

Brussels, 25 May 2010

Telecoms: citizens and businesses pay the price for inconsistent application of EU rules - country by country breakdown of 15th Progress Report on European Telecoms Market 2009 and glossary

(See also [IP/10/602](#))

The European Commission's latest (15th) annual report on the Single European Electronic Communications Market shows that consumers, businesses and the EU economy as a whole are denied the full economic benefits of a truly single and competitive EU-wide telecoms market because of inconsistent application of EU telecoms rules. The report indicates that most Member States' markets have become more competitive, but remain national in dimension and that the level of competitiveness varies strongly between Member States. This is why the Commission's Digital Agenda for Europe ([IP/10/581](#)) calls for swift and consistent enforcement of existing telecoms rules and indicates that the Commission intends to propose appropriate steps to reduce the cost of the absence of a Single Market in telecoms services.

Details of the situation in individual Member States is outlined below and further information is available at:

http://ec.europa.eu/information_society/newsroom/cf/itemdetail.cfm?item_id=5827

Austria

The Austrian telecoms market is particularly dynamic in the mobile sector. Fixed to mobile voice substitution continued to grow in 2009. Mobile operators are innovating and offering competitive prices. As a result, the mobile take up rate as a percentage of the population stood at 133.5% in 2009. The average price per minute of mobile communications in 2008 was €0.10, below the EU average of €0.13. Mobile broadband services are very popular with penetration among the highest in the EU at 15.1%.

Austria amended its telecoms law, allowing for telecoms operators to access existing utilities' infrastructure, thus fostering the deployment of Next Generation Access (NGA) networks. Austria started the switchover to digital from analogue television in October 2006. It is scheduled to be completed during the summer 2011.

Belgium

Broadband take up increased, but at a continued slower rate in 2009 reaching 29.1% in January 2010. Mobile penetration has stagnated at 102.9%. The number of ported mobile numbers has increased to 2.8 million which is a positive sign of consumers benefiting from a competitive market. Digital switchover in the Flemish Community took place in 2008. The process should be completed by November 2011 in the French Community.

The telecoms regulator (Belgian Institute for Postal services and Telecommunications, BIPT) has a new board of directors since 2009. Its powers have been enhanced and now, for example, it can impose fines more quickly. A national Digital Action Plan for the period 2010-2015 was adopted. It envisages measures to encourage the roll-out of NGA networks.

Bulgaria

The mobile market continued to be the most dynamic in the Bulgarian telecommunications sector with a 138.9% penetration rate. However, prices for calls to other networks (off-net calls) remained high, mainly due to high mobile termination rates compared to the EU average. Broadband penetration was low at 13% in January 2010 despite intense competition with more than 550 market players. The fixed telephone line market is dominated by the incumbent operator with a share of 94%.

Bulgaria failed to introduce fixed number portability by the January 2009 deadline. As a result, number portability still excludes about 10% of subscribers (fixed analogue line subscribers - see [IP/10/521](#)).

Cyprus

The electronic communications sector in Cyprus has not yet grasped the full potential of a liberalised market. The incumbent operator, 100% state-owned, maintains a very strong presence on the fixed, broadband, and mobile markets. Broadband penetration in the country reached 22.2% in January 2010, with Cyprus recording the highest number of new fixed broadband lines per citizen (4.0 lines per 100 inhabitants). Mobile take-up reached 135.7% in October 2009, while mobile broadband gained only a marginal share of 1.1%, the lowest in the EU.

Delays in the auctions for frequencies for fixed wireless broadband access and for a third mobile licence, as well as rights of way procedures, have hampered the roll out of fixed and mobile networks and are impeding the development of competition on the retail market. Cyprus intends to move to full digital broadcasting by 11 July 2011.

Czech Republic

Infrastructure-based competition is one of the main features of the Czech fixed broadband market with various technologies in place - digital subscriber lines (DSL) with a 38.8% share, wireless local loops - 33.9%, and cable - 22%. The fixed broadband penetration rate increased by two percentage points to 19.1% in January 2010, well below the EU average of 24.8%. Investments in NGA networks have been minimal and mainly limited to metropolitan areas.

The mobile market is reaching saturation with a high penetration rate of 134%.

Denmark

Broadband internet take-up as a percentage of the population in Denmark is the highest in the EU at 37.8%. Mobile broadband is growing fast with a penetration rate of 10.7%. Speeds are also increasing with 35% of Danish broadband subscribers enjoying speeds of 10 Mbps or higher. Mobile penetration continued to rise and reached 126% in 2009.

Digital switchover took place on 1 November 2009. The Danish Government decided to use part of the digital dividend (the 790-862 MHz-frequency band) for the deployment of mobile broadband services. The country is currently determining the rules to allocate frequencies in the 900 MHz and 1800 MHz bands.

Estonia

The Estonian broadband penetration rate is at 26%. Broadband competition is increasing in rural areas. The mobile market (with a penetration rate of 116.1%) is characterised by growing traffic, competitive prices and innovative services such as mobile ID and mobile parking. However, fixed number portability takes about 12 days and is not very widely used.

The Estonian Government approved a national digital dividend plan indicating that frequencies freed up by the transition from analogue to digital broadcasting will be used to provide mobile broadband services. The Government and the telecoms companies have agreed to invest €383 million to ensure a connection of up to 100 Mbps for all homes and offices by 2015.

Finland

Finland's broadband penetration decreased to 29.4% in January 2010 as more customers substituted their fixed broadband with a mobile broadband subscription. Finland has the highest mobile broadband penetration in the EU at 17%, with consumers benefiting from low prices with flat-rate offers in the market. Prices for mobile voice services are also among the lowest in the EU (€0.07 per minute).

The Finnish Government has defined 1 Mbps broadband connection as universal service. It has also committed to make a broadband network with a speed of 100 Mbps available for all citizens by the end of 2015. Mobile number portability is widely used. Finland organised its first spectrum auction in November 2009, allowing a new player to enter the mobile communications market and enabling operators to start building fourth generation (4G) networks.

France

Broadband take up as a percentage of the population was 30.3% in January 2010, well above the EU average of 24.8%. France's mobile market was marked by a long awaited tender for the entry of a fourth operator, which is expected to boost competition. Telecoms operators continued to compete with innovative bundled offers (22.4% of the population used such services as of July 2009) and attractive prices throughout 2009. The market share of the incumbent remains around the EU average of 45%.

France set out new rules for the deployment and sharing of fibre within buildings. In March 2009, the French Parliament introduced a controversial tax of 0.9% on the turnover of telecoms operators to compensate for the removal of advertising from public television (currently the subject of an infringement procedure – see [IP/10/67](#)). France also adopted laws against online piracy and to reduce the digital divide.

Germany

Fixed and mobile broadband penetration rates (30.4% and 4.0%, respectively) continued to increase in 2009. Mobile penetration reached 131.9%, yet the growth rate for mobile subscriptions slowed down, indicating market saturation. Cable operators gained a significant share of the broadband market, due to the increasing offer of triple-play services.

The German Government has adopted a broadband strategy aimed to give all German households access to a broadband connection at speed of at least 1 Mbps by the end of 2010. An auction for a part of the digital dividend spectrum (790-862 MHz) has taken place. The frequencies have been allocated to the provision of electronic communications services, including in rural areas.

Following a judgement of the Court of Justice of the European Union of December 2009, Germany has to change its legislation to enable its telecom regulator (Bundesnetzagentur, BNetzA) to use its discretionary powers, (for example, its exclusive right to assess whether markets should be regulated or not) when regulating 'new markets'.

Greece

Broadband penetration reached 17.0% with DSL being the dominant technology used to provide the service. Mobile penetration reached 125.2%, with 64% of all subscriptions pre-paid. Mobile broadband penetration has not developed much since last year, reaching 2.0% in January 2010. More and more Greek consumers are using bundled services, most of them combining fixed telephony and broadband access.

The Greek market still lacks rules specifying how operators could build the physical infrastructure for their networks, such as masts or underground ducts for cables. This poses difficulties for the deployment of fixed and mobile networks. There are also concerns that Greece might not effectively switch off analogue broadcasting by the 2012 EU-wide deadline.

Hungary

In 2009, the telecoms sector performed better than the overall Hungarian economy. Cable operators have driven competition on the telecoms market in the past years. Take up of mobile phones increased slightly to 106.2% in October 2009 from 104.4% in October 2008. Mobile broadband penetration reached 3.8% in July 2009.

On the regulatory side, the national regulatory authority (Nemzeti Hírközlési Hatóság, NHH) is preparing a strategy to encourage the deployment of NGA networks. Still, more needs to be done to bring legal certainty and boost investments in this sector.

Ireland

Competition on the Irish telecoms market is generally driven by an increased demand for bundled offers for TV, internet and telephony services. Mobile broadband continues to grow strongly and is currently being used by 10.5% of the population. The mobile penetration rate has remained unchanged this year at 119.3%. The Irish Government has yet to determine a timeframe for analogue television switch-off. The national regulatory authority (Commission for Communications Regulation, ComReg) keeps working on liberalising the use of certain spectrum bands. ComReg and the Government have published a general strategy and regulatory principles, respectively, to attract investments in NGA networks. Market players are exploring collaborative approaches to such investments.

Italy

The Italian mobile sector is mature with a take up as a proportion of the population of 146% as of October 2009, the second highest in the EU. Competition remained generally stable with the incumbent having a market share above the EU average on both the fixed and the broadband markets. Mobile number portability continued to be very popular as some four million subscribers changed their operator while keeping their number between October 2008 and September 2009.

The Italian telcoms regulator (Autorità per le garanzie nelle comunicazioni, AGCOM) focused on guaranteeing that the incumbent would give access to its fixed network to alternative operators on a non-discriminatory basis. The transition to digital terrestrial television is on track.

Latvia

Competition remained strong on the mobile market: Latvia has the lowest retail prices for mobile voice services in the EU with just €0.04 average price per minute compared to an EU average of €0.13. At the same time, the take up of mobile broadband services remains at one of the lowest levels in the EU - the mobile broadband penetration rate was just 1.7% compared to 5.2% EU average.

Latvian fixed broadband penetration rate (19.3%) also remained below the EU average in 2009 and its growth continued to slow down. At the same time, internet connection speeds increased significantly and the roll-out of high speed fibre networks accelerated in several urban areas. Fixed and mobile number portability is free of charge. Customers are taking advantage of it more and more with about 93,000 mobile and 14,000 fixed subscribers changing their operator while keeping their number between 1 January and 30 September 2009. The digital switchover has progressed swiftly and is expected to be completed in June 2010.

Lithuania

The mobile penetration rate stands at 147.3%, the highest in the EU. Today, consumers profit from cheap telecoms services with charges for mobile calls at €0.05 per minute (EU average of €0.13) The European emergency number 112 is already available and fully operational on the entire territory of the country. Lithuanian's take up of fixed broadband as a percentage of the population (18.9%) lags behind the EU average (24.8%). However, broadband infrastructures are well developed: the upgrade to NGA networks and a rapid expansion of the WiMax network, which allows the provision of high speed internet through wireless technology, continued in 2009. In addition, the Lithuanian authorities have announced a fibre project which will make a broadband connection available to 98% of the population.

Luxembourg

Broadband penetration in Luxembourg continued to increase in 2009 and reached 32.1% in January 2010. Luxembourg has therefore the third highest broadband penetration rate in the EU. The mobile market, where the penetration rate was 142.1%, is quite competitive despite the strong presence of the incumbent operator.

Key challenges for the national telecoms sector are the migration to NGA networks, particularly with respect to creating the right conditions for alternative operators to access them, and the timeliness of important regulatory remedies.

Malta

Broadband penetration continued to grow and reached 26.8% in January 2009 with the vast majority of subscribers enjoying speeds of 2 Mbps or higher. Malta is currently discussing how to facilitate the roll-out of NGA networks.

Mobile penetration reached 101.0% in July 2009 with mobile prices remaining the highest in the EU in 2008. However, dynamics in the market increased after the entry of a third operator in February 2009, which gained a market share of 5% in just a few months.

The Netherlands

Dutch consumers benefit from strong competition on the telecoms market. Most providers offer broadband at affordable prices and increasing speeds, often bundled in attractive multiple-play packages. Broadband penetration of 37.9% was one of the highest in Europe. The take-up of bundled offers in The Netherlands is the highest in the EU with almost 30% of Dutch citizens subscribing to bundled offers. Mobile penetration increased further to 128.5% in 2009 from 122.8% in 2008. Mobile broadband penetration stands only at 1.53%, well below the EU average of 5.21%.

Poland

Broadband penetration in Poland was 13.5% in January 2010, well below the EU average of 24.8%. Competition on the mobile market, where the penetration rate reached 108% in October 2009, continued. The incumbent continued to dominate the fixed telephony market but the number of fixed subscriptions fell significantly. The time to port a number was shortened to one day for mobile numbers and to seven

days for fixed numbers.

Telecoms operators and consumers welcomed the agreement signed between the incumbent and the national telecoms regulator aimed at guaranteeing non-discriminatory treatment of alternative operators in the provision of wholesale access services. Poland has experienced some delays in the digital switchover process planned for July 2013.

Portugal

In 2009, Portugal adopted new laws to promote the roll-out of NGA networks. One of them envisaged the imposition of a cost-oriented, open and non-discriminatory access obligation to public utilities' infrastructure, suitable for telecoms networks. The measures encouraged most of the operators to invest in NGA networks in 2009.

Use of mobile broadband reached 16.1% as of January 2010, which is the second highest in the EU and just slightly below fixed broadband penetration (18.6%). In 2009, mobile penetration grew by nine percentage points to 146.2%, the second highest in the EU. As of July 2008, 41.3% of subscribers were using a provider other than the incumbent for fixed services.

Romania

Most telecoms services have further expanded in 2009, albeit at a slow pace. The mobile penetration rate continued to increase considerably to 115% in October 2009 and mobile broadband reached 2.2%. However, take-up of fixed broadband and telephony still lags behind that of other Member States at 13% and 24%, respectively. The Government has prepared a 2009–2015 strategy to boost fixed broadband penetration.

One of the main problems in Romania's telecoms sector is the independence of the regulator, as it does not yet enjoy a stable legal base and some regulatory activities are not separated from ownership tasks (currently the subject of an infringement procedure – see [IP/09/1624](#)).

Slovakia

Take-up of fixed broadband connections has increased by four percentage points since 2009, reaching 14.8% in January 2010. Regarding infrastructure, DSL is still the prevailing technology with a 45.8% market share. The roll-out of fibre to the home (FTTH) is one of the more advanced in the EU although it mainly covers large and densely populated areas. Mobile penetration is at 100% with three operators competing on the market, with the new entrant scoring well with a share of 9%.

Slovenia

The telecoms sector continued to grow in 2009 mainly thanks to the strong take-up of IP-based services (VoIP, broadband, IPTV) based on high-speed FTTH connections. In July 2009, 21.6% of all households had IPTV, with cable and terrestrial TV connections decreasing. Slovenia has already started the switchover to digital television and has committed to complete it by end-2010.

Mobile penetration was at 102.2%. Fixed broadband speeds remained slow, with only 36.1% of all connections faster than 2 Mbps, compared to 83.8% on average in the EU as of January 2010.

Spain

Spanish consumers are increasingly subscribing to bundled services and switching their fixed or mobile phone provider while keeping the same number. The average period for porting both fixed and mobile numbers is five days, although new legislation has reduced the period to two days. The Spanish Government has introduced new legislation which will define a 1 Mbps connection as a universal service as of 2011 and designate the digital dividend band for advanced telecoms services by January 2015 at the latest.

The fixed broadband penetration rate continued to increase to 21.5% in January 2010. Mobile broadband services are also gaining in popularity, reaching 3.8% in January 2010. The mobile penetration rate was 117.6% as of October 2009. The incumbent continued to dominate the fixed telephony market with a relatively stable share of 75.5% in terms of revenues. Spain completed its digital switchover in April 2010. The country introduced a controversial charge on telecoms operators as a part of a new financing system for the national public broadcaster ([IP/10/322](#)).

Sweden

The telecoms sector performed well with high-speed broadband connections continuing to grow rapidly. The fixed broadband penetration rate increased to 31.5%. The mobile broadband penetration rate was 11.9% in January 2010, the fourth highest in the EU. According to the national broadband strategy, Swedish telecom operators should provide broadband access with a speed of at least 100 Mbps to 40% of all households and 90% of businesses by 2015 and by 2020, respectively. Number portability has become more popular. However, it can take as long as 15 days to switch fixed phone operator while keeping the same phone number and five days for mobile numbers

United Kingdom

The UK telecoms market has seen falling prices for consumers and reduced household spending on telecoms services in 2009. In June 2009, the UK Government adopted an ambitious 'Digital Britain' plan. It aims to open new bands of the radio spectrum, ensure universal broadband access at a speed of at least 2 Mbps by 2012 and provide public support to the deployment of NGA networks. As one of the follow-up actions to the 'Digital Britain' plan, the UK Parliament adopted the Digital Economy Act in April 2010, which *inter alia* tackles digital piracy.

Fixed broadband penetration continued to rise throughout 2009, although at a much slower pace, and now stands at 29.8% while mobile broadband penetration is at 6.7%. The UK has one of the largest shares in the EU of fixed broadband lines offering speeds of between 2 to 10 Mbps (78.4%). On the other hand, the share of high-speed lines above 10 Mbps comprise 19.8% of all connections, which is below the EU average of 23.2%. Mobile penetration reached 126.2% in 2009. For the first time, people used their mobile phones more than their fixed lines in 2009.

For more information and detailed overviews of the state of the telecoms market for each EU country:

http://ec.europa.eu/information_society/newsroom/cf/itemdetail.cfm?item_id=5827

Annex 1 - Main indicators about Member States' telecoms markets

	Broadband Penetration (January 2010)	Mobile Broadband Penetration (January 2010)	Mobile telephony penetration (October 2008)
Belgium	29.1%	1.70%	102.9%
Bulgaria	13.0%	n.a.	138.9%
Czech Republic	19.1%	3.54%	134.0%
Cyprus	22.2%	1.15%	135.7%
Denmark	37.8%	10.65%	126.0%
Germany	30.4%	4.02%	131.9%
Estonia	26.0%	1.67%	116.1%
Greece	17.0%	2.00%	125.2%
Ireland	22.2%	10.46%	119.3%
Spain	21.5%	3.83%	117.6%
France	30.3%	3.26%	90.2%
Hungary	18.7%	n.a.	106.2%
Italy	20.6%	6.82%	146.0%
Latvia	19.3%	1.68%	102.4%
Lithuania	18.9%	4.79%	147.3%
Luxembourg	32.1%	1.33%	142.1%
Malta	26.8%	1.92%	101.0%
Netherlands	37.7%	1.53%	128.5%
Austria	22.7%	15.13%	133.5%
Poland	13.5%	4.35%	108.0%
Portugal	18.6%	16.13%	146.2%
Romania	13.0%	2.21%	115.3%
Slovakia	14.8%	5.15%	100.0%
Slovenia	22.9%	3.22%	102.2%
Sweden	31.5%	11.88%	120.9%
Finland	29.4%	17.05%	136.7%
United Kingdom	29.8%	6.65%	126.2%
EU27	24.8%	5.21%	121.9%

Definitions:

Broadband penetration: Broadband lines with capacity equal or higher than 144 Kbit/s (broadband capacity) divided by population.

Mobile broadband penetration: Dedicated data services via cards/modems/keys (i.e. excluding mobile handset users) divided by population.

Mobile telephony penetration: Number of SIM cards that have made or received a call, sent an SMS or MMS or used data services at least once in the last three months (since one person can have multiple SIM cards, the penetration can be above 100%).

Annex 2 - Glossary of telecoms terms used in the report

Bandwidth	The capacity of a communications link or the difference between the highest and lowest frequencies available for network signals. The greater the bandwidth, the more information can be sent in a given amount of time. In general a digital channel occupies less bandwidth than an analogue channel of the same quality.
Better regulation	An EU strategy aimed to ensure that regulation is used only when necessary, i.e. simplifying existing legislation or improving new Commission proposals, with the help of impact assessments and public consultations.
Bit stream access	Virtual access to the local loop (see explanation below) by third parties, to provide broadband services for customers.
Broadband	<p>A term usually used to describe a "fast" Internet connection, capable of supporting real-time voice and video streams. Broadband internet access is much faster than dial-up internet access. It is similar to the difference between a brand new sports car and a horse-drawn carriage.</p> <p>Fixed broadband is the service that is provided by a fixed telephone operator or cable provider. It is offered at a physical location such as a home or office. On the other hand, mobile broadband is a service offered by a mobile operator, using the mobile network. This enables a user to access the internet from a laptop or a mobile phone from any location.</p>
Broadband penetration / take-up	<p>Measures the number of broadband connections in a country as a proportion of the total population. Not to be confused with broadband coverage, which measures the proportion of the population that has access to such connections.</p> <p>While broadband penetration measures the competitiveness and attractiveness of broadband offers on the market (and is therefore a good indication for a sound regulatory environment), broadband coverage measures the percentage of the population that has the possibility to connect to high-speed internet services.</p>
Connection speeds	The majority of internet connections in Europe are between 2-10 megabits per second. 2 megabits is generally the minimum speed required for services like TV over Internet. Speed of 10 megabits per second and above allows users to take advantage of advanced applications like streaming TV.
Data card	Data cards, or dongles, can be plugged into a laptop to allow a user to wirelessly surf the internet over their mobile connection
Digital Dividend	Radio spectrum to be freed following the transition from analogue to digital television. The switchover releases a significant amount of airwaves, as a single analogue channel can fit up to 8 digital TV programmes. The released spectrum could be used, inter alia, to provide new multimedia services such as mobile TV and wireless access to broadband communications.

DSL	DSL (digital subscriber line) is a technology that provides digital data transmission over the wires of a local telephone network. DSL can be used at the same time and on the same telephone line as regular telephone, as it uses high frequencies, while regular telephone uses low frequencies.
Fibre to the home / fibre optic networks	These are high-speed networks which allow very high download and upload speeds.
Functional separation	This requires an incumbent operator to separate its network infrastructure from the units offering services on top of this infrastructure. Overall ownership remains unchanged. Functional separation obliges an operator to supply all other operators with infrastructure under non-discriminatory conditions, and prevents traditional incumbents from unfairly discriminating against new entrants.
Incumbent telecoms operator	Former state-owned monopolies or operators that historically occupied the majority of their respective telecoms markets.
Infrastructure based competition vs. service-based competition	Infrastructure based competition is competition among telecom operators that physically own networks. This could be a fixed operator competing with a cable operator or two operators which have similar networks competing against each other. Service-based competition takes place when service providers use the networks owned by other operators to offer services to their customers.
Infringement proceedings	Member States of the EU are responsible for making sure EU rules are put in place. When they fail to do so, it is the role of the European Commission, as guardian of the EU treaties, to launch an infringement proceeding in three parts, which proceed only if the Member State fails to react by implementing the rule in question. The three parts are a letter of formal notice; a more detailed reason opinion; a case before the European Court of Justice.
Leased line	A phone line which connects two locations, and is rented from a telecommunications provider by other companies to build their internal/private network (telephone and data).
Local loop	The wires or radio links carrying the main fixed public telephone network from the local telephone central office into the subscriber's home or office. Local loops are usually owned by incumbent operators and are enormously expensive for new entrants to replicate, therefore giving incumbent operators a huge advantage.
Mobile broadband	Mobile broadband is high speed internet over a mobile phone network. While access to the internet can take place through a mobile phone, mobile operators have been successful in encouraging the take up of USB keys or datacards which enable users to connect their laptops to the Internet even when they are on the move. Take-up of mobile broadband has increased significantly over the past few years.

Mobile termination rates	The fee that mobile network operators charge each other to connect calls made from other fixed or mobile networks to their networks. For example, a person using operator A calls a person using operator B. Operator B delivers the call and operator A must pay mobile termination rates to operator B.
“Net freedoms” for citizens	The citizen's freedom to (1) access the (lawful) content of their choice; (2) use applications of their choice; (3) attach any personal devices (PDA etc) to the network; (4) obtain information about the prices of different digital services; and (5) distribute their own lawful content.
Next Generation Access Networks	These are wired access networks which consist wholly or in part of optical elements. They are capable of delivering broadband access services with better characteristics than those provided over already existing networks.
Public broadcaster	A broadcaster that is usually governed by the law of a single Member State and can decide at national, regional or local level on the content of radio, television, web and potential other electronic media outlets. Public broadcasters receive some or all of their funding from the public i.e. directly from individuals through voluntary donations, license fees, or indirectly from state subsidies, like taxes.
Radio spectrum	Range of radio waves which can be used to transmit music, conversations, pictures and data invisibly through the air, sometimes over thousands of kilometres. Radio spectrum is a finite national asset but the airwaves are indifferent to national borders. Countries have to work with their neighbours and near-neighbours to ensure that transmissions in one nation do not interfere with transmissions in another – consumers expect their radio devices to work (legally) in all countries.
Remedy	An obligation that regulators impose on operators to make competition more effective within a market.
Right of way	Operators' rights to build the physical infrastructure for their networks, such as masts or underground ducts for cables.
Roaming	When a consumer uses his/her phone subscription in a foreign country.
Service neutrality	This extends the concept of technology neutrality, stating that any telecoms service can be offered on any radio frequency band. Regulators should encourage service neutrality.
Structural dominance	To hold the dominant share of a market, i.e. to possess a majority of the infrastructure used to deliver telecommunications services.
Technology neutrality	This principle states that any available technology (past, present or future) could be employed to provide certain service. The market should be left to decide which technology should be used for a particular purpose.

TV over Internet (IPTV)	Digital television services that, instead of being broadcast or transmitted through cable networks, are delivered through high speed internet networks. Internet-based TV services offer video-on-demand and TV programmes over the internet using a broadband connection, some over TV, other on a user's computer.
Unbundled access to the local loop	Access to the local loop (whether wireless or wired and usually owned by the incumbent operators) for third parties. This enables new competitors to offer broadband services.
Universal service	The practice of providing a basic set of telecommunications services to residents of a country at an affordable price. The minimum level required by current EU legislation includes (1) access to a publicly available telephone services that provide internet access; (2) access to a comprehensive directory and directory enquiry service, including both fixed and mobile subscribers; (3) availability of public payphones and (4) ensuring access to and affordability of the same services for users with disabilities and special social needs.
VOIP – Voice over Internet Protocol	VoIP is the result of convergence in telecoms. It is the ability to make use of data transmission (for example Internet) to make a phone call. This can be done either through a computer or in some cases even by using a normal phone.