ANNEX 1

Understanding our environment

ComReg has undertaken the following environmental analysis for the purpose of assisting and informing the development of its organisational strategy. The analysis reviews the environmental context within which ComReg is operating currently. This review of ComReg's environment and examines some of the factors that have a bearing on our work as a regulator in the medium term. ComReg considers the political, legal, economic, social, and technological factors influencing the electronic communications and postal sectors.

Political

ComReg influences, and is itself influenced, by the political context in which it operates. The national policy context in which ComReg operates is changing rapidly, with a clear direction now set for the Government's priorities in this regard.

The Irish political scenario

ComReg is operating in a scenario where significant political attention has been drawn to the actions and practice of regulators at a national level in recent times, and the Government has provided guidance to regulators (and public bodies generally) through the publication of a number of public statements, inquiries, reports, and broader government strategy documents.

One example is a recent publication titled 'Building Ireland's Smart Economy' (December 2008), which contains five action areas for driving productivity growth across all sectors of the economy. This was followed by a subsequent report from the Innovation Taskforce, which focuses on promoting Ireland as an international innovation hub. These actions and ideas will be taken forward by a range of actors, including Government Departments and Agencies conveying a consistent, positive message about Ireland as a centre of excellence for innovation. ComReg will have various roles to play in this regard: advising, providing information, developing and implementing policy.

The Government Statement on Economic Regulation considers that the quality of economic regulation has a considerable impact on competitiveness and growth and aims to provide guidance and performance measurement to regulators, while allowing independent decision making. The Government has formed an Economic Regulatory Group which aims to ensure that regulatory bodies have the skills, tools and procedures necessary to ensure optimal performance and delivery of outcomes.

ComReg is committed to fulfilling its role in ensuring that these objectives are met, in sharing its resources and expertise as is required, and in learning from best practice and analysis (nationally and internationally).

Delivering performance is an important theme, both nationally (as enunciated in the vision for an integrated public service) and internationally (across the telecommunications industry). Performance in the telecoms sector will be monitored

(in the period under review) and benchmarked with cross-country European Commission comparisons and surveys. The performance of the telecommunications sector relative to other EU Member States in the future will depend heavily on future investments. Political aspirations for achievement in the sector are high, given the imperative of enabling the smart economy and the keen demand from businesses and consumers for fast broadband. Ireland however is a small open economy, which is a high-cost environment for utility infrastructure and hence has below-EU-average levels of fixed infrastructure competition. Realisation of performance will be a challenge for policy makers and industry players.

ComReg's role

ComReg's role in relation to supply of spectrum will be important in the coming years, as consumer demand for voice and data applications over both nomadic and wireless networks continues to grow, and operators deploy more mobile internet devices (MiDs) to satisfy this demand.

The commitment to analogue switch-off by 2012 will be a key policy focus for the government and ComReg will play a key role in both facilitating the availability of this analogue spectrum or what is known as the "Digital Dividend". Other issues related to spectrum include:

- Opening 2G spectrum at 900 and 1800 MHz to 3G services, also known as spectrum re-farming
- Re-use of spectrum in the upper 700-800 MHz range that is freed up as a result of analogue-to-digital broadcasting transitions – known as the Digital Dividend
- Allocation of spectrum in the 2.6 GHz range (2,500-2,690 MHz). This band is already designated as an IMT-2000, or 3G expansion, band by the ITU, as is the 2.1 GHz band.

ComReg's mandate will expand in 2010 as it acquires new powers under the new European legislation in November 2009 (see below and see Annex 3 for more detail). In addition, with the enactment of the Communications Regulation (Premium Rate Services & Electronic Communications Infrastructure) Act 2010, ComReg will become responsible for regulation of the Premium Rate Services market.

Finally, ComReg is now 12 years old, and therefore has reasonably good institutional maturity, capability and proven performance e.g. recent ECTA rating 6/20. ComReg's interventions are subject to legal challenge on merits, however over the past couple of years cases have generally been settled outside of court to ComReg's satisfaction, thus providing greater certainty to industry. ComReg's role in the Telecom's sector has been further reinforced recently, having been given powers to enforce competition law, to additional roles to administer numbering for and regulate premium rate services, and in the licensing of emergency calling services.

The European political scenario

At the European level, a "revised telecoms package" - will be transposed into Irish law in 2011[1], and will amend the existing regulatory framework, which underpins ComReg. This review will substantially overhaul the existing regulatory framework in Member States (including in Ireland), and will provide stability in the rule-setting methodology to be applied over the period of this review. The new Framework substantially strengthens competition and consumer rights on Europe's telecoms markets, facilitates high-speed internet broadband connections to all Europeans and establishes a European Body of Telecoms Regulators to complete the single market for telecoms networks and services.

The new Framework also creates a new European Telecoms Authority "BEREC" (Body of European Regulators for Electronic Communications). BEREC should provide additional support to national regulatory authorities, while helping to ensure that regulation is based on robust market analysis and evidence.

The European Commission is also about to undertake a substantial review of overarching ICT policy with a review of its i2010 Action Plan. In this context the Swedish presidency has issued a discussion document on "A Green Knowledge Society"[2] which sets the EU's ICT policy context to 2015. The European '2020 agenda' presented by the European Commission in March 2010 set out three interconnected objectives to get the European economy back on track over the next 10 years: Growth from knowledge, creating an inclusive society, and building a simple greener competitive economy. The seven flagship initiatives include the digital agenda to speed up the roll-out of a digital single market. The Commission will set common and national targets, tailored to assess and monitor the situation each year.

The European Commission will open EU postal markets to full competition by 2010. Full market opening will mean that An Post will no longer have a monopoly on mail below a certain weight (currently a maximum of 50 grams), known as the 'reserved area' and ComReg will continue to work very closely with the postal industry to ensure that liberalisation is achieved smoothly and in a timely fashion.

Economic

The broader economic scenario

The Irish economy (in common with much of the western world) has experienced a recession since ComReg's last Strategy Statement. Ireland, with a very small market of 4.5 million people, is dependent on international trade and is therefore particularly vulnerable to global economic forces and changes. Therefore recessionary forces, while not unique to Ireland, have had a marked impact economic impact on the domestic economy since September 2008.

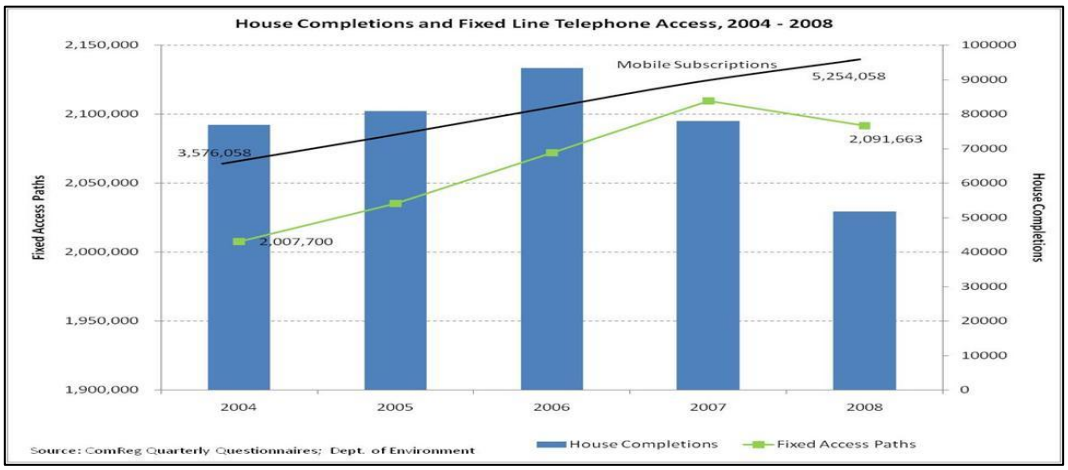
[1] See Annex 3 for summary.

[2] **http://ec.europa.eu/information_society/eeurope/i2010/greenknowledgesociety.pdf**

Additional analysis by the Central Bank suggests that Irish GDP will decline by around 8% in 2009 (compared with ECB forecasts of a 4% decline in the EU as a whole) and will be around 2% lower than the 2009 level by 2010. The Bank also suggests that economic recovery in Ireland will not get underway until mid-2010.[3] According to its Q4 2009 Quarterly Bulletin, "output in 2010, as measured by GDP, will be about 14 per cent lower than in 2007, an exceptionally severe contraction by international standards."

The effects of the economic contraction in Ireland have been felt most strongly in the construction sector and net output of housing stock plummeted from 80,000 in 2007 to around 20,000 by 2009.

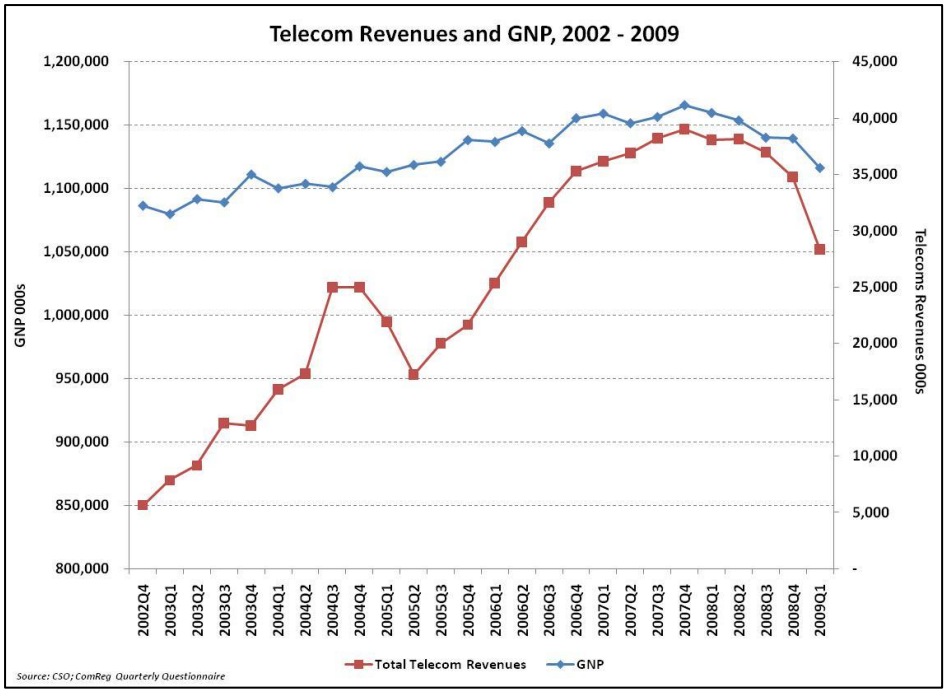
The decline in construction of new housing stock has in turn meant that demand for telecommunications infrastructure such as fixed telephone lines has fallen. The chart below shows the change in house completions over the last few years and how that has led to the decline of fixed telephone lines.



Source: ComReg, Department of the Environment 2009

The ICT (Information & Communications) sector in Ireland has not been immune to these wider economic developments and industry revenues have fallen from €4.3bn in 2006 to around €4.05bn in 2009, a decline of around 6% in three years. This represented an estimated 2.35% of GDP by June 2009.[4] This contraction will continue to put pressure on margins, cash-flow, and borrowing capacity in the Irish telecommunications sector. Furthermore, investment levels are likely to remain at low levels, exacerbated by the fact that a sizable amount of investment in the sector comes from multinationals indicating that Irish based telecommunications companies must compete for funds and increasingly with companies in fast-growing markets.

[3] **Source: Central Bank Quarterly Bulletin Q4 2009 published in October 2009**
[4] **Source: CSO data, September 2009, http://www.cso.ie/releasespublications/documents/economy/current/qna.pdf**



Source: ComReg and Central Statistics Office, 2009

This ComReg strategic review comes at a critical juncture in the economic development of the country and of the electronic communications market within it. We face unparalleled competitive pressures and it is vital that the electronic communications industry plays its full part in shaping and delivering the smart Economy.

The scenario within the electronic communications sector

There are currently over fifty electronic communications providers' active in the Irish market, including four mobile operators. The electronic communications sector remains an important and valued part of the Irish economy - with combined revenue of €4 billion, and supporting 15,000 Irish jobs.

In the face of economic downturn and dampened levels of consumer demand, operators are looking for ways and means to adapt to these pressures. For example, electronic communications providers are looking to offer consumers multiple services such as voice, TV and broadband via bundles to lock in consumer loyalty and to increase overall average revenue from current customer bases. A significant percentage of the Irish population already subscribe to double-play offerings and more and more will adopt triple-play and quad-play packages in the next few years.

Similarly, increased industry consolidation through mergers and acquisitions are likely to reshape the electronic communications industry to some extent over the next two years. One example of this is Vodafone Ireland's entry into the fixed voice and internet markets with the acquisition of Perlico and its more recent acquisitions of BT Ireland's consumer voice and internet business. Smart and Digiweb have also consolidated, and are using both (Local Loop Unbundling) LLU and WiMax to provide telecommunications services.

At the same time, cross-platform competition and consumer demand are creating incentives for telecoms operators to invest in infrastructure upgrades. For example, UPC is bolstering its position in the broadband and telephony retail markets, and is expected to invest further in upgrades to its broadband network throughout 2010 and beyond.

The mobile operators continue to compete for market share in the provision of mobile telephony and broadband, while at the same time facing the expiry of their current spectrum (GSM licences) by 2015.

In the face of declining revenues, investment in next-generation broadband networks is also uncertain. For example, Eircom suggests in its financial results[5] to June 2009 that there has been over €1,000m investment in new fixed and mobile networks and services over the past three years. Eircom was recently acquired by STT (part of the Singapore Government's Wealth Fund), and has subsequently expressed a public intention to revisit its strategy and approach in relation to wholesale markets. The acquisition may assist Eircom's ability to gain access to capital markets, in what is (at present) a challenging economic environment.

Social

The electronic communications sector impacts heavily on the daily lives of consumers and businesses in Ireland. The effective regulation of the sector is therefore critical, and has the ability to facilitate tremendous outcomes for consumers and society, while at the same time if things go wrong, the consequences can be equally significant.

According to the Swedish "Green Knowledge Society" document mentioned previously, in order to be an active member of society in the EU today, it is now essential not only to have access to advanced electronic networks, but also to have the capability to use these networks for online services, eCommerce, communication, social networking, and so on. We are reaching the point whereby universal participation in the Knowledge Society is becoming essential, with consequences for those that are left behind.

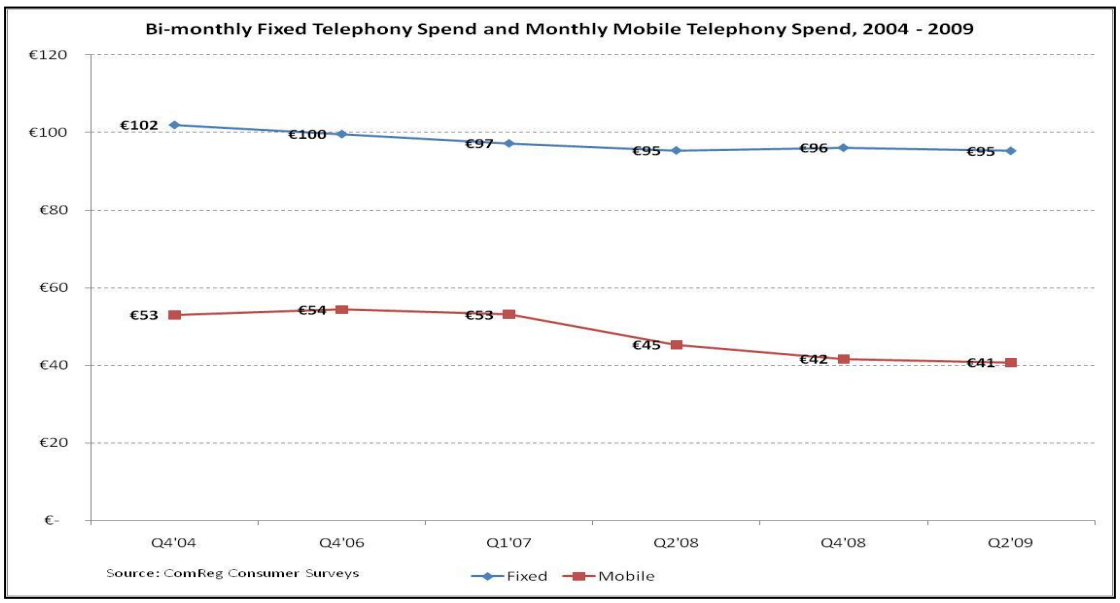
ComReg estimates that currently around 40% of households in Ireland do not have internet access at home, due to number of reasons, including low income, limited technical skills, literacy and education levels, and in some cases lack of interest in engaging with the Internet. Therefore, there is a real prospect of a future knowledge society developing in Ireland, which excludes a sizeable proportion of the population.

While there has been continued growth in consumer and business adoption of broadband in Ireland since ComReg's last Strategy Statement was issued in 2008[6], growth has slowed, particularly in 2009. This trend of slow or flat growth is also evident in other markets as broadband becomes an increasingly mature and mass-market product.
Evidence from a recent ComReg surveys suggests that, in an effort to reduce their total communications bill, 29% of adults aged 15-74 had already reduced their

[5] **Source: Eircom investor relations: http://investorrelations.eircom.net/presentations/index.htm**
[6] The **installed base of broadband subscribers stood at over 1.3 million subscriptions by the end of June 2009.**

spending on communications services since the downturn in the economy and almost 40% foresaw a reduction in their communications spending in the next year.[7]

However, despite the economic downturn, evidence both in Ireland and elsewhere suggests that consumers are reluctant to drop services such as broadband or mobile telephony, preferring instead to reduce their usage of fixed and mobile services and/or to switch to a cheaper package or provider.



Source: ComReg, 2009

Business and consumer surveys show a market that is placing growing emphasis on value-for-money, with customers increasingly willing to shop around between service offerings and rival suppliers. It is also a market that is receptive to new technologies and products, from WiFi to the iPhone. The rapid growth in the use of the Internet – with near 100% penetration in the business community, and 72%[8] in the consumer market – and the take-up of popular Internet applications such as YouTube and Facebook, together illustrate how access to Internet-delivered forms of information, education, entertainment and commerce have become indispensable for most of the population.

Finally, in terms of environmental impact and issues, the Green Knowledge Society document also explicitly acknowledges the fact that the issue of climate change is a key challenge. ICT has great potential to contribute to a sustainable low-carbon economy, in effect a 'Green New Deal'. ComReg is conscious of the Government's policy agenda in this regard, and intends to endorse and account for these objectives in fulfilling its own regulatory mandate.

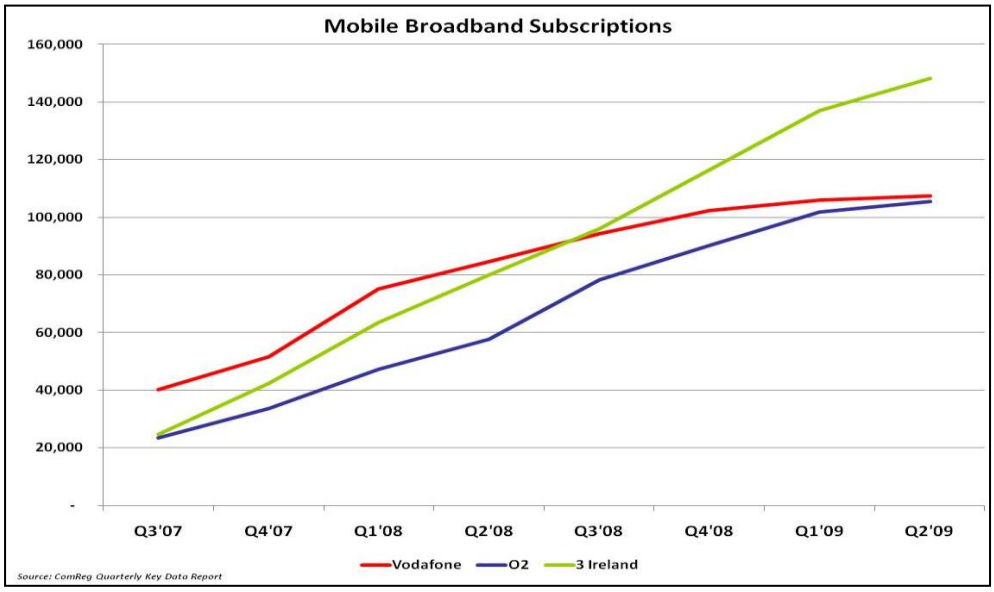
Technological

The electronic communications industry continues to evolve rapidly, driven by consumer demand for broadband and mobility over a wide and ever-growing range of

[7] http://www.comreg.ie/_fileupload/publications/ComReg0960.pdf
[8] Q4'09 ComReg ICT survey

IP-equipped devices (all with access to much of the same content) such as smartphones, games consoles, netbooks and high definition television and facilitating user generated content.

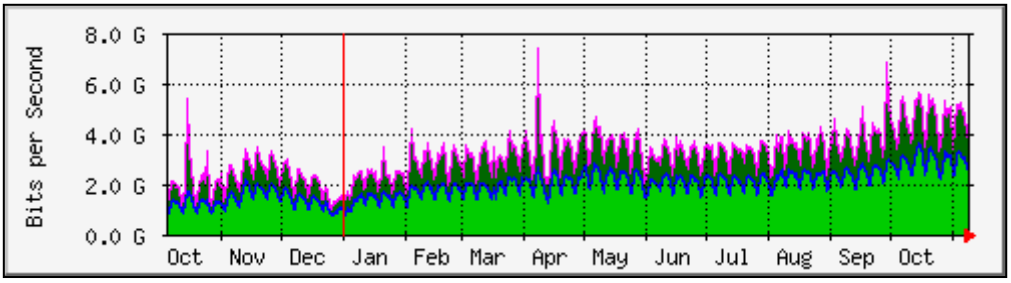
The growth in mobile broadband subscriptions is also an important indicator of changing business requirements and social preferences (more consumers demand access to the internet on the move).



Source: ComReg, 2009

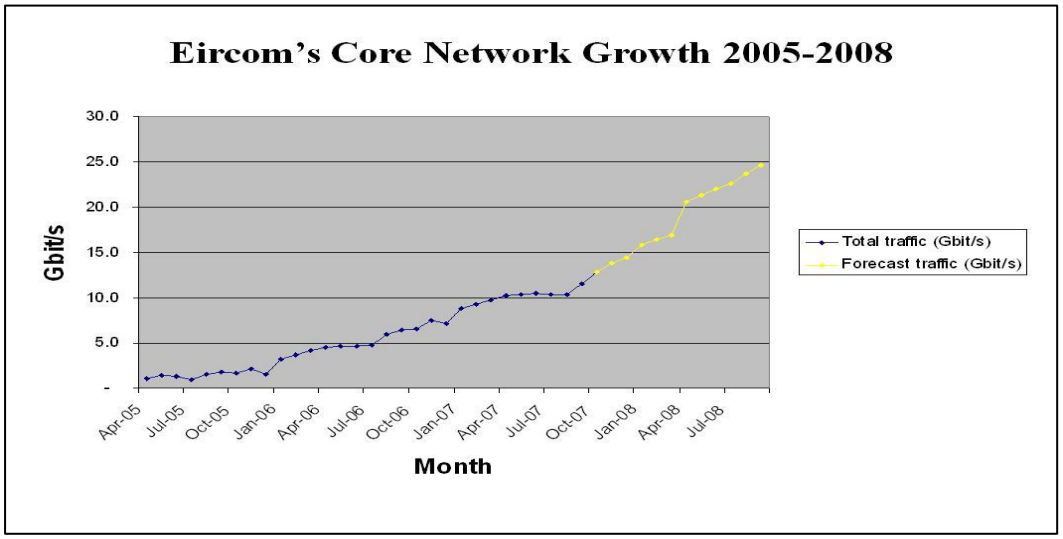
The focus of policy makers and regulators is turning to the quality of current broadband products in terms of characteristics such as latency and speed. As consumer adoption of broadband has accelerated in recent years, consumers have become more sophisticated in their usage of broadband, progressing from casual browsing and email to internet calling using applications such as Skype, online video and social networking.

As evidenced in the chart below however, bandwidth consumption is increasing and straining the capacity of current generation networks. In addition the proliferation of internet-equipped devices (known as the Internet of Things) means that the current generation of IP naming known as IPv4 will soon be exhausted. Therefore the introduction of IPv6 will be crucial in the period ahead.



Source: Inex, 2009

Existing broadband platforms are already reaching their technical limits in terms of supporting new and innovative services, particularly in the area of video and multimedia-based services. The chart below illustrates the impact of internet traffic growth on eircom's core network since 2005. To date, there is very limited availability of higher speed broadband (in excess of 25Mb) in Ireland, apart from the supply of leased lines to business sites and fibre to business parks. Most higher-speed consumer broadband is delivered via LLU, cable or fibre.



Source: eircom, 2009

Investment in new broadband access networks and in particular increased deployment of fibre, cable DOCSIS 3.0 upgrades, and WiMax and LTE[9] with regard to mobile and fixed wireless networks will be essential to ensuring that consumers and businesses in Ireland can enjoy the full range of benefits of communications technology. An encouraging development in this regard is UPC's recent statement that DOCSIS 3 is available in seven of its nine European markets and its "Fibre Power" plans to roll out speeds up to 120Mb in Ireland by mid-2010.

A key challenge for policy makers is how to promote investment in next-generation broadband or access networks to overcome the limits of current-generation networks. There is some evidence that the investment incentive of incumbents reacts positively to an increasing market share of other operators i.e. fewer entrants with more pronounced market shares exert the most competitive pressure on incumbents from an investment perspective (at least in telecoms). It is highly unlikely that investment will take place in a market where there is no infrastructure competition, as there are enormous costs involved and no urgent necessity to do it.

ComReg has highlighted convergence in previous Strategy Statements as one of the key technical forces with the potential to transform the electronic communications industry. Such convergence in the form of provision of fixed and mobile services over single devices, as well as the move by new "over the top" players such as Google to offer voice applications such as Google Talk, is finally becoming reality rather than technology hype.

[9] **Long-Term Evolution**

The emergence of the Cloud as a concept has been another key development since ComReg issued its previous Strategy Statement. In essence, this concept is based on the idea of delivering ICT services such as computing power and storage to businesses and consumers "in the cloud" or over the internet, reducing the need for consumer and business to make expensive investments in local (i.e. on-site) computing hardware and processing power. This concept also provides ubiquity and convenience to business and consumers as applications can be accessed at any location equipped with broadband access.

These developments present challenges to ComReg's regulatory strategy, not only in terms of traditional issues such as wholesale network access, the principles of interconnection, and open access, but also in terms of new concerns such as privacy, network neutrality, quality of service, user rights and data protection.

The technical trends identified in this section will present considerable challenges for ComReg specifically, particularly around issues such as wholesale access to new networks; quality of service; and spectrum release and allocation.