-health initiatives, especially for an “integrated IT-based national health record system.”⁴¹ This was established to help avoid the unnecessary duplication of clinical tests and as the Australian Health Minister claimed, to prevent unnecessary deaths of which over 3,000 occur annually in Australia due to “inadequate information and record keeping.”⁴²

Education

Education, like health, presents a myriad of possibilities for using ICT to enhance the processes of teaching and learning from primary to tertiary education. Third level researchers are given much greater opportunities to engage in collaborative work with colleagues in different universities across the world through advanced communications networks. As in health, ICT provides routes for making the delivery of educational services more efficient and personalised, and also for transforming the way teaching and learning practices are carried out.

New Zealand has established a strategy called the Information and Communications Technologies (ICT) Strategy for Schools. From 1998 this programme initially concentrated on building IT infrastructure and capabilities across New Zealand’s school system including rolling out network connections, IT hardware and software. The 2002 government policy *Digital Horizons: Learning Through ICT* advanced the challenge of integrating ICT into the schools curriculum and developing syllabus content that is culturally relevant for New Zealand.

There are many examples of the innovative use of ICT in New Zealand. The Ministry of Education established the LeadSpace website for principals and

⁴¹“Australia commits \$9 million to e-health.” January 28, 2005, *Sydney Morning Herald*.

⁴² Ibid.

school leaders which provides a comprehensive resource of school management and professional development issues. A similar resource operates for teachers in New Zealand. (There is an Irish counterpart to this called Scoilnet, which covers all educational matters but the overall resource network is not as developed as in New Zealand). A comprehensive e-learning framework for all New Zealand schools has been developed which aims to move past just delivering present educational approaches more efficiently but in advancing “networks, connectedness and creativity”⁴³ in teaching and learning. This involves co-opting many different technologies including desktop and laptop computers, interactive whiteboards, digital cameras, mobile and wireless tools, electronic communication tools, video conferencing, Virtual Learning Environments (VLEs) and learning activity management systems. This education strategy has a guiding principle that is “because education’s purpose is to prepare people for the world they will live in, it must be future focused.”⁴⁴

Social Welfare Delivery

An innovative scheme that uses broadband technology in improving the delivery of social welfare entitlements is the Halston ‘Benefits Express’ in the UK. This is a bus that is IT connected and provides a roving, mobile service where staff can process claims and queries on the bus or in people’s houses. Since the introduction of the scheme there has been a decrease in the waiting time for the processing of claims from eight to two weeks and a smoother operation of services for front line staff and claimants. In all of these cases a faster, more efficient and personalised service is provided for the user.

Combating Social Exclusion

Advanced communications networks can be used for the delivery of responsive public services that help to combat existing social exclusion. The potential of new technologies lies in the way they can provide enhanced

⁴³ See details of the scheme available at www.minedu.govt.nz/web/downloadable/dl10639_v1/electronic-an-elearning-framework-for-the-scho.doc

⁴⁴ Ibid.

access to information, bring “disparate communities”⁴⁵ together electronically, and the ability of service providers to deliver “joined up”⁴⁶ services for those with multiple difficulties. Initial studies on ICT and the potential for reducing social exclusion have indicated very positive results.

For example a 2003 study⁴⁷ indicated that low-income groups who have access to the internet have more knowledge of, and make greater use of, public services than those who do not. Some industry analysts have suggested the extension of the telephone allowance for social welfare recipients to include broadband access and also consider line rental support so as to encourage broadband take-up within the context of eliminating the digital divide.

The UK charity group Crisis has found that internet services in its drop-in centres for homeless people are now some of its most popular facilities. The Crisis Open Christmas Internet Café was attracting more than 100 users per day when it was in operation.⁴⁸ The Big Issue Foundation charity group has said that the internet “is very equalising for the people we work with. They don’t need to have a home, can access it at any time, and it’s anonymous. It has definitely enhanced the skills and knowledge base of homeless people.”⁴⁹ Advanced telecommunications networks can provide innovative routes for reaching citizens that are typically estranged from the normal methods of interacting with the state.

Emergence of Broadband’s ‘Social Character’

Broadband is “becoming more embedded in our daily lives”⁵⁰ and as that occurs it increasingly enables people to “transform the way they pursue existing interests and commitments.”⁵¹ This has been described as the

⁴⁵ Strategy Unit. *Connecting the UK: the Digital Strategy*, p.27

⁴⁶ Ibid.

⁴⁷ A CEDR Report for the Broadband Industry Group in the UK, “The economic impact of a competitive broadband market.”

⁴⁸ Strategy Unit, *Connecting the UK: the Digital Strategy*, p.27

⁴⁹ “Using the internet to help the homeless”, *The Guardian*, July 16, 2001.

⁵⁰ Craig & Wilsdon. *Broadband Britain: The end of Asymmetry?*

⁵¹ Ibid.

emergence of a “social character”⁵² of broadband and indicates the ending of the asymmetrical relationship between the producers and consumers of internet content. This is part of a “social shift” that broadband encourages which allows for the greater participation of users in pursuing interests and commitments online, rather than just as passive consumers of internet content.

Trends such as these have important implications for “anyone committed to re-invigorating communities.”⁵³ Research by Demos has found that 40% of broadband users are more likely to become involved in local activities and interest groups through the internet.⁵⁴ The same report has also cited how community groups such as Neighbourhood Watch are utilising broadband technologies to improve the way that local criminal activity is deterred and communities are made safer. The increased use of technology to combat crime is an increasingly visible trend. After the recent July 2005 terrorist attacks on London, British police established a website so that anyone with potential evidence on their mobile phone or digital camera could email it to the police to try and collect as much information and evidence as possible. The net is increasingly being used to “support and sustain local contacts, communities and family networks.”⁵⁵ Broadband allows this to take place “cheaply and conveniently.”⁵⁶

The reach of broadband networks and their potential transformative power as a medium of communication is vast. However, the ability to take advantage of these emerging opportunities depends entirely on the widespread and affordable provision of broadband services.

⁵² Ibid.

⁵³ Ibid.

⁵⁴ Ibid.

⁵⁵ Thompson, B. “It’s an always-on, demanding world.” July 25, 2005, <http://news.bbc.co.uk/1/hi/technology/4707841.stm>

⁵⁶ Ibid.

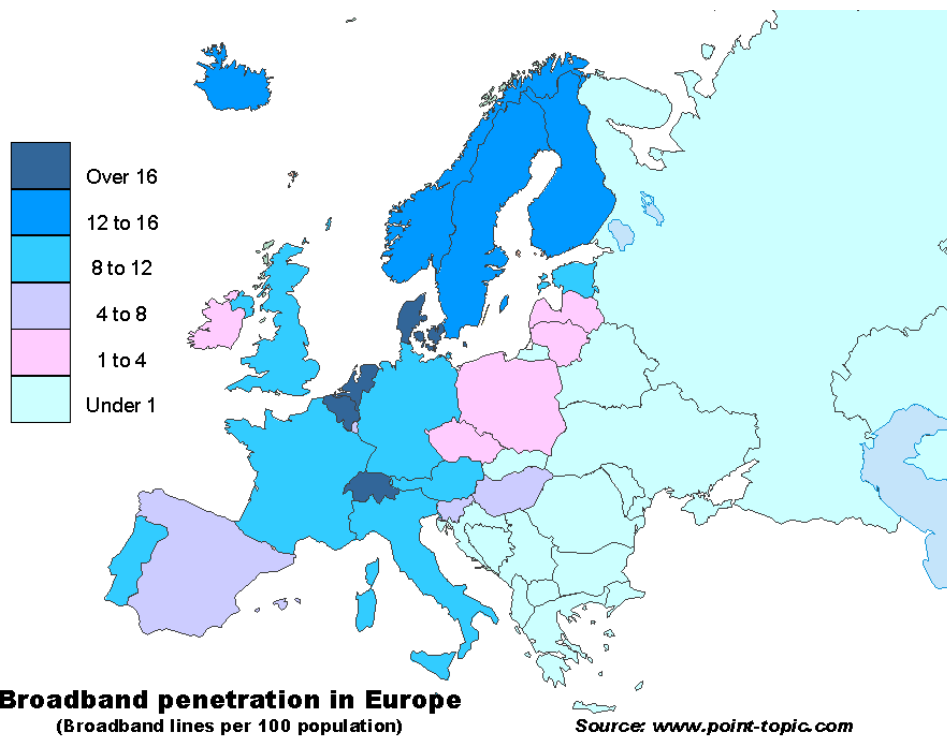
4. Failing the 21st Century: The Current Irish Broadband Disaster

Broadband subscribers per 100 inhabitants, by technology, June 2005

	DSL	Cable	Other	Total*	Rank	Total Subscribers
Korea	13.9	8.9	2.7	25.5	1	12 260 969
Netherlands	13.6	8.9	0	22.5	2	3 642 315
Denmark	13.2	6.1	2.4	21.8	3	1 176 637
Iceland	21.0	0.3	0.4	21.7	4	63 553
Switzerland	12.7	7.2	0.4	20.3	5	1 515 446
Canada	9.4	9.7	0.1	19.2	6	6 142 662
Finland	16.3	2.2	0.2	18.7	7	978 600
Belgium	11.0	7.3	0	18.2	8	1 899 652
Norway	14.8	2.5	0.9	18.2	9	836 060
Sweden	11.3	2.7	2.5	16.5	10	1 482 843
Japan	11.0	2.4	3.0	16.4	11	20 953 090
United States	5.5	8.0	1.1	14.5	12	42 645 815
United Kingdom	9.7	3.8	0	13.5	13	8 095 000
France	11.9	0.8	0	12.8	14	7 935 900
Austria	7.0	5.4	0.1	12.5	15	1 025 036
Luxembourg	10.4	1.3	0	11.8	16	52 920
Australia	8.5	2.4	0.1	10.9	17	2 183 300
Germany	9.9	0.3	0.1	10.2	18	8 439 732
Italy	9.4	0	0.6	10.0	19	5 783 319
Portugal	5.1	4.7	0	9.9	20	1 031 491
Spain	7.0	2.2	0.1	9.3	21	3 949 234
New Zealand	6.4	0.3	0.3	6.9	22	283 798
Hungary	2.9	1.6	0.1	4.6	23	469 186
Ireland	3.5	0.4	0.5	4.3	24	175 500
Poland	2.5	0.7	0.1	3.3	25	1 250 000
Czech Republic	1.8	1.0	0	2.8	26	284 200
Slovak Republic	1.2	0.3	0.1	1.6	27	86 958
Turkey	1.1	0	0	1.2	28	862 843
Mexico	0.8	0.2	0	1.0	29	1 051 854
Greece	0.8	0	0	0.8	30	93 287
OECD	7.2	3.8	0.8	11.8		136 651 000

* DSL, Cable and Other may not add up to Total penetration due to rounding.

Source: OECD



OECD Rankings

The latest international figures released from the OECD⁵⁷ ranks Ireland 24th out of 30 states for broadband connections in OECD states. This places Ireland near the bottom of the ranks of most EU states, with only the Czech and Slovak Republics, Poland and Greece scoring lower than Ireland. The OECD statistics are based on broadband subscribers per 100 inhabitants of the population. Ireland has a rate of 4.3 broadband subscribers per every 100, as compared with the Netherlands which has 22.5 subscribers for every 100 people and the highest performer, South Korea, which has 25.5 broadband subscribers for every 100 inhabitants. The average broadband penetration rate for OECD countries is 11.8 per 100 people, significantly higher than the Irish figure of 4.3.

Ireland scores very lowly in comparison with most other OECD states and with the average OECD broadband penetration rate. We have also persistently lagged behind in matching broadband growth rates across the

⁵⁷ OECD, *OECD Broadband Statistics*, June 2005

OECD countries. Between the years 2001 and 2005 the Irish broadband penetration rate went from 0 to 4.3 broadband connected people per 100 inhabitants. In contrast the UK rose from 0.6 in 2001 to 13.6 in 2005, and Finland increased from 1.3 subscribers for every 100 people in 2001 to 18.7 per 100 in 2005.⁵⁸ The Government's own Information Society Commission declared in 2004 that Ireland was "three years behind the average and five behind the best"⁵⁹ states for broadband connectivity.

The fact that increases did actually occur in the last year in Irish broadband uptake has been trumpeted in some quarters, most especially the DCMNR and by Eircom,⁶⁰ as evidence that Ireland is finally competing internationally in the drive for broadband connections. However, on examining the 2005 OECD broadband statistics⁶¹ it is clear that the Irish growth rate in broadband connectivity from 2004 to 2005 is one of the lowest in the OECD, in fact being outperformed again by most of our EU partners. Between the second quarter of 2004 to the same period of 2005 the Irish net increase in broadband connections was just 2.69 per 100 inhabitants in comparison with a 6.11 increase in the UK and a 7.76 rise in Finland.⁶² The recent increases in total broadband subscriptions are not occurring at a significant enough rate to dent the connections deficit that still exists in Ireland.

A new Science, Technology and Industry scoreboard from the OECD, released in October 2005, has rated Ireland 19th out of 22 states for percentage of households with a broadband connection.⁶³ These statistics are part of a wider OECD project to track how member states are performing in enabling the development of knowledge based economies. Ireland has yet again scored a dismal broadband rollout rating, being outperformed by our

⁵⁸ OECD, *OECD Broadband Statistics*, June 2005

⁵⁹ ISC. *Statement On Broadband*. November 16, 2004, p.12

⁶⁰ See, McRedmond article in *The Irish Times* and statement by Minister Noel Dempsey to the Dail June 15, 2005.

⁶¹ OECD, *OECD Broadband Statistics*, June 2005.

⁶² *Ibid.*

⁶³ See *OECD Science, Technology and Industry Scoreboard 2005 Towards a Knowledge Based Economy* available at <http://iris.sourceoecd.org/vl=4881671/cl=149/nw=1/rpsv/scoreboard/gd06a.htm>

new EU partners Poland, Czech Republic and Hungary and positioned only slightly ahead of Mexico, Greece and Turkey.

International Comparisons

Time and time again in international league tables Ireland features near the bottom of the pile. The World Economic Forum Report for 2003⁶⁴ ranks Ireland 51st in the world for availability of broadband access. All of the EU states apart from Lithuania and very many significantly less economically developed states including Namibia, Tunisia, Guatemala and the Dominican Republic place ahead of Ireland. In a survey of 13 cities across the world conducted by the Dublin Chamber of Commerce⁶⁵, Dublin came last for broadband connectivity. In 2003, a survey by the Swiss Business School IMD rated Ireland last out of 29 small economies for "Suitable Internet Access (availability, speed, cost) in their World Competitiveness Index."⁶⁶

Future Development

The most recent figures released by the DCMNR have placed the number of broadband subscribers in Ireland at 175,000.⁶⁷ As the international indices have shown this places Ireland's rate of connection near the bottom of the pile for developed states. At the current growth rates it has been estimated that instead of having 600,000 broadband subscribers by the end of 2006 it is more likely that there will only be around 310,000 subscribers by the end of 2007.⁶⁸ The small level of growth that was seen in broadband connections in 2004 dropped off again in the first two quarters of 2005.

The international indices indicate the global picture of broadband connectivity and Ireland's dismal place within it. The broadband reality for many Irish businesses and individual consumers is of poor quality of services, little

⁶⁴ World Economic Forum Report, 2003,

⁶⁵ Dublin Chamber of Commerce Report

⁶⁶ "Broadband – The Next Steps for Ireland." June 8, 2003.

www.ccooke.org/irelandoffline/BroadbandFuture.pdf

⁶⁷ Answer to Parliamentary Question by CMNR Minister Noel Dempsey, October 12, 2005.

⁶⁸ See Ireland Offline, "Consumer Group Critical of OECD Broadband Report Results." May 26, 2005. www.irelandoffline.org/home/article.php?story=20050526175235459

choice and high prices. All these factors have been crucial to the poor rate of broadband take-up. At a Roundtable discussion organised by the Information Society Commission it was noted by Forfas and the Enterprise Strategy Group that there is a “high level of frustration around the country at restricted broadband availability.”⁶⁹ There is a significant discord between the present level of advertisement promoting broadband and the reality of applying to subscribe to a broadband service. Many people apply for a broadband connection and are amazed to discover that they are unable to have their house connected. Often prospective customers are not even informed what the specific underlying reason is for the inability of the operator to provide broadband services, and have no other options available for accessing broadband. Two of the most significant factors within the DSL sector for being unable to get a broadband connection are those of line failure and distance from the exchange.

Line Failure and Distance from Exchange

Line failure occurs when the physical cable that links the building to the local exchange does not reach the minimum quality standard. When this happens it is not possible to get a DSL broadband service to the individual house or premises. In Britain and Northern Ireland the number of lines failing minimum line quality standards is less than 1%. In Ireland this figure is as high as 20%, and by some reckonings even hits the 25% mark. Many of the lines that connect the house or premises to the telephone exchange were not maintained to a sufficient level to allow broadband services. This problem is hampered further when a Pair Gain Systems (PGS) exists which occurs when two virtual lines operate over a single copper pair. In effect the line has been split in two, which allows for voice telephony services but prohibits broadband services being carried over the line.

If a house or premises is too far away from the local exchange and the network has not been maintained and extended to take account of new housing developments, then broadband services can also be impossible to

⁶⁹ Information Society Commission. *Statement on Broadband*. November 16th 2004, p. 14

access for many citizens. The current substantial rate of new housing developments and a corresponding failure by the incumbent operator to maintain the network to the highest level has resulted in many people being told they are too far from an enabled exchange and so unable to get a broadband connection.

Line and Exchange Enablement

The contrast between the enablement of lines and exchanges in Northern Ireland and the Irish Republic is startling. Following a tender process BT has swiftly carried out a programme to enable almost 100% of lines and exchanges in Northern Ireland earlier this year. By comparison it is reported that only 400 exchanges and 60% of the line network in the Republic of Ireland have been enabled so far. Indeed Eircom's target is to have 90% of country enabled only by March 2006.

The anecdotal evidence from around the country of people being unable to access broadband services is enormous. Parliamentary questions submitted to the Minister of Communications invariably include many seeking information on why there is no broadband availability in areas right across the country. A similar situation occurs when any media outlet is reporting on broadband access and availability. Perhaps it would be less surprising if the complaints were coming from isolated rural areas. However there are so many reported incidents of people who are located in some of the most populous and centrally located areas of the country such as Dublin's city centre or main suburban areas⁷⁰ who have discovered that their home or premises is not enabled to receive broadband. In Dublin North East, for example, there have been serious complaints from residents in Sutton, Howth, Coolock, Donaghmede and Raheny and right across the constituency about their inability to get any sort of broadband access through DSL service providers. Wireless options are not universally available in any region either.

⁷⁰ A report on RTE1's 'Morning Ireland' radio programme in 2004 detailed the case of a listener who was located on Dame Street, one of Dublin's most central thoroughfares, who was unable to obtain a broadband connection. See transcript of programme at www.comwreck.com/blog_26_sep25.html

This situation is replicated throughout Dublin and the rest of the country in both urban and rural areas.

There are many reasons why broadband development has been so stunted in Ireland. The three broad categories through which it is most useful to examine this question are those of market, regulatory and government failures. An analysis of these three areas provides the most comprehensive picture of what has gone wrong with Irish broadband roll-out, who has been responsible for this state of affairs taking place and illuminates the areas where reform is most necessary.

4. Market Failure

Different Broadband Service Platforms

Broadband can be transmitted through a number of different technologies including cable modems, fibre connections, wireless connections and, the most common transmission type in Europe, digital subscriber lines (DSL) which work via the existing phone line connection. DSL is the main technology through which broadband services are provided in Ireland, and Irish consumers and business have had little choice but to opt for DSL as the different platform services have been so limited here. At present around 80%⁷¹ of broadband subscribers in Ireland have subscribed through a DSL connection.

Cable

Cable has so far not proved a substantial provider of services in the Irish market. There is limited access to cable broadband networks in Dublin and Limerick through NTL,⁷² with the second cable provider Chorus having no significant impact on the broadband sector. A recent survey of broadband platforms in Ireland indicated that NTL and Chorus combined offer broadband services to just “8% of the Irish population.”⁷³ The number of cable modem broadband users per every 100 Irish inhabitants by June 2005 was 0.4 people. However the average OECD average rate is 3.8 cable connections for every 100 people⁷⁴. There have also been a very low percentage of cable networks that have “been upgraded to offer cable modem services.”⁷⁵

⁷¹ ComReg, *Irish Communications Market: Key Data Report*, September 2005.

⁷² The recent acquisition of NTL by the UGC group could be significant for the cable broadband market in Ireland as the company's operations in other EU states, notably Austria, include the so-called 'Triple Play' package of providing customers with phone capabilities, cable TV and broadband. It will be interesting to see whether NTL will now intensify its broadband activities in Ireland in the wake of its new ownership. There have already been media reports that similar type of 'Triple Play' package as on offer in Austria may be introduced to the Irish market if the Competition Authority approves the UGC take-over.

⁷³ Analysys, *Sophisticated Broadband Services: Final Report to the Department of Trade and Industry*, p.29

⁷⁴ ComReg, *Irish Communications Market: Key Data Report*, September 2005.

⁷⁵ Analysys, *Sophisticated Broadband Services*, p. 27

Within the cable market it is curious how many new housing developments are automatically enabled for cable television services but any similar facilities for cable broadband services are not similarly routinely installed. Most new housing schemes are connected for major utilities such as gas, water, and electricity and increasingly for cable television. This allows a relatively simple activation procedure to take place for any of these services when the new occupier moves in but this is not the case for broadband. Broadband services should be as widely accessible and integral to all new housing developments as these other key services. This clearly has not been achieved for the 130,000 new homes built since the start of 2004.

Wireless

There has been some recent growth in the Fixed Wireless Access (FWA) market and it has been estimated that around 37%⁷⁶ of Irish households can now receive this service. Irish Broadband provides services for approximately 30%⁷⁷ of Irish households in five Irish counties⁷⁸, and Nova Networks operates in Cork city and suburbs. Wireless operators need a 'high point' to transmit the broadband service, and the house and premises that are using the wireless service need to be within a certain radius (usually approximately 5 miles) of the transmitter to receive the service. Because the number of wireless 'high spots' is still relatively small, access to wireless services are constrained in the regions within they operate.

Lack of Inter-Platform Competition

The lack of inter-platform competition is a serious problem in the Irish market. From the international experience it is clear that the presence of different service platforms offering broadband services has been a dynamic force in stimulating a competitive, high quality and cost-effective broadband market. The majority of the best performing broadband states in the world have a much greater proportion of cross-platform competition in the types of broadband services offered within the state.

⁷⁶ Analysys, *Sophisticated Broadband Services*, p. 29.

⁷⁷ Ibid.

⁷⁸ Dublin, Cork, Galway, Waterford and Limerick

Overall in 2005 in the OECD states, DSL encompassed 61.2% of broadband technologies, cable modem 32% and other technologies accounted for 6.8%.⁷⁹ In Belgium, for example, which ranks 8th in the 2005 OECD broadband statistics, and has a broadband penetration rate of 18.2 per 100 inhabitants, that 18.2 rate of broadband subscribers is made-up of 11.0 DSL subscribers and 7.3 cable subscribers.⁸⁰ In contrast Ireland's figure of 4.3 broadband connections per every 100 users is made up of just 0.9 non-DSL subscribers.

The Minister for Communications Noel Dempsey has repeatedly spoken of the wide range of product types available for Irish citizens in the delivery of broadband services.⁸¹ It is true that some services, especially fixed wireless operators, have increased in the last few months. However an analysis⁸² of broadband alternatives to DSL that are on offer in the Irish market indicates that these alternatives are still hugely geographically restricted and often extremely expensive. For many organisations there are also security concerns regarding wireless. A broadband market that offers a wide range of services that are extensively available and competitively priced is not yet characteristic of the Irish market.

Yet it is also true that the lack of inter-platform competition cannot be deemed the only reason why broadband rollout has been such a failure in Ireland. All states have their own particular history and circumstances within which broadband services were forced to develop. Other states such as Japan and Denmark also had minimal broadband services in non-DSL platforms available, most notably the cable sector. But Japan and Denmark have still managed to establish first-rate broadband networks and both states lie within the top 10 OECD states for broadband penetration. Even though a lack of inter-platform competition within the broadband sector is problematic, it has

⁷⁹ Satellite, fixed wireless, fibre optics, LAN.

⁸⁰ OECD 2005 Broadband Statistics

⁸¹ This is clear from the DCMNR website and numerous public pronouncements of the Minister most recently in the Dail on June 15th 2005.

⁸² DSL Broadband Alternative Services Briefing, Ireland Offline.

not proved an impediment in other states to the effective development of broadband services.

DSL Sector

Because DSL is, at present, the most important method of subscribing to broadband in Ireland, and in fact across Europe, the failings within the DSL sector is a second crucial area of non-competitiveness within broadband technologies that has helped cause the serious problems with broadband rollout in Ireland.

Local Loop Unbundling

Local Loop Unbundling (LLU) is a critical issue in the development of broadband networks. The local loop is the physical telephone cable that runs between an individual house or building and the telephone exchange that the premises is linked too. This is often also referred to as ‘the last mile’⁸³ for it is the key part of the physical infrastructure that links the building to the telephone exchange and enables the transmission of digital information. For actual or potential DSL service providers then, access to the Local Loop is crucial for being able to offer any level of broadband access. Because the incumbent, i.e. Eircom, owns the equipment in the telephone exchange there are two options available to any other operator. The first is to purchase and then re-sell Eircom products whilst still using the equipment owned by Eircom in the exchange.

The second and more attractive option for the development of the whole broadband market is for the Local Loop to be *unbundled*. This allows Other Loop Operators (OLOs) to have the opportunity to install their own equipment and so have greater control over the type of services that they can offer and the accompanying prices that are set. This facilitates the provision of different broadband products rather than merely the selling on of existing Eircom services.

⁸³ Conversely the Joint Oireachtas Report on Broadband referred to the Local Loop or the ‘last mile’ as the ‘first mile’ as it was deemed so important in encouraging competition in the DSL sector

In June 2005, ComReg reported that less than 6% of lines had been fully unbundled or had shared access in Ireland.⁸⁴ This contrasts strongly with the average figure across the EU, which is an average of around 37% of unbundled lines. In June 2005 out of a total of 1, 590,000 lines, 328 had been fully unbundled and there were 1,340 shared lines. ComReg released data in September 2005 stating that there are now “nearly 2,300”⁸⁵ fully unbundled or shared lines. A startling recently released statistic from ComReg⁸⁶ is that our development in LLU has actually gone backwards since 2003. At the end of 2003 LLU “accounted for 5% of all DSL connections.”⁸⁷ However the proportion of unbundled lines of total DSL lines stands at just 1% in 2005. It is difficult to discover another EU state that is experiencing a similar trend in the LLU sector. ComReg itself concludes in its most recent quarterly report that “in recent quarters there has been little progress in LLU, in contrast to other Member States such as France, Spain and Germany.”⁸⁸

The lack of LLU has ensured that Eircom has had majority control over the range of services and products on offer and the corresponding pricing of those products. In effect, the company has enjoyed a stranglehold on DSL broadband services and other operators are reduced to selling on Eircom’s original product. This has ensured that Eircom has been in a position to place major barriers in place to the entry of new competitors to the market and to keep prices at such high rates. LLU has been an important driver of the development of innovative broadband products in other EU states. In France FREE are offering on unbundled loops “a triple play for €30 – 6Mps of internet access, free phone calls and 110 TV channels.”⁸⁹

The majority of the small number of lines that that have been unbundled as of April 2005 have been by BT Ireland and Smart Telecom. Furthermore the

⁸⁴ See ComReg, *Quarterly Key Data Report*, June 2005.

⁸⁵ ComReg, *Irish Communications Market: Key Data Report*, September 2005.

⁸⁶ ComReg, *Quarterly Key Data Report*, June 2005.

⁸⁷ Ibid.

⁸⁸ Ibid.

⁸⁹ CMA. “A response to the Ofcom Review of the Universal Service Obligation.” April 2005. www.thecma.com/accounts/CMA/documents/Apr2005/Broadband.doc

unbundling by BT Ireland ended up being subsidised by the Irish government because the lack of LLU had reached such dire levels.

LLU has proved a hugely contentious issue in the rollout of broadband. Eircom has not willingly engaged in the process of LLU. One commentator even compared the process of freeing the vice-like grip of Eircom over the 'last mile' to the retreat of the German army from the Soviet Union during World War Two; "Defeat is inevitable but every foot of ground will be fought over and paid for in blood."⁹⁰ Overstatement indeed, but the metaphor of 'trench warfare' over the process of LLU has been a recurring motif used by many other commentators on the matter.⁹¹ At present Eircom is engaged in legal action with Smart Telecom over access rights to the local loop. It is clear that any progress that is made in advancing the LLU will be an arduous, long-drawn out and fraught process mostly carried out through legal actions by the relevant parties, unless government policy changes.

LLU in other EU states

In Italy, France and the Netherlands, LLU has been undertaken quite extensively and has proved to have significantly benefited competition within the DSL market. In France the number of wholesale lines provided by the incumbent operator France Telecom "fell by 19,000"⁹² and in the Netherlands the incumbent KPN's share "fell by 22,000 as competitors switch to unbundled lines."⁹³ It was noticeable that the French incumbent, France Telecom, has been faced with extensive LLU but has recently been to the fore in promoting innovative services in the French broadband market. Last year France Telecom rolled out a broadband product with speeds 12 times faster than the average 512kps. This enabled (through compression technologies) the delivery of multichannel digital TV via existent copper telephone wires.⁹⁴

⁹⁰ McManus, J., "Smart investors bet on outcome of court case", *The Irish Times*, June 21st 2005.

⁹¹ Citigroup Smith Barney. *Equity Research Ireland: Telecommunications Services*, August 3, 2005.

⁹² Point Topic, 9th June 2005

⁹³ Ibid.

⁹⁴ See Keegan, V., "The (French) Broadband Revolution", *The Guardian*, April 30, 2004.

Compare that to the meagre speeds and expensive offerings dealt to Irish consumer and business users.

Prohibitive Cost of Broadband in Ireland

The consequences of this lack of inter-platform competition and within the DSL sector has helped ensure that Ireland continues to be one of the most expensive countries for broadband with the most non-competitive bandwidth packages on offer. In March 2005 a report⁹⁵ was published analysing broadband value for money across the OECD states. Ireland was rated 27th out of 30 states for broadband value for money. In most cases Irish citizens and businesses pay higher prices for inferior data speeds and overall telecoms packages. In France one package offers “unlimited national and local calls, 80 channels of TV and a 20Mbps broadband connection”⁹⁶ for €35 per month, whereas “Japan offers 50Mbps for €30.”⁹⁷ The latest ComReg Quarterly Report Ireland places 10th out of 14 EU states for the pricing of monthly rental for DSL broadband. Broadband prices in Ireland are still significantly higher than the EU average.⁹⁸

The company Imagine recently entered the market offering a package that it has billed as the “cheapest broadband internet access in Europe.”⁹⁹ However, this €9.99 per month offer is a metered service that allows for only 20 hours online per month with a charge of 3.5 cent per minute for every minute over the 20 hours. The Eircom ‘Broadband Time’ package is similarly metered with users penalised to the tune of 4cent per minute for any time spent in excess of 20 hours a month. Both of these packages are marketed as positive developments for Irish broadband rollout but are in fact regressive steps and anathema to one of the fundamental characteristics of broadband technology, the always-on function of the broadband network.

⁹⁵ Ireland Offline. *OECD Broadband Report Analysis*

⁹⁶ Ibid.

⁹⁷ Ibid.

⁹⁸ ComReg, *Quarterly Key Data Report*, June 2005, p.20

⁹⁹ RTE, “Imagine offers low cost broadband package”, July 20, 2005.

6. Regulatory Failure

Broadband is an essential economic and social infrastructure that has been left for the most part to develop under the control of a private company, Eircom, that unsurprisingly has acted in the interests of its own shareholders rather than for the wider public good. The vision of a broadband service in Ireland that is universally accessible and affordable will not be achieved in such circumstances.

Privatisation of Eircom

It would be unproductive at this stage to regurgitate the whole Eircom privatisation saga. However, even if a proper regulatory system had been established by the FF/PD government, there still remains the fundamental issue that the “government created a democratic deficit when it devolved decision making on the public interest to the regulators”¹⁰⁰ in privatising the incumbent telecommunication service provider. The implications of the privatisation of a critical public utility for the state as a whole can be seen with the ongoing problems in the broadband sector. It is much more difficult for the government to correct these deficiencies when Eircom is the sole owner of the infrastructural network.

This government contains those proponents of the workings and vagaries of the free-market, the Progressive Democrats. And yet it failed to recognise that the near-monopoly exerted by the incumbent in the broadband market would be highly unlikely to provide, without outside prompting, a competitively priced, high quality and universally available broadband network. As the Joint Oireachtas Report on Broadband notes, broadband is “not a market that can be left to develop on its own...(and) the government needs to accept full responsibility” for its development.

Weak Regulatory Framework

¹⁰⁰ Sweeney, *Selling Out?* p. 125

However, stepping away from the rights and wrongs of the privatisation of Eircom what is striking about the Irish example is that we have been left with the worst of both worlds. The government has rejected a stronger role in directing the broadband market but has failed to create an adequate regulatory system to safeguard broadband's development within the framework of a privatised telecommunications industry. There is a lack of strong competition in the Irish market and also a lack of strong regulation. If any number of international case studies of broadband rollout are examined it is clear that there has been either a strong regulatory framework, or greater direct government intervention to stimulate the market.

Establishment of ComReg

The Irish Communications Regulator, ComReg, was established with the understanding that the “regulatory burden on the sector be minimised.”¹⁰¹ ComReg was not empowered to a sufficient level to be able to take on the monopolistic behaviour of Eircom in an effective way. The Communications Regulation Act, which was the piece of legislation that established ComReg, was brought in just before the 2002 General Election under the former Minister for Communications Mary O'Rourke, and has since been found “to be deeply flawed.”¹⁰²

Weak Enforcement Mechanisms

ComReg is unable to levy fines against an offending operator without first bringing legal action and was “unique in being the only telecoms regulator in Europe”¹⁰³ that cannot do so. The inability of ComReg to levy fines without first instigating legal sanction and the subsequent legal challenges to decisions by ComReg, have made changing certain practices of the telecoms operators an extremely long-drawn out and problematic process. ComReg itself has recently been quoted as describing the legal challenges to its

¹⁰¹ O'Toole, F. “Let the subscriber beware.” *The Irish Times*. August 31, 2004.

¹⁰² McBride & Quinn, “ComReg demands powers to tackle mobile giants”. *Sunday Business Post*, August 22, 2004.

¹⁰³ *Ibid.*

decisions as “threatening the development of the Irish telecoms markets.”¹⁰⁴ The creation of an Appeals Panel as part of the adoption of the EU’s Regulatory Framework has “further reduced the power of the regulator by allowing all decisions to be appealed and therefore delayed.”¹⁰⁵

If ComReg does effectively bring legal action against an operator, it is left with the ability to impose only very puny financial penalties. How can a Regulator operate successfully if it has no effective instruments to punish any infringement of rulings? At present ComReg’s primary option is to hand down a maximum fine of €3000 on summary conviction. This is a ridiculously low financial penalty for any company to have imposed on it. A ComReg Commissioner has recently spoken of the futility of imposing a €3000 fine on companies that operate within a “multi-billion euro industry.”¹⁰⁶ It ensures that ComReg remains an extremely weak player in the telecommunications sector and is a hugely ineffective regulatory body.

Government Directives

The government has powers to issue Ministerial directions to ComReg that should direct the overall policy development and stance of ComReg. The body that ComReg replaced, the Office of the Director of the Telecommunications Regulations (ODTR), was in contrast an independent body. These new ministerial powers of direction were introduced under the 2002 Communications Act. However, the issuing of directions to ComReg by the Minister has not happened very regularly, and overall government direction to the Regulator even when the market is quite obviously so deficient has been very weak. Furthermore, there is no clear structure outlined for Ministerial sanctions when ComReg has not enforced a particular directive.

Regulatory Capture

¹⁰⁴ McBride, “ComReg to have tougher powers to fine telecoms”, *Sunday Business Post*, July 10 2005.

¹⁰⁵ Citigroup Smith Barney. *Equity Research Ireland: Telecommunications Services*, August 3, 2005.

¹⁰⁶ McBride, “ComReg to have tougher powers...”

One of the key problems that have been cited for the failures of sectoral regulators in general is the fact that ‘regulatory capture’¹⁰⁷ often takes place. This is a process whereby the incumbent’s position and views are given the predominant weight, often to an excessive extent, in the regulatory system. When this occurs the whole regulatory system is biased towards the standing of the incumbent in the market. This has happened to a large extent in the Irish communications regulatory structure.

ComReg’s behaviour indicates this when it shies away from making publicly available figures on the amount of exchanges that do not provide broadband services even though they are supposedly broadband enabled. ComReg asserts there are issues around commercial confidentiality and sensitivity when considering the publication of such information. Another example is ComReg’s actions on the investment by Eircom in the network, which has not been of satisfactory level. ComReg has approached this issue by concerning itself with ‘persuading’ Eircom to invest and allowing for an “appropriate return on investment so as to encourage further investment.”¹⁰⁸ It is clear that the matter of Eircom’s profits and financial situation are figuring to a greater extent than the wider needs of the broadband market in considerations such as these. Furthermore, although the level of financial penalties that ComReg can impose are paltry, there has been little evidence of ComReg working to the limits of their powers and imposing fines, no matter how seemingly insignificant when errant behaviour by telecoms operators occurs.

There are a number of specific areas in the broadband sector where ComReg has been particularly unsuccessful.

1. Local Loop Unbundling – As outlined above ComReg’s actions on LLU have been tardy in the extreme. This is an area where stricter measures were essential to ensure that other service operators could

¹⁰⁷ McCann, Sean. *Divided and Conquered – The Case Against Sectoral Industry Regulators*, November 26th 2004, www.maccann.com

¹⁰⁸ ComReg. *Local Loop Unbundling Responses to consultation*, August 30 2004, p. 8-9

enter the market and provide alternative services for Irish consumers. The Independent Telecommunications User Group (INTUG) has stated, “The tactics of the (incumbent) operators require the adoption of detailed regulatory measures and the strict enforcement of competition law in order to avoid abuses and to overcome their resistance.”¹⁰⁹ As was outlined above there has been very little movement from Eircom on the unbundling of local loops, and has been subject to much legal wrangling. In March 2002 the European Commission began action against Ireland because of the failure of regulatory procedures on the local loop.¹¹⁰

The price set by ComReg for LLU has been kept much too high and has facilitated the barriers that are keeping other operators from entering the market and offering a differentiated broadband product. In mid-2004 ComReg proposed that LLU pricing be set at €14.65. In contrast in the UK the price for shared unbundled lines was €3.50. In France and the Netherlands, where the lowest rates for LLU were set, both states have become two of the most competitive markets for broadband in Europe. In contrast the French Regulator, Autorité de Régulation des Télécommunications (ART), was one of the first to “adopt a cost based approach to regulating the price of unbundled loops.”¹¹¹ This reconciled “a top-down model from France Telecom with a bottom-up cost model”¹¹² and gives other operators cheaper terms of entry into the market.

2. Universal Service Obligation¹¹³ - The ‘universal service’ provision in the EU regulatory framework for e-communications states that everybody must have access to (1) the public telephone network and (2) “access to publicly available telephone services where the connection enables

¹⁰⁹ Quoted in *Commission opens infringement procedures on local loop unbundling*, March 25th 2002, www.euractiv.com

¹¹⁰ Ibid.

¹¹¹ See Medcalf, R., & Piot, S., *Competitive broadband markets: lessons from France*, February 2004, www.analysis.com

¹¹² Ibid.

¹¹³ *There Is Something Rotten in the State of Broadband Ireland*.

voice and data communications services with functional internet access.”¹¹⁴ This directive has not been imposed in any practical way on Eircom. In Denmark, for example, in order to fulfil the USO the regulator has commanded that all phone lines have to be of ISDN quality which “more or less would also make the lines broadband capable.”¹¹⁵ With failing lines and telephone exchanges that are not enabled this USO is not being delivered to Irish citizens. The Regulator should interpret this directive in the broadest sense as the Danish regulator has done, and ensure properly functional access at the highest possible level for internet services across the country.

3. Fixed Rate Internet Access Call Origination (FRIACO)¹¹⁶ – The price of FRIACO is too high and is a disincentive for the incumbent to provide non-dial-up broadband services. This is because the company earns so much from providing consumers with this inferior internet product. If ComReg has a mandate to promote a competitive market, and for the encouragement of broadband take-up in the country then action is necessary to urgently decrease the quantity of internet users who are still operating on dial up networks. Most other states are seeing the uptake rate for broadband surging ahead of that for dial-up internet services. This is not taking place to the same extent in Ireland.

¹¹⁴ European Commission. “Safeguarding e-communications services for all in the internet era: Commission opens policy debate.” May 25, 2005.

¹¹⁵ *There Is Something Rotten in the State of Broadband Ireland*

¹¹⁶ Pre-paid dial up Internet for fixed time

7. Government Failure

The flawed nature of broadband rollout in Ireland ranks as one of the FF/PD government's greatest public policy failures. The government's own words, in its unaccomplished targets and continuous downgrading of core broadband objectives, illustrate this in stark detail. One government document notes, "The government regards broadband infrastructure as the single most important economic infrastructure to the future economic development of Ireland."¹¹⁷ Another Department of Communications, Marine and Natural Resources (DCMNR) policy document from 2003 states the "widespread availability of open-access, affordable always-on broadband infrastructure and services for businesses and citizens by 2005 is a *key policy priority* (emphasis added) for the Irish government."¹¹⁸

Broadband rollout was framed as an issue of critical public importance by the government. The dismal advancement of rollout indicates the absolute failure to fulfil this objective. Aside from the above outlined regulatory and market failures that the government have been party to, a lack of leadership, vision, and overall planning mismanagement has characterised government policy on broadband. As the broadband deficit has increased there has been a seeming unwillingness to recognise that greater measures are necessary to correct the problems in Irish broadband rollout. When the government has undertaken measures they have not focused on the areas that would most facilitate the development of a universally accessible and affordable range of broadband services. Finally, the institutional structures in place to address the issues surrounding broadband rollout have also been deficient, with responsibility spread out over too many areas and between too many people.

¹¹⁷ DCMNR. "Draft Policy Directions to ComReg." March 2004.

¹¹⁸ *Ireland's Broadband Strategy*, Department of Communications, Marine and Natural Resources

Broadband and the Department of Communications, Marine and Natural Resources (DCMNR)

In the DCMNR, broadband rollout is one of the most important issues within the Department's remit. In this regard Dermot Ahern's tenure as Minister of Communications must be considered one of absolute failure. Ahern himself told *The Irish Times* that broadband was one of the "key areas"¹¹⁹ that he identified when assuming the role of Minister for Communications, and that the expansion of broadband was a "key achievement"¹²⁰ of his tenure there. With the present dismally low level of broadband take-up in Ireland it is extremely difficult to describe Dermot Ahern's time as overseer of Irish broadband roll-out as an 'achievement.' In many countries, his failure would have led to a demotion. If there is not a significant improvement in broadband connectivity in the near future then the same sentiments of incompetence and failure will be applicable to the present Minister, Noel Dempsey's, period in office.

Government Action Plans

The government was slow to respond comprehensively to the challenge of broadband. In 1999 the first 'Action Plan' for the Information Society gave a cursory four-line reference to the fact that the government was seeking EU funding for broadband development in the country. It was not until 2002 and the *New Connections* policy document that the government outlined a more wide-ranging broadband strategy. The key objectives that were set out, and re-iterated by the Communications Minister Dermot Ahern in the DCMNR's *Statement of Strategy 2003 – 2005*, were:

- The "widespread availability of open-access, affordable, always on broadband infrastructure for businesses and citizens throughout the state" by 2005
- For Ireland "to be among the top decile of OECD countries" by 2005

¹¹⁹ Smyth, J., "Minister Says Broadband expansion key achievement in portfolio", *The Irish Times*, September 22, 2004.

¹²⁰ Ibid

- For Ireland to be the first European country to have 5 Mbps internet service “widely available.”¹²¹

The DCMNR further clarified this as aiming for Ireland to “have a fully competitive communications sector in place by the year 2005 on a competitive par with the key comparator OECD economies in terms of network penetration, investment, price, choice and quality, across all platforms.” None of these core objectives vis-à-vis broadband have been achieved. Current OECD statistics place Ireland 24th out of 30 states, widespread affordable availability has not been achieved and Irish businesses and citizens have access to some of the lowest bandwidth packages across the economically developed world.

Dermot Ahern’s Policy U-Turn

In December 2003 when it was becoming increasingly obvious that none of the government’s key broadband objectives would be reached, former Communications Minister Dermot Ahern engaged in a major policy U-turn when he issued the “Draft Policy Direction to ComReg.”¹²² The primary government target for broadband connectivity was now defined as one where Ireland should “be at, or better than, the EU average for end-user access to and usage of broadband by mid-2005.”¹²³ This was a major reduction in the previously set target. The new government target of reaching the EU average rate for broadband connectivity by mid-2005 is an extremely devalued one because of the accession of the nine new Central and Eastern European states who have dragged the EU average down. Many industry watchers have noted the interesting timing of this considerable policy change that coincided with the Eastern enlargement of the EU.¹²⁴

No matter what the coincidental timing or narrow political consideration behind the reduced government target was however, most states are increasingly upgrading the bandwidth scope and ambition of their broadband policies. Yet

¹²¹ New Connections, www.taoiseach.gov.ie/attached_files/upload/publications/1153.pdf

¹²² Available online at www.dcmnr.gov.ie

¹²³ DCMNR. “Draft Policy Directions to ComReg.” March 2004.

¹²⁴ Comwreck and Irish technology magazine Siliconrepublic.com

the size of the deficit between the Irish government's objectives and the reality of the broadband situation on the ground combined to drive the government to engage in this serious policy U-turn in a bid to deflect the massive failure of their policy. There has been a continual downgrading of government ambitions in broadband rollout and the persistent inability of this government to fulfil any of their promises in the ICT sector. Instead of striving to make Ireland a world leader in broadband connectivity, and a global competitor for the best broadband networks this government is content for Ireland to languish in mediocrity and sit on a par with states to which we are supposedly exporting our economic 'miracle' model. Even Ethiopia, a state that has endured much recent economic and social deprivation, now has a stated broadband policy¹²⁵ of enormously greater scope and ambition than Ireland's.

Just in the last few months Minister Noel Dempsey has once again downgraded the government target for the rollout of broadband. Minister Dempsey answered a parliamentary question on June 14th, 2005 by stating that he "has set the industry a target of 500,000 broadband customers by the end of 2006." On July 20th 2005 at the launch of a report critical of broadband development in Ireland he said the government "was on target to have 400,000 people in the Republic connected to broadband by the end of next year."¹²⁶

Supply-led development

The FF/PD government has also often cited the problems in broadband take-up as being down to a lack of demand in the Irish market.¹²⁷ This in effect blames Irish citizens for not subscribing to broadband as fast as their EU counterparts and for the poor showing of Ireland in international league tables for broadband penetration. However, the inadequate quality of services offered to Irish consumers has often discouraged broadband take-up and

¹²⁵ See "Ethiopia Online." *New Scientist*. May 14, 2005 and Cross, M. "Ethiopia's Digital Dream." *The Guardian*, August 4, 2005.

¹²⁶ Shoemith, C. "Exporters warn on slow roll out of broadband." *The Irish Times*, July 21, 2005.

¹²⁷ See Dermot Ahern on TV3's *Agenda* programme. Transcript available at http://www.comwreck.com/blog_8_feb8.html

actively prevented people who want a broadband connection from being able to access one.

It is also critical that broadband is supply rather than demand led. Because of the nature of broadband “market take-off requires a critical mass of users”¹²⁸ who have at least a basic understanding of the functioning and advantages of the technology. The most effective dynamic for advancing the rollout of broadband rests squarely on the supply side and with the promotion of the advantages of the technology. Some recent initiatives such as the prospective BT Broadband Roadshow, which is a nationwide tour that aims to educate and inform consumers and stimulate demand, are examples of innovative schemes that may be used to encourage broadband take-up. It has also recently been reported that a similar initiative is about to be undertaken by the DCMNR. It is clear that the relationship between broadband uptake and the quality of services offered is closely intertwined, and without a much more improved level of broadband services in the Irish market then demand will simply not take off.

Metropolitan Area Networks (MANs)

Eircom has failed to invest sufficiently in the broadband network, and the government or the regulator has failed to compel Eircom to do so. Therefore since early 2003 the government has been floundering for a way to remedy the ‘Eircom deficit’¹²⁹ in broadband development. One of the most trumpeted policies to deal with the increasingly obvious failings of broadband rollout has been the development of the Metropolitan Access Networks (MANs) scheme.

The fact that this project was established is a strong indictment of how the privatisation of Eircom has facilitated the inferior level of broadband services in Ireland. The establishment of the MANs was carried out to bring broadband to the “towns and cities where the private sector did not want to invest.”¹³⁰ The government itself noted when describing the background to the

¹²⁸ ITU, *Birth of Broadband*.

¹²⁹ Sweeney, *Selling Out?* 93

¹³⁰ Sweeney, *Selling Out?* p. 93

establishment of the MANs that it was done in part because private sector investment has “failed to keep pace with demand.”¹³¹ The MANs indicates the reality of broadband as an important public utility that without intervention or effective regulation leaves less populated areas or unprofitable routes without proper broadband services.

Minister Noel Dempsey described the MANs programme as the “mainstay of the Government’s broadband strategy (that has) given the sector access to world class infrastructure.”¹³² The MANs are a metro network of optical cable fibres for provision of broadband services. This programme was put into operation in mid-2004 and is 90% government funded with the remaining 10% of the finances contributed by Local Authorities. €250 million has been earmarked in total for the project. A further €100 million has been invested in developing the ESB backbone to support backhaul services. At the moment 20 MANs are operational, and the stated final objective of the policy is to have 123 MANs around the country.

Although the MANs are wholly owned by the state, their management has been outsourced to a company called Enet. Enet was a surprising winner of the MANs’ management contract. It had no real experience in this area and faced strong competition from at least one company that had very successfully managed the process of broadband enabling a whole state (the province of Alberta, Canada). Enet “is allowed an economic return on the cost of its management function.”¹³³ However, even though these assets remain state owned, Minister Dempsey regards all information about traffic on the network and profits earned, as commercially sensitive and the sole business of Enet as a private company. He also refuses to report to Dail Eireann on the network’s performance.

There are undoubted merits to the MANs scheme for the areas involved. However it is extremely inadequate as the core plank of the government’s

¹³¹ Answer to Parliamentary Question by CMNR Minister Noel Dempsey, 15th June 2005

¹³² Answer to Parliamentary Question by CMNR Minister Noel Dempsey, 15th June 2005

¹³³ Citigroup Smith Barney. *Equity Research Ireland: Telecommunications Services*, August 3, 2005.

broadband policy. It is focused on narrow geographical areas, and will not be of a nationwide scope for a significant period of time, if ever. The plan as initially envisaged in March 2002 indicated that 123 towns with populations of more than 1,500 would be part of the scheme, and that 67 towns would have fibre optic rings by the end of 2003. At the moment, as indicated, the development of the programme has focused on just 20 towns and it seems doubtful that the full scope of the programme as originally established will be finished within the five-year time frame.¹³⁴

The take-up rate of the MANs by broadband service providers has been very low. BT Ireland has proved to be the biggest user of the MANs taking just “11 fibre pairs spread across 8 MANs on a point-to-point basis.”¹³⁵ It has been estimated that this usage amounts to rent accrued of just approximately €150,000¹³⁶ per year. The strategic advantage in building this type of network has to be questioned and has provided “little structural advantage”¹³⁷ in developing broadband across Ireland. This is primarily because the MANs have duplicated already existing “infrastructure based providers.”¹³⁸ For example in Cork the plan for the MAN “was the BT Ireland network, i.e. there is 100% overlap”¹³⁹ between the MAN and the existing BT network.

The MANs also provide no solution to the critical ‘last mile’ issue and there is no real integration with the local loop. A third party operator using the MANs has to physically extend the fibre cable into the Eircom exchange to be able to provide services. Usually the MAN is “90m to 100m from the Eircom exchange,”¹⁴⁰ and so this contributes to the unattractiveness of the MANs for third-party operators. By establishing the MANs as they did the government “missed the opportunity to mandate ‘distance collocation,’ to accelerate broadband competition to SME/Consumer (via LLU) and improve economies

¹³⁴ See “Broadband – The Next Steps for Ireland.” June 8th, 2003.

www.ccooke.org/irelandoffline/BroadbandFuture.pdf

¹³⁵ Citigroup Smith Barney. *Equity Research Ireland: Telecommunications Services*, August 3, 2005

¹³⁶ Ibid.

¹³⁷ Ibid.

¹³⁸ Ibid.

¹³⁹ Ibid

¹⁴⁰ Ibid.

of scale.”¹⁴¹ A recent critical report on the MANs from Citigroup Smith Barney states that “the investment could have been better targeted on less competitive areas of the market and the interface with other parts of the service jigsaw better thought through.”¹⁴² The suspicion remains that the MANs are an expensive fig leaf for disastrous government incompetence.

Government Mechanisms

The current inadequate structure of governmental oversight of ICT development and lack of a decisive, pro-active head of broadband development is obvious. The DCMNR appears to play the lead government role in the rollout of broadband. Yet significant elements of ICT policy are also undertaken within the Department of the Taoiseach. Minister of State at the Department of the Taoiseach, Tom Kitt, has responsibility across the whole cabinet for implementing the Information Society agenda, of which broadband infrastructure plays a large part. The Information Society Policy Unit (ISPU) also operates from within this Department rather than that of Communications. A telling barometer of the Taoiseach’s interest in this vital infrastructure is that Mr. Ahern ‘forgot’ to appoint Minister Kitt as e-minister until Labour’s Deputy Tommy Broughan reminded the Taoiseach of the omission in Dail Eireann. There are a number of organisations and governmental units such as the Information Society Policy Unit and the Information Society Commission who are charged with various elements of ICT development. The impression remains, however, of too many advisory bodies with no central and decisive leadership.

Information Society Policy Unit

The Information Society Policy Unit “has overall responsibility for developing, co-ordinating and driving implementation of the Information Society agenda...(and) to ensure that Ireland develops as a fully participative, competitive, knowledge-based Information Society, with all of the benefits that

¹⁴¹ Ibid.

¹⁴² Ibid.

entails.”¹⁴³ This policy unit focuses on seven key objectives, two of which are the “delivery of a robust telecommunications infrastructure and the...(promotion of) a supportive legal and regulatory environment.”¹⁴⁴ The ISPU has also been charged with counteracting the digital divide. If convergence is a strong feature of the technological world, it is not being mirrored at institutional level where there is such a diffusion of interconnected responsibilities across different departments. These divisions of ICT policy throughout the government have contributed to a lack of cohesion and direction for broadband rollout.

It has been common in other states to establish high-level advisory groups to drive broadband development. In Ireland the Telecoms Strategy Group (TSG) was established and had a mandate to report on the state of Irish broadband. However, the TSG was not just concerned with broadband development but looked at broader ICT issues. It was also civil service based and not drawn from the wider telecoms industry and other concerned parties that would have reflected more extensive interests and viewpoints as regards broadband development.

Information Society Commission

A further organisation that has a strong role in ICT and broadband matters is the Information Society Commission (ISC) that reports directly to the Taoiseach. The ISC “has a key role in shaping the evolving public policy framework for the Information Society in Ireland...(and) it contributes to the policy formulation process, monitors progress, and highlights issues that need to be prioritised.”¹⁴⁵ This organisation, however, is also not a dedicated broadband body. It is true that the ISC draws its advisors from a much wider range in society, yet it is unclear just how much input the ISC has into government policy formation and the prioritising of necessary issues. The ISC has produced many excellent reports and has highlighted the broadband

¹⁴³ See Information Society Policy Unit at www.taoiseach.gov.ie/index.asp?locID=215&docID=-1

¹⁴⁴ Ibid.

¹⁴⁵ See ISC at www.isc.ie/about/commission.html

deficit but there has been no adoption of any of the body's significant proposals.

In Australia, for example, the Broadband Advisory Group (BAG) is made up of a diverse amount of high level operators within the industry including the Minister for Communications, the CEOs of the incumbent operator and a variety of other broadband operators, civil servants, the head of the academic and research council and the head of the telecommunications users union. There are also associated global advisors to this group including representatives of successful service providers, OECD analysts and communications consultants from around the world. The federal Australian government has heeded the assertions of this group, in contrast to disregard paid to the ICT advisory groups established by the Irish government. The institutional power of this group within the process of policy formation in the Department appears very limited and countless recommendations have gone unheeded by the Taoiseach, present and former Ministers of Communications, e-Minister Tom Kitt and his predecessor Mary Hanafin (who was invisible on e-government issues).

Japan and the UK: Successfully Changing a State's Broadband Fortunes

(a) Japan

Around 2000 the Japanese government recognised that they were not among the top ranking states in the world for internet usage and broadband access. This was especially true in relation to the USA, which in the 1990s under the strong leadership of Bill Clinton and Al Gore in the technology sector, "created a competitive playing field for early broadband providers."¹⁴⁶ In mid-2000 the Japanese Prime Minister established an Information Technology Strategy Council, led by the chairperson of the Sony Corporation, Nobuyuki Idei, with the mandate to ensure Japan is the "world's leading IT nation"¹⁴⁷ by 2005.

¹⁴⁶ Bleha, T., "Down to the Wire", *Foreign Affairs*, May/June 2005

¹⁴⁷ *Ibid.*

The primary objective of the strategy group in terms of broadband development was to bring 'better-than-basic' broadband to over 40 million of the total 46 million Japanese households within five years. This aimed to provide 30 million households with high speed broadband through DSL or cable technologies and to connect another 10 million households through fibre-optic networks.

The Japanese government firstly established an effectively regulated market that compelled incumbent operators to provide competitors with access to all residential telephone lines for a minimal fee of "about \$2 per line per month."¹⁴⁸ The antitrust authorities were also active in ensuring the elimination of barriers to new entrants in the market. This resulted in the entrance of new service providers such as Yahoo! BB into the market, the emergence of a highly competitive broadband marketplace and the driving down of prices as well as the rapid increase of bandwidth packages on offer. By the end of 2002 over 30 million Japanese households had access to high-speed broadband services.

The advancement of next generation fibre-optic technology has been just as successful. The government used "tax breaks, debt guaranties and partial subsidies"¹⁴⁹ to encourage a competitive market in the emerging fibre-optic network provision of broadband services. These measures ensured a "rapid deployment of fibre networks."¹⁵⁰ By mid-2004 fibre-optic services, which provide ultra fast broadband, were available to more than 80% of Japanese citizens and had reached such a level of critical mass that were deemed to have "gone mainstream."¹⁵¹ The Japanese government's e-strategy has been successful above and beyond the government's original ambitious targets and indicates the results that can be achieved with effective leadership and planning.

(b) UK

¹⁴⁸ Ibid.

¹⁴⁹ Ibid.

¹⁵⁰ Ibid.

¹⁵¹ Ibid.

The UK's broadband development does not match the spectacular achievement of Japan. However, it does provide a more modest comparison of a government policy success that Ireland has also failed to match. In 1999 the UK placed 24th out of 32 OECD states for broadband penetration.¹⁵² This was a worrying statistic for the UK government and a target was set for the UK to establish the "most extensive and competitive market in the G7 by 2005."¹⁵³ Although the UK cannot claim to have achieved this specific target it can no longer be described as a "broadband laggard"¹⁵⁴ and has gone to considerable lengths to address the failings of its broadband sector. The OECD broadband statistics for 2004 places the UK at 14th place, up 10 positions from its 2001 placement. The most recent research from the technology consultancy group Point Topic¹⁵⁵ reports that Britain is the "world's fastest-growing market for broadband services, with a 20% rise bringing the total number of households connected to almost 5 million."¹⁵⁶

It is also interesting to note the pressure that was exerted on the British incumbent BT, by the British communications regulator Ofcom, to force it to act in a less dominant manner on the British fixed-line network. There has been an ongoing threat hanging over BT of being referred to the "Competition Commission to be broken up...over the terms on which BT will allow its rivals access to its copper phone network."¹⁵⁷ Very recently agreement has been reached between Ofcom and BT to conclusively deal with the local loop issue and ensure that there is greater access to other operators to this critical piece of telecoms infrastructure. This has involved establishing operational separation within BT to allow for access to the local loop for other operators. The improvement in the UK's broadband status was clearly led by government action and by far stronger regulation in the sector than Ireland currently enjoys.

¹⁵² UK Digital Strategy, p. 10

¹⁵³ UK Digital Strategy, p. 12

¹⁵⁴ Richardson, Tim, "UK no longer OECD'S broadband laggard"

¹⁵⁵ Online at www.point-topic.com

¹⁵⁶ Johnston, Chris, "UK broadband connections surge to 5m", *The Guardian*, June 13th 2005.

¹⁵⁷ Brown, Maggie & Marriner, Cosima, "BT under threat of being broken up", *The Guardian*, June 17th 2005.

8. ENABLING THE FUTURE - PROPOSALS FOR MARKET, REGULATORY AND GOVERNMENT CHANGE

1. New Government Vision of Broadband Connectivity in Ireland

The vision of Ireland's broadband development at governmental level has to be greatly expanded and invigorated. The states that are world leaders in broadband connectivity such as Japan or South Korea achieved those positions by exhibiting "top level political leadership and ambitious goals."¹⁵⁸ Electrification was one of the most successful national programmes of 20th century Ireland. Broadband rollout needs to assume the same character as that scheme and be embodied by a comprehensive government strategy that is a core national policy to be achieved within a specific timeframe. Access to broadband should be considered an indispensable service that all Irish people should have access to in order to be able to fully participate in society.

The Irish government now has to honestly assess the state of broadband Ireland, recognise the failings of present government policy and actions and establish a much more ambitious vision of broadband roll-out in the country to ensure that Ireland becomes a world leader in this regard. Policy has to move beyond playing catch up to second generation broadband technologies and involve serious and sustained planning for the advancement of widespread and affordable access to next generation broadband technologies.

The state of California has established the goal of 'a gigabit¹⁵⁹ to every home and business by 2010'. Japan is another example of a state that is continuously upgrading and expanding the limits of its broadband policy to encompass the most advanced forms of broadband services to the widest possible amount of people.

¹⁵⁸ Bleha, Thomas, "Down to the Wire", *Foreign Affairs*, May/June 2005.

¹⁵⁹ A gigabit is the equivalent of 1024 megabits (mbps). 1.5 mbps broadband speed is at present an extremely fast broadband speed to have access to in Ireland.

Ethiopia is at the other end of the economic spectrum of states, yet has still established a very ambitious ICT and e-government programme. This is taking place in a bid to skip an entire generation of infrastructural policy planning and address some of the most fundamental issues affecting Ethiopian citizens through advanced communications networks, as well as building on the emerging grass-roots demand for IT throughout the African continent.

By the end of 2007 the Ethiopian ICT programme aims for all 74 million Ethiopian citizens to live no more than a few kilometres from a broadband access point and 4,000km of optical fibre to facilitate this network have already been laid. Ethiopian policymakers reject claims that IT development is a luxury and state that a broadband enabled nation is a “crucial weapon to fight poverty.”¹⁶⁰

The roll out of a digital network in Ethiopia is being driven by a concentration on a number of development issues including education, health and the effective and transparent delivery of government services. The Schoolnet programme, for example, is a nationwide e-education scheme that uses IT technology to combat the shortage of teachers that Ethiopia suffers especially in remote areas, and to promote educational opportunities for those who live in some of the most isolated regions of the country.

The present national ‘vision’ of the Irish government, which is made up of an ever changing target of between 400,000 and 500,000 broadband subscribers, (mostly connected through some of the “slowest, most expensive and least reliable services in the developed world),”¹⁶¹ by the end of 2006, is a totally unsatisfactory vision of how broadband technologies should be advanced in Ireland. Instead of Irish national broadband policy merely operating around an ever-decreasing figure for the broadband penetration rate, an ambitious yet practical strategy of how the broadband network, as a

¹⁶⁰ Cross, M. “Ethiopia’s Digital Dream.” *The Guardian*, August 4, 2005.

¹⁶¹ Bleha, “Down to the Wire”, *Foreign Affairs*, May/June 2005. The author describes the situation of broadband in the US vis-à-vis states such as Japan and South Korea as such, although the description is even more applicable to the Irish situation.

key part of the state's overall ICT infrastructure with considerations for universality, bandwidth and technological innovation should be developed.

However, it is worthless to establish ambitious new targets if the political will and institutional capacity is not present to drive the achievement of these targets. Any renewed vision of broadband rollout in Ireland needs to be framed by a proper strategy and carried out by political actors who will take responsibility for the policy and targets that are established and ensure that they are reached. Even more than other areas of key infrastructure, Ireland's broadband future needs a dynamic new government approach with informed policymakers acting fast and decisively. (Perhaps a new government in a hurry!)

2. Establishment of Department of Communications, Broadcasting and Culture

The present Department of Communications, Marine and Natural Resources are too unwieldy, and covers too many disparate areas to operate effectively. All of the areas under the Department's remit including energy, fisheries and communications are hugely important yet on the whole completely separate and unconnected issue areas. The breaking up of the present department and creation of three new departments of Communications and Broadcasting, Energy and Natural Resources and Marine would ensure that each of these vital areas of Irish life is given the critical attention it deserves.

The issue areas that a Department of Communications, Broadcasting and perhaps Culture, would deal with are intimately related. These concerns are crucial to determining the sort of telecommunications and media market structure that operates which in turn are very important for the functioning of a democratic society and the promotion of an open and pluralist political culture. The establishment of a more competitive and effectively functioning broadband market would be just one part of promoting this pluralist agenda.

A new Department of Communications and Broadcasting with a complementary brief such as Culture or Creative and Media Industries would be able to focus more successfully on broadband development and all ICT related matters. The Secretary General of the department should be mandated to prioritise the roll out of broadband. This should be a key function of that departmental official akin to the accounting function to the Public Accounts Committee that the Secretary General regularly undertakes, with relevant and accountable targets and timeframes. Part of the duties of the Secretary General of the department to keep broadband take-up consistently under review would include the forwarding of recommendations to the Minister of Finance for any necessary fiscal incentives for employers, employees and local broadband initiatives.

The responsibility for the advancement of e-government should also become part of the Department of Communications remit and the Department should be responsible to cabinet for its development. This would ensure a more logical and coherent government ICT framework.

3. Broadband Taskforce and e-envoy

The previous and present Ministers of Communications have failed to aggressively attack the broadband deficit. There is also a diffusion of responsibility for broadband rollout and related ICT issues across different government departments and ministerial roles. To combat these difficulties and work closely with the industry and research institutions, a dedicated Broadband Taskforce headed by an e-envoy should be appointed.

The e-envoy would report directly to the Taoiseach and should be appointed from the wider ICT business and academic community. He/she would act in the manner of both a co-ordinator for broadband development, and as a link between government, industry, the voluntary sector, trade unions and consumer groups in driving forward broadband and ICT development in Ireland. The role should also embody a type of Obudsman function to reflect

the interests of the ordinary household and business user in the advancement of broadband and to report, at the highest level, on the failings of broadband development.

Taskforce

The Information Society Commission (ISC) reports directly to the Taoiseach Bertie Ahern, who has expressed little interest in adopting the recommendations issued by that body in relation to the broadband deficit. There are other groups and agencies that have a broad ICT mandate but none that can specifically drive the rollout of broadband. The overriding objective of the Broadband Taskforce should be to promote the universal availability of broadband networks and to foster knowledge and take-up of broadband. This Taskforce would work across the government and be headed by the e-envoy.

Although the Irish government would argue that it has already established an effective broadband advisory group, there is scope for a major enhancement in the style of the Broadband Stakeholder Group (BSG) in the UK, the Broadband Advisory Group (BAG) in Australia or the Information Technology Strategy Council in Japan. The Japanese Information Technology Strategy Council is an excellent model. This was established under the chairmanship of the head of the Sony Corporation, and was fully incorporated into the 'e-Japan strategy' that was established in 2000 by the Japanese Prime Minister Yosiro Mori and included the entire Japanese cabinet.

This taskforce will concentrate on the rollout of broadband, advancing knowledge and understanding of broadband and the promotion of the innovative use of broadband technologies across all of government. The Taskforce's membership would draw from a wider band of interested parties in broadband development and have the benefit of greater institutional clout in advising the government on the advancement of broadband rollout. The envoy will be mandated to ensure the intensification of broadband rollout through directing the Broadband Taskforce and ensure that the wider aims of reducing the digital divide through this programme are met.

4. Internal Restructuring of Eircom: Operationally Separate Division for ‘Last Mile’ Access

To combat the continued serious difficulties in LLU there should be an internal restructuring of Eircom and the establishment of an operationally separate division within the company along the lines of the recent Ofcom-BT settlement in the UK. The new separate division would deal entirely with the access to the ‘last mile’ of copper wires and would provide for ‘real equality of access’¹⁶² for other operators who wish to provide a differentiated broadband service for consumers. By allowing other operators easier access to the ‘last mile’ the present lack of competition within the crucial DSL sector will be significantly decreased.

The incumbent operator in the UK, BT, has recently agreed to the establishment of a “functionally separate”¹⁶³ Access Services Division (ASD) which will “provide unbundled local loops to wholesale customers and...(will have) its own incentives and reporting structure.”¹⁶⁴ This deal was agreed under threat of the total separation of BT’s wholesale and retail businesses. The management of the ASD will be mandated to deliver ‘Equality of Access’ and provide a “comprehensive suite of the access products on which wholesale customers rely”¹⁶⁵ including wholesale line rental, LLU products, and fibre access products.

A key accompanying development to this agreement between BT and the British Regulator, Ofcom, are arrangements that have been put into place to enforce this agreement. The agreement is legally binding and enforceable and if BT breaches any elements, the company is liable in court for these breaches. The board of BT would be responsible for the carrying out of any court decision. Furthermore, third parties can seek damages against BT if the

¹⁶² Ofcom. *Telecommunications Statement*. June 23 2005.

¹⁶³ Ibid.

¹⁶⁴ Ibid.

¹⁶⁵ Ibid.

agreement is breached and anticompetitive behaviour is creating losses for that third party.

5. Promotion of Inter-Platform Competition

The promotion of inter-platform competition is another important way that the government should encourage the establishment of a more competitive broadband market. Most states that have an excellent broadband infrastructure have a much more diverse inter-platform marketplace. Two platforms that should be advanced further are the wireless and cable sectors.

a. Wireless

The wireless market has been growing in Ireland but is not yet a significant market player. Although the European Commission has recently assigned two additional frequency bands to wireless local area networks¹⁶⁶ there is a lot of spectrum space already available for wireless operators. There are 12 channels in the 2.4 GHz spectrum alone. In order to encourage wireless operators to enter the market there are some other initiatives that can be undertaken to promote broadband services in this sector.

Wifi operators need a 'high point' to transmit a wireless service from. If landmark structures in commercial and industrial zones were made available to act as base stations for wireless service providers than a significant incentive for new Wifi operators looking to enter the market would be on offer. In Toronto, Canada the CN Tower acts as a base station for wireless operators and so allows the transmittal of Wifi services across the whole of the city.

Other cities such as Philadelphia have given a massive boost to the development of wireless services, and broadband connectivity as a whole, by establishing the city as a "hot zone."¹⁶⁷ The whole city is now wireless enabled

¹⁶⁶ "Commission frees up frequencies for WIFI". www.euractiv.com

¹⁶⁷ Friedman, T. "Calling all Luddites", *New York Times*, August 3, 2005.

and access to broadband is designated as a city utility such as electricity or sewage and is a “city-led project.”¹⁶⁸ Any resident of Philadelphia with a computer, mobile phone or Personal Digital Assistants (PDAs) now has “cheap high-speed Wi-Fi access to the Internet.”¹⁶⁹ The planning authorities in Dublin, Cork and other cities around the country, should consider such innovative wireless based methods to help the advancement of telecoms networks in their regions. Measures should be examined by local government authorities as to the feasibility of taking the lead in providing broadband services as a ubiquitous public utility in their areas of authority.

b. Cable

The Irish cable broadband market is very weak, but there is substantial room for growth within this sector. In the UK, NTL has recently introduced a revamped broadband package that will have 10Mbps as its standard broadband service and offer wider bandwidth services in a bid toward advancing the basic level of cable broadband service. It is hoped that NTL will intensify its broadband activities in the Irish market and offer similar broadband packages to its Irish consumers.

The prospective acquisition of NTL by the UGC group could be significant for the cable broadband market in Ireland as the company’s operations in other EU states, notably Austria, include the so-called ‘Triple Play’ package of providing customers with telephone capabilities, cable television and broadband services all in one package. If NTL develops broadband services along the lines of what UGC offers in other EU countries then it should enormously benefit the Irish cable broadband market. Recent media reports have indicated that if the proposed UGC acquisition of NTL goes ahead than new packages will be offered to customers including one that will provide digital TV, telephone and broadband services for around €60 per month.¹⁷⁰

¹⁶⁸ Ibid.

¹⁶⁹ Ibid.

¹⁷⁰ Micheau, Ed, “Cable companies will offer cheaper packages”, *Sunday Business Post*, November 6, 2005.

6. Serious reform of ComReg

There are critical changes that must be made to improve the Irish broadband situation in the regulatory sphere.

a. New Financial Penalties and Operational Changes

At present ComReg has not been invested with adequate powers to effectively regulate the broadband market in Ireland. The above discussion of Ofcom's agreement with BT in the UK indicates the level of power that a regulator needs to be able to wield to challenge anticompetitive behaviour in the market. ComReg should have the power to impose much greater penalties, including financial, legal and operational measures on any telecoms operator who is behaving in the market in a way that curbs the legitimate activities of other operators and the development of a more competitive market.

The Irish Financial Services Regulatory Authority (IFSRA) has been empowered to levy a financial penalty of up to €5 million without first undertaking legal action.¹⁷¹ Similar powers are necessary for ComReg. Recent reports have indicated that the government is intending next year to introduce an Electronic Communications (Miscellaneous Provisions) Bill. Unfortunately, there have been ongoing delays surrounding the introduction of this bill. If finally introduced though it should allow ComReg to fine any operator for breaches of up to 10% of company turnover without first seeking a court order.¹⁷² It is important that ComReg can operate without every decision it makes becoming embroiled in a long-drawn out legal saga.

Obviously 'due process' and the right to appeal have to be taken into account, but the present system is very cumbersome and favours the rights of the telecom operators to the detriment of the whole broadband sector. The present Electronic Appeals system must also be critically examined and

¹⁷¹ McBride & Quinn, "ComReg demands power to tackle mobile giants." *Sunday Business Post*, August 22, 2004.

¹⁷² McBride, L. "ComReg to have tougher powers to fine telecoms." *Sunday Business Post*, July 10th, 2005.

streamlined in a bid to reduce the legal wrangling that appears to accompany every decision made by ComReg. Serious consideration should also be given to a statutory division of court that is mandated entirely with regulatory matters and so would be able to deal swiftly with any appeals to decisions by ComReg.

b. Concurrent Powers with the Competition Authority

A further aspect of reform is the clarification of the relationship between the Competition Authority and ComReg. ComReg has a mandate to promote competition in the communications sector and works with the Competition Authority to advance this aim. In 2002 the Competition Authority and ComReg entered into a “co-operation agreement...(which) formalised the existing informal relationship between the two organisations, facilitating co-operation and avoiding duplication of activities.”¹⁷³ This indicates that the two organisations have strong institutional links. However the British Regulator Ofcom has “concurrent powers with the Office of Fair Trading (OFT) to exercise Competition Act powers for the communications”¹⁷⁴ sector. A similar state of affairs in Ireland would enable ComReg to act with greater immediacy and efficiency against anticompetitive behaviour. As competition becomes more commonplace, it is expected that a regulator will rely more on “these general powers than on specific sectoral ones.”¹⁷⁵

c. Greater Government Direction

The lines of responsibility between the DMCNR and ComReg have to be clarified and strengthened. The ability of the Minister of Communications to issue Directives to ComReg is an important governmental mechanism to direct the regulator so that public policy is effectively implemented. However when ComReg does not properly enforce a Directive there appears to be no sanction to use against ComReg to rectify this situation. The institutional culture of ComReg currently displays too much deference towards the wishes

¹⁷³ International Competition Network Advocacy Working Group: Report Prepared by the subgroup No. 3 case studies, Merida Mexico, June 2003, www.internationalcompetitionnetwork.org/SG3_Report_1.pdf

¹⁷⁴ www.bipa.co.uk/getArticle.php?/D=120

¹⁷⁵ Ibid.

of the incumbent Eircom and Eircom's position in the market, and endless spin about 'consultations' on market failures that lead nowhere. A more independent line that is primarily concerned with overall broadband development from the perspective of the Irish national interest is urgently required. If ComReg is reformed to allow it greater powers to enforce regulations against telecom operators, its responsibility to undertake its mandate, irrespective of the inclinations of Eircom, has also to be reformed and reinforced.

7. National Information Technology Education Programme

. In order to provide the essential knowledge and training for using the critical ICT infrastructure of a modern economy, a nationwide education programme in information technology has to be established. Although some schools provide such education, it is essential that all children regardless of the school they attend have access to a proper IT education so as to equip them with the knowledge and practical experience to participate fully in society. It is incumbent upon the government, in conjunction with the Communications and Education Departments, to develop a national strategy to implement this and ensure that the benefits of broadband technology can be fully utilised by everybody.

IT education in Irish schools is inadequate when compared with what is happening other countries. In Northern Irish schools for example there is a comprehensive IT learning strategy that provides school children with access to the most advanced technology within the context of an extensive e-learning programme. This ensures that schoolchildren are not just familiar with how to use the technology involved but also get to experience the benefits that broadband technology brings to teaching and learning practices.

Recent comments by the chairperson of Hewlett Packard (HP)¹⁷⁶, expressing concerns about the lack of a comprehensive nationwide programme for IT education for Irish school children articulates the general concern within the

¹⁷⁶ Murray, N. "Irish schools lag in computer access." *Irish Examiner*. June 7, 2005.

hi-tech sector about the deficiencies in the education system at primary and secondary level. By the late primary school stage, all children should have had the chance to extensively develop their IT skills and have regular access to advanced IT technology. When children move to second level and receive a laptop they should then have the necessary skills to effectively use such technology.

Clearly there will be costs associated with this plan in terms of the development of a curriculum and content that is suitable for use in the context of the Irish education system and Irish culture. However, as the use of such technology becomes more widespread the increased adoption of such technologies will necessitate this type of curriculum development. Establishing a programme to examine and put into place relevant content will merely begin a process that is already well under way in many EU states to ensure students receive a comprehensive and content-appropriate IT education. Periodic reviews of the curriculum are necessary to ensure that the programme is suitable for the current context.

8. Laptops for Secondary School Students.

Broadband connectivity needs to have a practical application. An objective of a national ICT policy should be the provision of all secondary school students with laptops so the benefits of advanced technology learning can be continuously experienced within the classroom. Education, information, support and easy access to ICT are vital elements for enabling a promotion of ICT familiarity and knowledge. By providing school children with this resource it will ensure that the next generation are in the best possible position to understand and take advantage of broadband technologies. Such a policy would also play a significant role in addressing the digital divide.

International experience indicates the significant benefits of all school children having access to laptops. In New Zealand from 2001 selected schools were part of the 'Notebook Valley' project and all children and teachers within these schools were provided with laptops, training and access to internet at school

and at home. The results of this project were excellent in a number of significant areas. These included improved student attitudes to learning, increased student ICT skills and interest in ICT sector, the acceleration of ICT development in schools, greater integration of ICT into mainstream school infrastructure and curriculum, and increased wider community participation in ICT resources and facilities¹⁷⁷.

Trials carried out in the UK with laptop schemes in schools have provided “very promising”¹⁷⁸ results for the educational attainment of the children involved. This strengthening of student’s IT knowledge and skills has been accompanied by a marked decrease in general levels of school absenteeism. Such programmes also registered a hugely positive impact on the families of the children and the wider community in accessing computer technology, often for the first time. In the USA there have also been promising initiatives for the provision of laptop technology for second level students. The state of Maine, for example, has begun the enablement of a whole generation of 12 and 13 year olds by providing laptops and IT support for all students of that age cohort. There are other innovative schemes being pursued in states such as Michigan and West Virginia.

ICT Ireland, the technology industry lobby group of the employer’s federation IBEC, advocated in 2004 that the government provide all schoolchildren with a laptop within five years¹⁷⁹. Their position was founded on the belief that such an action would help to close the gap in IT learning in the Irish education system but also help combat the digital divide.

This is a long-term yet attainable aspiration. The capital costs of such a scheme are manageable, but the current expenditure costs in terms of support staff, administrative costs as well as other related school infrastructure¹⁸⁰ could be significant. There are obviously many competing

¹⁷⁷ See *Findings of Digiops Project* at www.digiops.org.nz/projects/pastprojects/keylearnings/

¹⁷⁸ *Connecting the UK*, p.34

¹⁷⁹ See report in Lynch, M. “Students need laptops, urges ICT Ireland.” *Electricnews.com*. June 9th 2004

¹⁸⁰ For example networking costs, servers, backup media and physical security measures.

and important demands on education and IT budgets. However, there are huge advantages for the ICT industry of such a programme and all possible mechanisms for financing such a scheme separate from exchequer funds should be fully explored. We would suggest engaging with the ICT industry and examining all partnership models that may successfully facilitate the widespread provision of laptops to the secondary school sector.

9. Incorporate Local Government Institutions Including Partnerships, County Leaders and County Development Boards in Broadband Rollout

The government's MANs and Rural Broadband Group schemes were put in place to attempt to redress rural-urban disparities. Many rural districts have been left behind in the development of broadband and it is important that such inequalities are not allowed to grow any further. Recently, Enet which manages the government's MANs scheme has admitted that two of the MANs, in Kilitmagh, Co. Mayo and Gweedore, Co. Donegal, although operational are lying idle because Enet is not able to secure cheap 'backhaul' services for transmission between these specific MANs and Dublin.

However the digital divide within urban regions because of socio-economic inequalities is also a significant and growing problem. A Dublin Regional Authority examination of ICT policy in the Dublin area in 2004 found the existence of a "substantial"¹⁸¹ digital divide. It is critical therefore to accompany the drive to develop broadband with comprehensive programmes to address this problem.

In promoting the further rollout of broadband and to reduce the problems of the digital divide in rural and urban areas local government and regional partnerships should be co-opted to coordinate broadband roll-out in chosen gateway centres. County development boards and rural leader programmes are well placed to monitor, highlight and redress digital exclusion in rural

¹⁸¹ Dublin Regional Authority. *Information and Communications Technology*, p. 33

Ireland and to co-ordinate broadband roll-out to every home, farm and business premises.

In urban Ireland local development agencies such as the Northside Partnership which covers Dublin North East and Dublin North Central, and which has an excellent track record in promoting local employment creation and community development, is an ideal mechanism to coordinate a concentrated broadband rollout that is attuned to local needs. This would entail for example, that the Northside Partnership would direct the rolling out a comprehensive, universally accessible broadband service within its designated district. Local partnership organisations are best placed to support the “provision of local connectivity needs.”¹⁸²

A further strong part of this initiative would be to establish local computer literacy and IT education programmes in local employment and enterprise training projects to advance knowledge and familiarity of technology, and especially the benefits of broadband, in the local region. The advancement of better broadband networks must be accompanied by an intensification of understanding of broadband and related technology and a stimulation of demand for such services across the digital divide.

10. Universal Service Obligation for Broadband Companies

In places where broadband has been advanced in the most effective and wide-ranging way it has taken on the mantle of an essential and critical public utility. This can be seen in the city of Philadelphia, in Japan, Sweden and South Korea where an understanding that all citizens should have affordable access to broadband services continues to inform policy. In Ireland this national strategic planning for broadband did not take place and so the extension of the present Universal Service Obligation to include broadband

¹⁸² “Broadband – The Next Steps for Ireland.” June 8th, 2003.
www.ccooke.org/irelandoffline/BroadbandFuture.pdf

services should be considered. Having access to gas or electricity, water and telecommunications service is considered a necessity in a modern society. Broadband should now be added to this list as a the “fourth utility in society.”¹⁸³

The British Communications Regulator Ofcom this year undertook a review of the USO. This review stated that in general a USO “comes into play when the lack of an affordable service represents a serious obstacle to full participation in society.”¹⁸⁴ This is increasingly the case with access to broadband services in Ireland, and a similar review with regard to an USO being established in Ireland is necessary. A USO for broadband companies would mean that every house, premises or institution must have access to broadband if wished for. The USO would cover all broadband providers in the country.

There are different options available for practically implementing workable universal broadband services. One is for there to be a designated broadband provider appointed for specific regions around the country. This company would be obligated to provide a “physical link of at least 10 Mps to every household (and premises) in a designated geographic area.”¹⁸⁵ Any broadband service platform would be acceptable; so all service operators could compete for the geographical designation. The chosen company could then “auction its physical capacity to service providers”¹⁸⁶ if preferred, or provide broadband services itself in that locality.

Ensuring all new housing developments legally must be broadband enabled by one of the service platform is another mechanism for enforcing a broadband USO. The overall effect of the USO should contribute to the establishment of a broadband system in Ireland that provides nationwide broadband access through different service platforms and at affordable prices.

¹⁸³ CMA. “A response to the Ofcom review of the Universal Service Obligation.”

www.thecma.com

¹⁸⁴ Ibid.

¹⁸⁵ Hundt, R. “Why Is Government Subsidizing the Old Networks When ‘Big Broadband’ Convergence Is Inevitable and Optimal?” Spectrum Series Issue Brief #14, December 2003.

¹⁸⁶ Ibid.

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