

Facts & Figures about European Telecoms Operators



4th edition - October 2009

European Telecommunications Network Operators' Association



European Telecommunications Network Operators' Association

ETNO has been the voice of Europe's telecommunications network operators since 1992.

Its 42 members in 36 countries collectively account for a turnover of more than € 270 billion and one million employees.

ETNO members also hold new entrant positions outside their national markets. ETNO brings together the main investors in innovative and high-quality e-communications platforms and services, representing 70% of total sector investment.

ETNO closely contributes to shaping the best regulatory and commercial environment for its members to continue rolling out innovative and high quality services and platforms for the benefit of European consumers and businesses.

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Introduction by Michael Bartholomew, ETNO Director



I am pleased to introduce the fourth edition of ETNO's Facts and Figures, which provides you with an overview of the main trends in Europe's e-communications markets.

Data for 2008 shows that the telecoms sector was not spared by the overall economic downturn. With a turn over increase of only

0.8%, the sector registered its slowest growth since 2003. Telecoms sector investments have decreased by one per cent compared to 2007.

ETNO's members throughout Europe remain the leading investors, accounting for more than two thirds of the total investments in new networks and services. Despite shrinking revenue growth, they continue to devote up to 15% of their turnover to investment. Many ETNO members also initiated or announced significant projects for deploying high speed fixed or mobile broadband networks.

Broadband take up further accelerated in Europe as a result of the innovation and investment efforts by telecoms networks operators.

Telecoms operators are offering social networking applications and other Web 2.0 applications. Legitimate online content offers, including on demand music and video download services, remain another main driver of innovation.

The rapid increase of 3G subscribers and of mobile broadband is another important trend that can be observed. With convergence, consumers increasingly access high speed broadband from multiple devices and platforms.

ETNO members further confirm their key role in building an Information Society for all. E-health and services for elderly people are being increasingly offered to citizens throughout Europe. Finally, ETNO members are directly contributing to the fight against climate change. Building on their own efforts to reduce their environmental footprint, they now increasingly offer solutions helping residential and corporate clients to optimise energy efficiency and reduce CO₂ emissions.

Conscious of their key contribution to the society and economy as a whole, ETNO members are committed to further develop services and deploy networks for the full benefit of consumers. They will continue, through ETNO and in close cooperation with the EU institutions, to shape the best regulatory and business environment.

We trust this report can contribute to the forthcoming EU broadband strategy and illustrate the role played by ETNO members in building the EU knowledge-based society.

Michael Bartholomew, ETNO Director

Introduction by Didier Pouillot, IDATE

For the past four years, this report is highlighting the main trends on the telecoms markets in Europe and in particular the role played by the ETNO member companies.

In 2008, the value of telecoms services market in the perimeter covered by ETNO members has progressed by 0.8% compared to the previous year. The progression of mobile services which contributed to the sector's growth over the past 10 years is significantly slowing down. Mobile services represent nowadays half of the total value of the market. In the fixed segment, the dynamics generated by high speed broadband hardly compensate the loss from the more traditional segments.

The aggregated turnover of ETNO members reaches up to €270 billion, including wholesale revenues. Their tangible investments accounted for more than €33 billion, representing on average 12.4% of their revenues. Investments are however slightly decreasing (-2.5%) by comparison to 2007. This decrease is more significant in the fixed than in the mobile segment. Fixed investments continue to represent nonetheless 60% of ETNO members' investment. Their investment still represents 71% of total sector investment. Their share of total investment tends to increase.



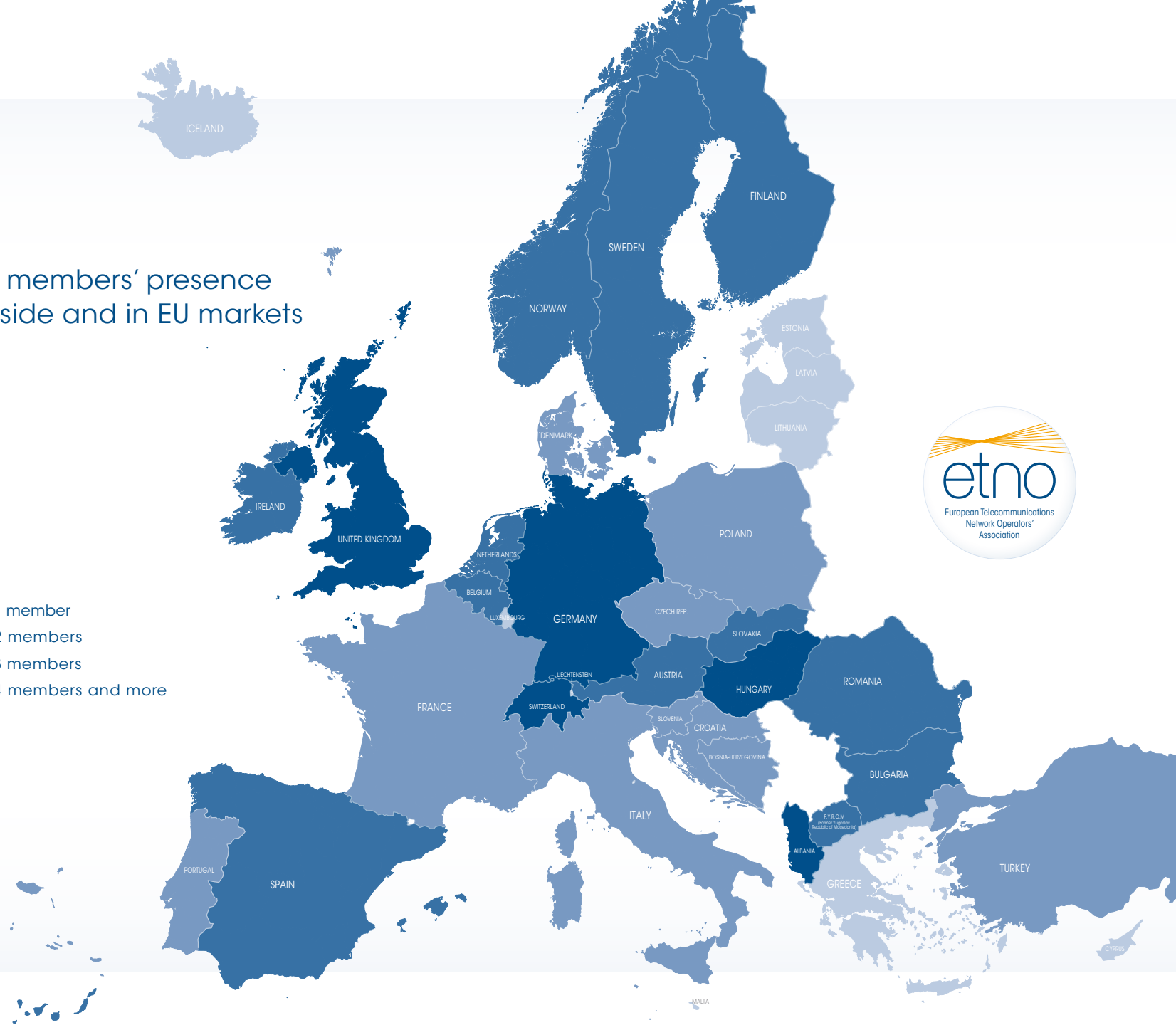
All these data illustrate the important role these actors continue to play in a context of a structural mutation of the telecoms industry as whole and a particularly difficult economic environment. Beyond their performance and resilience to the crisis, telecoms also have a key role to play to accelerate the economic recovery. This should encourage operators to commit to further pursue their innovation efforts.

*Didier Pouillot
Head of the Telecom Economics Practice,
IDATE*

ETNO Membership

ETNO members' presence
outside and in EU markets

- 1 member
- 2 members
- 3 members
- 4 members and more



A young man with dark hair, wearing a black and white striped long-sleeved shirt and large headphones, is leaning over a laptop. He is looking directly at the camera with a serious expression. The background is a soft, out-of-focus blue and white. The text is overlaid on the right side of the image.

Key facts & figures

ETNO represents 42 operators in 36 countries*, far beyond the current boundaries of the European Union.

ETNO members' total revenue from European operations amounted in 2008 to approximately €270 billion.

54% cent of the turnover originates from fixed line operations, and 43% from mobile services.

* ALBtelecom (Albania), Belgacom, BH Telecom (Bosnia and Herzegovina), BT (British Telecom), Vivacom (Bulgaria), Telefonica O2 Czech Republic, Croatian Telecom, Cyprus Telecommunications Authority (CYTA), Deutsche Telekom, Entreprise des Postes et Télécommunications Luxembourg, eircom, Elisa Communications Corporation (Finland), Elion (Estonia), Finnet Group (Finland), France Telecom, Go (Malta), Invitel (Hungary), Koninklijke KPN, Lattelekom (Latvia), Makedonski Telekom (F.Y.R. of Macedonia), Magyar Telekom (Hungary), Netia Holdings (Poland), OTE (Greece), Portugal Telecom, Romtelecom (Romania), Síminn (Iceland Telecom Ltd.), Slovak Telecom, Societatea Nationala de Radiocomunicatii (SNR-Romania), Swisscom, TDC, TDF (France), Telecom Italia, Telecom Liechtenstein, Telefónica, Telekom Austria, Telekom Slovenije, Telekomunikacija Polska, Telenor (Norway), TeliaSonera (Sweden-Finland), TEO (Lithuania), Türk Telekomünikasyon (Turkey), VIPNet (Croatia).

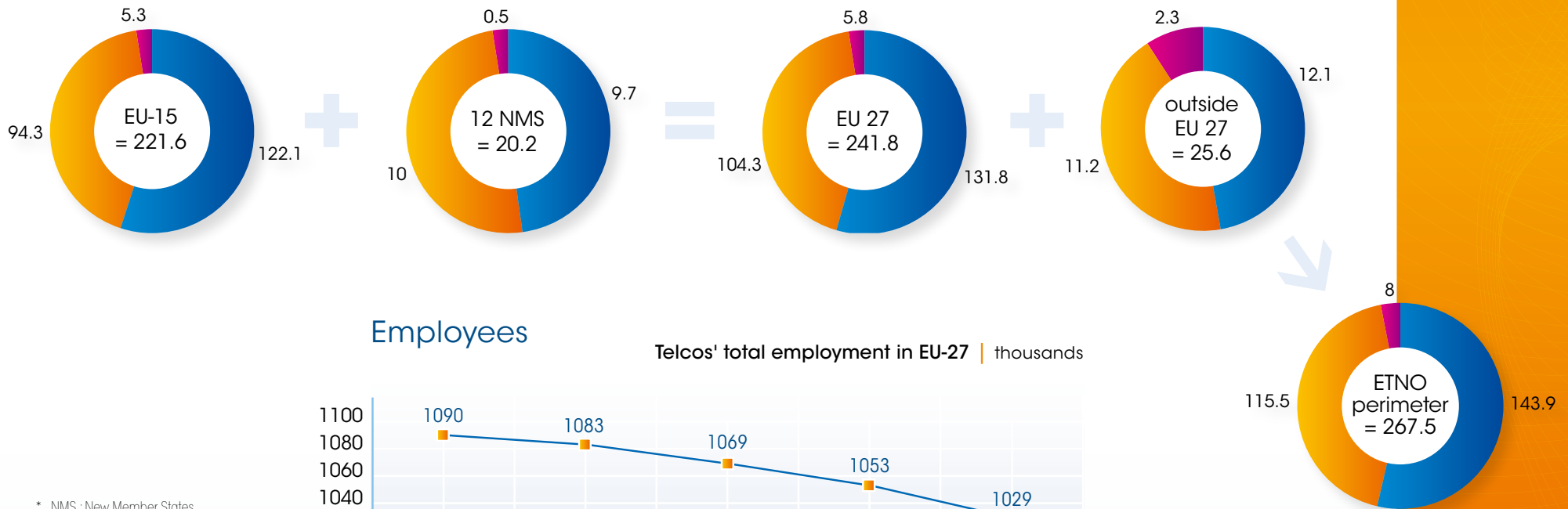
Key facts & figures



ETNO members' turnover (Billion €)

	EU-15	12 NMS*	EU-27	outside EU-27	ETNO perimeter
2008 European turnover (bn €)	221.6	20.2	241.8	25.6	267.5
of which (o/w) fixed	122.1	9.7	131.8	12.1	143.9
o/w mobile	94.3	10.0	104.3	11.2	115.5
o/w other (non core. corporate. etc.) **	5.3	0.5	5.8	2.3	8.0

Source: IDATE



* NMS : New Member States

** relates to revenue from non-core activities such as broadcasting or directories.

Source: IDATE

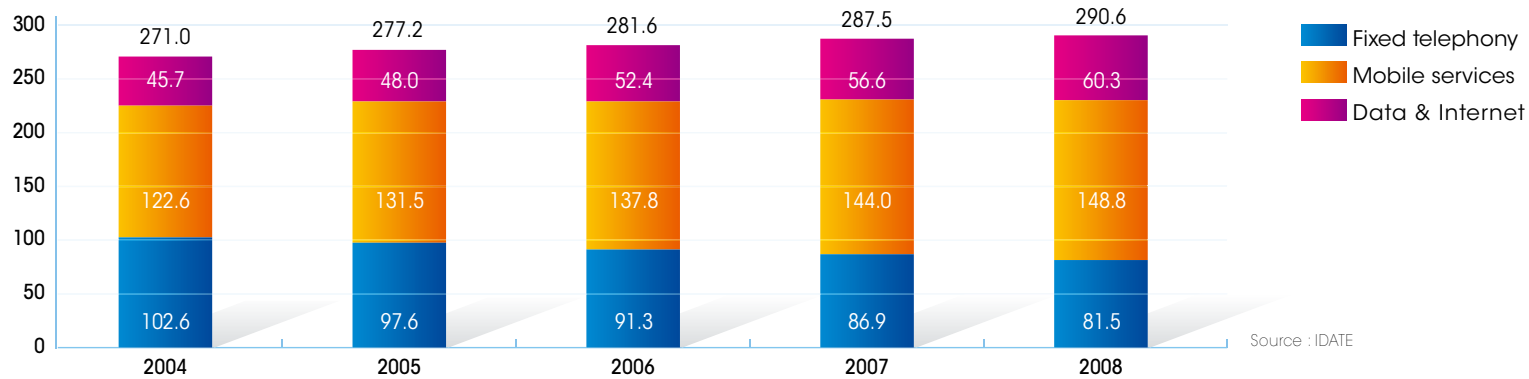
A key pillar of the EU economy

Revenue streams continue to shift from traditional fixed voice services to mobile voice and, to a larger extent, broadband.

Broadband take up continues to increase in Europe, including over mobile networks.

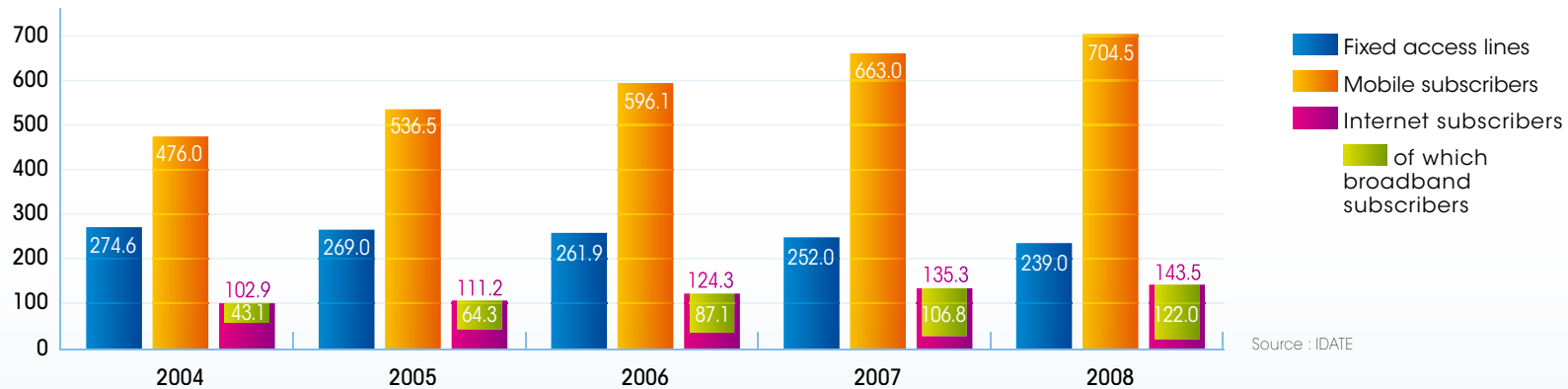
Total telecom services revenues in Europe¹

(incl. Turkey, excl. Russia & Ukraine) | billion €



Access to telecoms services in Europe

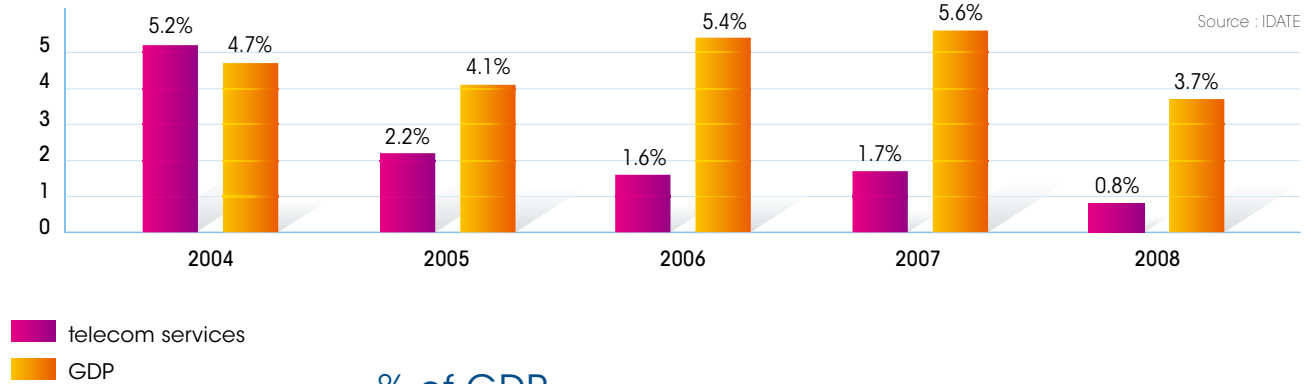
(incl. Turkey, excl. Russia & Ukraine) | million people



^{1/} Data refer to all telecommunications services providers established in Europe.

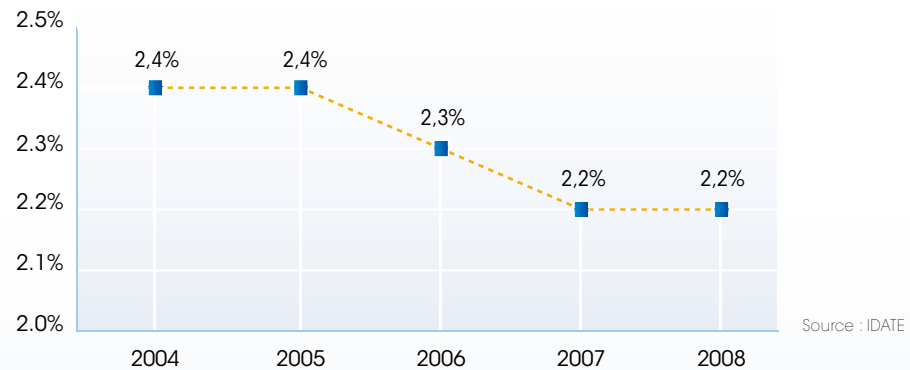
Growth of telecom services in EU-27

(compared with GDP growth)



% of GDP

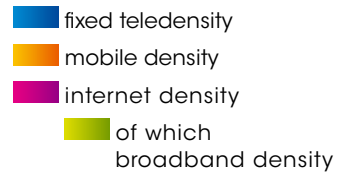
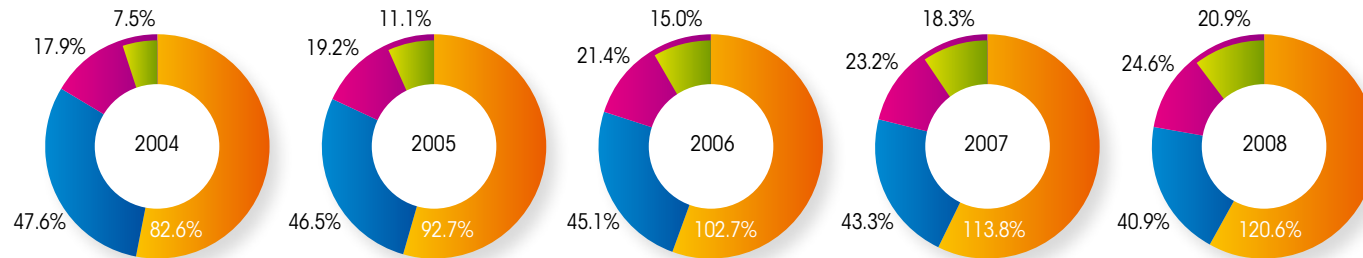
Telecom services as a % of GDP in Western Europe



Teledensities in Europe

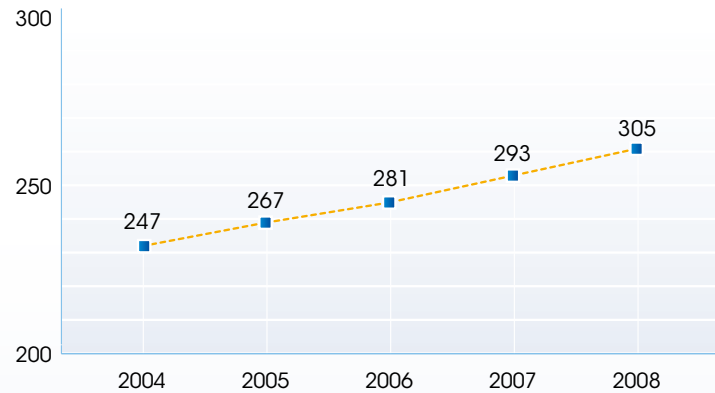
(incl. Turkey, excl. Russia & Ukraine) | as a % of inhabitants

Source : IDATE



Productivity (%)

EU-27 telcos' productivity | revenues per employee (000€/year)






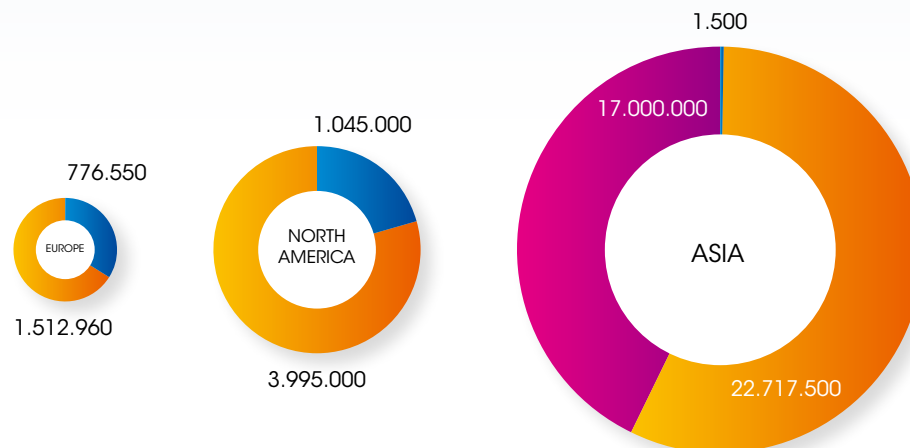
Source : IDATE

FTTx Subscribers (Dec. 2008)

EUROPE	NORTH AMERICA	ASIA
2.304.510	5.040.000	39.719.000

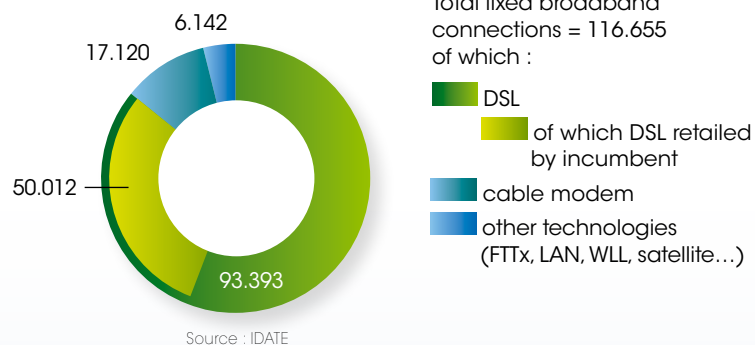
Source : IDATE

Of which VDSL 
 Of which FTTH/B 
 Of which FTTx/LAN 



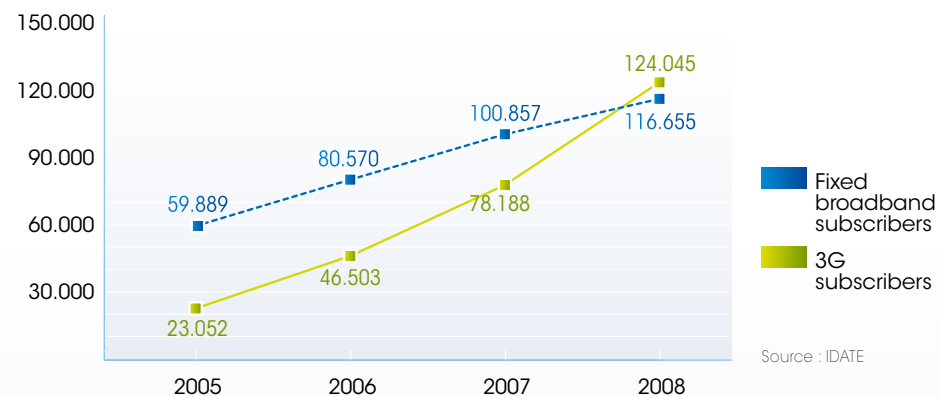
Broadband access Market share by technology

Structure of the European fixed broadband market at the end of 2008 | (000s connections)



Evolution of broadband subscribers in Europe (2005-2008)

Fixed and mobile broadband subscribers in EU-27 | thousands





Investing
in the future

ETNO members'
investment data



Through their investment in tomorrow's infrastructure and services, ETNO members are key players in Europe's information Society.

Despite the economic downturn, ETNO members continued to play a key role in building the information society through their investment in tomorrow's infrastructure and services.

In 2008, total tangible investment in the telecoms sector in the countries covered by ETNO's membership amounted to € 46.5 billion. This represented a slight decrease (by one %) by comparison to 2007, both in the fixed and mobile sectors. Investments in fixed networks and services remain more significant (€ 24.7 billion/ -1%) than in the mobile (€ 21.9 billion/ +0%).

The five main European markets (Germany, UK, France, Italy and Spain) account for 62% of this total investment (66% for fixed and 57.3% for mobile). Investment in the five main markets has dropped more than in the rest of Europe (-3.6%), and their weight in total investment is continuously shrinking. This trend is particularly obvious in the mobile sector where their part in total investment has dropped by 10% compared to 4% in the fixed.

ETNO members (on their respective national markets and on other EU markets) account for more than 71% of the total investment effort. They are particularly represented in the fixed sector with 82% of investment. ETNO members and their sister companies represent close to 60% of mobile investment. In the two segments, ETNO members' investment has dropped by comparison to 2007. Non ETNO members have equally invested less in the fixed segment while mobile investment has slightly increased.

Investment of ETNO members represented on average 12.4% of their turnover. The share of revenue devoted to investment higher in the fixed (14%) than in the mobile (11.1%), contrary to the previous years. This can be explained by investments in high speed and very high speed broadband networks while most investments in 3G and 3G+ mobile networks have now been completed.

Major differences can be observed between countries. Generally, operators in new member states tend to devote a larger share of revenue to investment than their counterparts in the old member states - respectively 18.4% and 12%, in particular in the mobile (22.1% and 10.3%).

ETNO members' investment

Tangible CAPEX | billion €

	EU-15	12 NMS	EU-27	ETNO PERIMETER	outside EU-27
2007 European	27,3	4,0	31,4	33,9	2,5
2008 European	26,5	3,7	30,2	33,0	2,8

Source : IDATE

Repartition of ETNO members' investment

2008 European Capex (bn €)	EU-15	12 NMS	EU-27	ETNO PERIMETER	outside EU-27
o/w fixed	16,9	1,5	18,4	20,2	1,8
o/w mobile	9,7	2,2	11,9	12,8	1,0

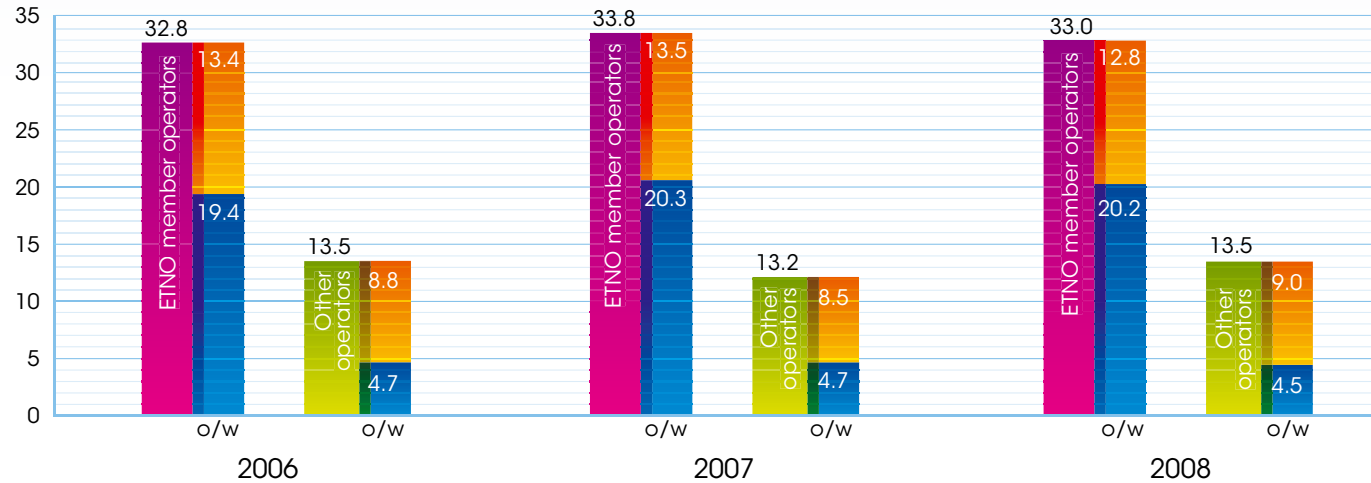
Source : IDATE

Part of turnover devoted to investment

2008	EU-15	12 NMS	EU-27	ETNO PERIMETER	outside EU-27
Tangible CAPEX/ turnover	12%	18%	13%	12%	11%
fixed	14%	15%	14%	14%	15%
mobile	10%	22%	11%	11%	9%

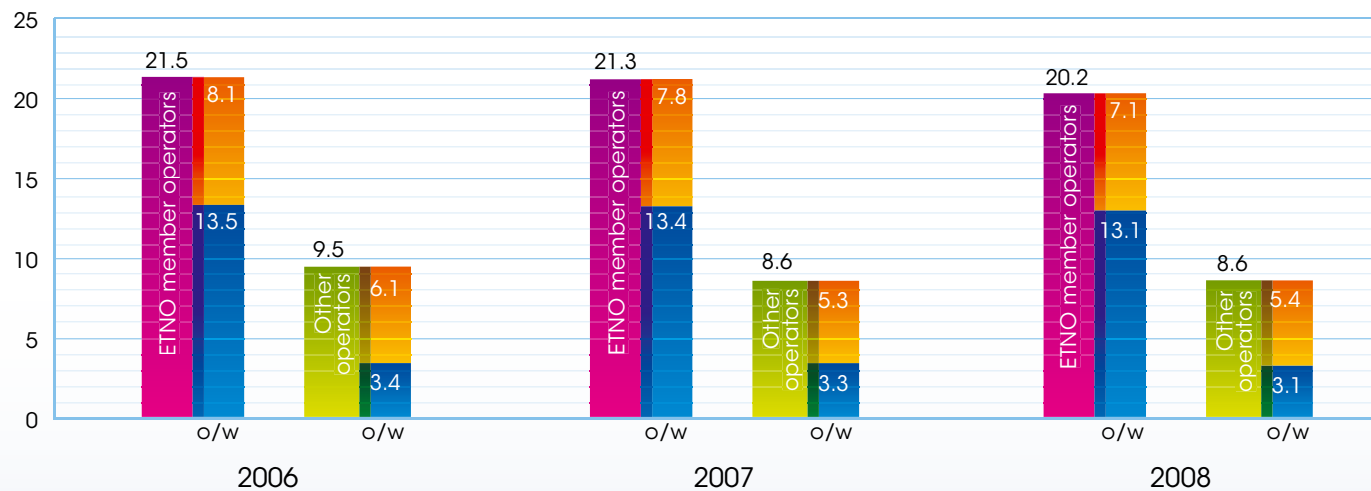
Source : IDATE

Telcos' tangible CAPEX (ETNO perimeter) | billion €



Source: IDATE

Telcos' investment (5 main European markets) | billion €



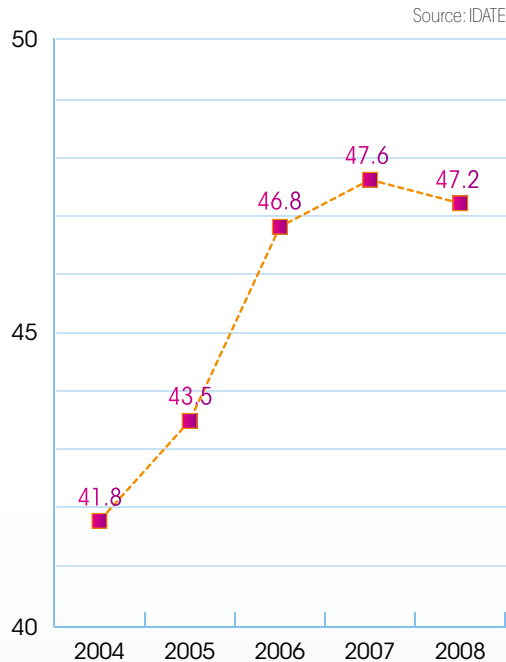
Source: IDATE

Evolution of investments (entire sector)

Telcos' consolidated tangible CAPEX in Europe

(incl. Turkey, excl. Russia & Ukraine)

billion €



Examples of new network developments

eircom continued extending its 3G mobile broadband network covering all metropolitan areas, based on HSPA technology and LTE. eircom also developed a full IP solution for voice (using VoIP) and data in remote area using WiMax access. eircom completed the trial for the roll out of FTTH with VDSL. The ADSL2+ rollout program is still ongoing (all major metropolitan areas completed).

Lattelecom started to extend its GPON fibre network in the Riga residential areas, allowing customers to access digital TV, IP telephony and broadband Internet services with up to 100Mbit/s high bandwidth.

During 2008, **France Telecom / Orange** continued to extend coverage of its mobile broadband network across Europe. Coverage in France has now reached 99% for the Edge network and 74% for 3G+. In other countries such as Spain, the UK and Poland, numbers are comparable and improvements have often been achieved through sharing agreements with other operators or investments in cooperation with local authorities. In fixed broadband, the Group has continued to extend the availability of its "triple play" offers to areas where ADSL bandwidth is insufficient. Since August 2008, such offers are now available to 100% of the French population through a new generation of set-top boxes equipped for satellite links. A similar offer was launched in Poland

at the end of 2008. France Telecom remains committed to the development of future networks and, in particular, fiber optics. Investments in France have been slow due to regulatory uncertainty, but in Slovakia nearly 270,000 households are now connected as new services are being launched. In Spain, trials were launched for customers in Madrid and Catalonia.

OTE in Greece invested €900 million to increase broadband network coverage throughout the country and provide speeds up to 24 Mbps.

Portugal Telecom announced an investment in next generation networks, aiming at providing one million households with optical fibre until the end of 2009. Residential consumers, SMEs and large businesses will be able to enjoy communication services with enhanced quality and flexibility. PT has FTTH-based offers of 20, 50 and 100Mbps.

Throughout 2008, **Slovak Telekom** invested in building optical infrastructure, allowing customers to utilise services over the latest state-of-the-art network. At the end of 2008, either internet access or Magio digital television services on optical network were accessible to more than 200 thousand households, with an increased internet access rate of 70 Mbps. The pilot project of customer migration from TDM technology to

the Next Generation Network was successfully completed in the city of Žilina.

Swisscom has developed a 'FTTH robot' in order to reduce considerably civil work costs when laying FTTH. The flexible fibersnake enables the construction workers to bypass T-junctions in existing underground cable ducts without digging expensive workholes in streets and pavements.

Telefónica launched in Spain fiber optical technology, with first pre-commercial offer of services called "Trio Futura". The new fibre network offers transmission speeds of 30 Mbps and has a capacity of up to 100 Mbps. Futura network will enable households to access new services such as home automation solutions and up to two simultaneous high definition television signals. Telefónica also continues to develop 3,5G mobile technology (HSUPA) to increase the data information exchange speed.

Telefónica O2 Czech Republic continued to extend its high speed mobile broadband based on UMTS/HSDPA technology, to more cities in the Czech Republic. By the end of 2009, the company plans to have signal coverage in a further 15 cities. Telefónica O2 also inaugurated a next generation network in Pilsen.

Next Generation Services

This chapter aims at giving a flavour of the main trends in the development of new and innovative services which are currently being offered or tested by ETNO members throughout the EU.

The roll out of high speed broadband access networks will enable consumers and businesses to benefit from new services and to continue enjoying existing ones with higher quality and flexibility.

Next generation services also have the potential to increase efficiency and productivity in other sectors of the economy and contribute to a significant reduction of CO₂ emissions.

Wireless/mobile broadband access

- Through the EDGE's technology, **Deutsche Telekom** is offering mobile broadband access at significantly higher data rates than conventional GSM mobile communications networks (up to 260 kbit/s downstream). T-Mobile G1 is a ultra-fast Internet-enabled cell phone and the first to offer all Google services and the Android Market feature which provides more than 1,000 applications for downloading. DT also distributes the iPhone 3G. Moreover, DT, together with several other mobile telephony providers, is developing a next generation mobile network, based on LTE technology.
- For **France Telecom / Orange**, mobile broadband continues to drive growth across its European footprint. The iPhone and other touchscreen handsets have greatly accelerated demand for unlimited mobile internet offers, which now represent over 20% of revenues and 11 million customers in France. These offers have been made more attractive for Orange customers through the availability of online content through the Orange World portal and specific music and TV offers across the group's European footprint. Demand has also continued to rise for mobile broadband access via dongles using the 3G or Edge networks. Services such as Internet and Business Everywhere have seen a particularly strong development in Spain and the UK where subscriptions rose by over 80% by mid-2009. Current network technologies focus on HSPA+, although technical field trials are ongoing to test LTE technologies which will eventually replace 3G as mobile broadband services develop.
- As a result of the implementation of a new Wi-Fi authentication functionality, **Portugal Telecom's** mobile subsidiary, TMN, allows its customers to access the Internet through their mobile phones via any Wi-Fi hotspot with a simple key click. This new technology, called EAP-SIM, enables automatic and cost-free Wi-Fi authentication through the mobile phone. TMN also rolled out the first pre-paid mobile broadband in Portugal and servicosweb.tmn.pt, a cost-free online platform for Office Box customers. Office Box solution provides fixed and mobile voice services in a sole package, fixed and mobile broadband connectivity, latest generation hardware and an integrated support service. Portugal Telecom also launched a fixed-mobile convergent service for households, Family Box.
- **Slovak Telekom's** 4G internet offered under the T-Com brand is being used by over 300 thousand customers. It was available in more than 900 Slovak cities and towns.
- Right in time for the ITU Telecom World 2009 in Geneva, **Swisscom** is rolling out HSPA+, the latest technology for mobile data traffic. HSPA+ allows far more people to surf the net simultaneously from the same radio cell without any loss in speed.
- **TDC** offers HSDPA mobile broadband and mobile Broadband-to-go combined with one-stop mobile/Wi-Fi access.
- In July 2008, **Telecom Italia** launched the iPhone in Italy which is being marketed through all-inclusive rate plan solutions. In parallel, Telecom Italia also released its new Mobile MTV service.
- Movilforum, the developer community run by **Telefónica**, aims at creating the best services and solutions for its clients, taking the advantage of the great innovation capacity of Telefónica's partners members. Through the Movilforum project, Telefónica is providing member companies access to a number of technical and business facilities. In the technical area, they have access to testing platforms, courses in Telefónica advanced services, technical seminars and support via e-mail. Telefonica also provides its partners with business support via a product catalogue and a commercial trade fair once a year.

- **Telekom Austria's** mobilkom plays a leading role in the roll-out of the latest broadband technologies such as HSPA and LTE (Long-Term Evolution). Mobilkom's mobile TV service A1 TV Player simplifies navigation through a list of the latest programs. Picture and sound quality was significantly improved thanks to HD Mobile TV. With NFC (Near Field Communication), the A1 mobile phone became a public transport ticket, parking voucher, lotto ticket and much more. A1 is now involved in the next phase of near field communication, with pilot projects allowing touchless validation of public transport tickets.
- **Telenor** offers 3G mobile coverage to 86% of the population in Norway.
- **TeliaSonera**, will in Sweden and Norway aim to be one of the first operators in the world to launch 4G commercially in 2010.
- With its WiFi service TTNET, **Türk Telekom** Group's internet provider company offers continuous internet access in various areas. At the end of 2008, there were 2800 hotspots and there should be 6000 by the end of 2009. The customers of TTNET with their ADSL packages, containing free TTNET WiFi minutes, are able to access internet in public areas and to use every service presented by TTNET. Mobile telephones suitable for WiFi and other devices suiting for 802.11 b/g are able to connect wireless internet ●

Content offers: including video or music on-demand services



- **Deutsche Telekom's** Paper, Pen & Phone is a smart pen with an integrated camera allowing to detect all important features of one's signature and facilitates the digital capture and converting of hand-signed documents. T-Mobile's Jukebox offers more than one million DRM free songs for on-demand downloading. DT's 3min.de media portal offers a large selection of professional and semi-professional videos and movies which can be downloaded on demand. Moreover, Deutsche Telekom offers four different legitimate online download portals, namely Musicload, Gamesload, Softwareload and Videoload. Entertain is a form of IPTV which offers a completely new quality of watching TV due to innovative possibilities like pausing the ongoing TV programme. Furthermore, it is possible to access personalized services and content in the internet via the IPTV connection. The services can be set up individually in order to see one's favourite services at first glance.
- **eircom's** content and entertainment offer includes a music store, giving legitimate access to more than four millions tracks of music. eircom also offers streaming and video on demand for selected content (Setanta). eircom started trials to offer IPTV.
- The provision of attractive content services through a multi-screen approach is central to **France Telecom / Orange's** strategy for developing customer loyalty and driving revenues. For example, the Orange Music Store, which is available in the UK and in France, enables music to be downloaded both to the user's mobile or PC and ensures full compatibility between devices. In Austria, the Play Now Plus offer combines unlimited track downloading with the acquisition of up to 200 songs DRM free. Orange has also continued to develop its multi-screen TV offers, which include access to sports and cinema channels based on exclusive broadcasting rights. The five Orange cinema series channels launched in November 2008 in France includes a vast catalogue of films and TV Series. Orange sport offers exclusive access to many sports including soccer, rugby and basketball offering both live programming but also VODs and interactive content providing customers with a unique TV experience. Finally, Orange's content strategy also focuses on the development of gaming through its GOA subsidiary. 2008 was particularly notable for the launch of Warhammer Online.
- **Portugal Telecom's** triple play offer, meo service, includes five services: HDTV, broadband access, telephone, video on demand and mobile broadband. It is now available over three different platforms, with distinct functionalities: IPTV (ADSL+2 and FTTH as of 2009 "meo fibra"), DTH (satellite) and mobile. meo fibra is available in three commercial offers: "meo fibra 20, 50 and 100 megas". meo has more than 120 channels (including HD and exclusive channels), thematic packs, a video on demand (VoD) library with more than 2000 titles and a set of technologically advanced functionalities such as "digital recording", including "remote recording" via mobile and/ or PC, "pause live TV", "catch-up tv", among others. Under "Sapo" brand, Portugal Telecom launched Sapo Fibre 100 Mega, a service that includes internet with guaranteed 100 Mbps for downloads and 10 Mbps for uploads, free calls within Portugal 24h/24 (without monthly fee), free mobile broadband up to 100 MB per month, cost-free Wi-Fi access and a free integrated BitDefender Antivirus pack. Portugal Telecom's MusicBOX offers unlimited song downloads for the mobile and PC, through weekly or monthly subscriptions. TMN's Napster Mobile service presents a new functionality allowing



users to download music, both to the mobile telephone and the PC for the same price. Portugal Telecom also launched a new Web phone service, enabling the integration with a messenger session to make and receive calls on the PC.

- **Slovak Telekom's** triple play Magio service, combining digital television, internet and telephony, continued to expand its coverage and added new functionalities.
- **TDC Play** offers unlimited free access to music download of several millions tracks for TDC subscribers to fixed/mobile/cable networks and has now been upgraded with enhanced functionalities.
- In Italy, **Telecom Italia** further expanded its IPTV service and online content service. In Germany, TI included IPTV in "Fun Flat" and "Complete" offers (triple and quadruple play) while in the Netherlands, it launched a fibre offering in Amsterdam with the addition of a TV option.
- **Telefónica** continued to improve its online content and IPTV offerings. Telefónica gives free access to Pixbox – a legitimate platform to download music and films - for ADSL customers. Telefónica introduced new functionalities to its IPTV offer such as watching programmes on demand or a PVR (Personal Video Recorder) system allowing users to save, fast forward, rewind and pause programmes as well as live

events. Movistar also introduced mobile TV. Telefónica is involved in the digitalisation and management of multimedia contents of Radio Televisión Española archives.

- Together with the company Stream.cz, **Telefónica O2** Czech Republic launched a new music video website - O2 Stream Music, which includes an extensive database of music video clips in high definition. Telefónica O2 in collaboration with Pilsen City Transport Company is introducing a unique solution of the city multifunctional smart card - the Pilsen City Card, integrated in a mobile phone used for public transport, for cashless transfer of contract partner's products and services, tickets for various cultural events or as a library member card, and as identifier in catering and accessing systems. The Pilsen City Card is based on NFC (Near Field Communications) platform.
- **Telekom Austria's** wide offer of broadband products in combination with multi-media applications includes aonTV and aonAlarmServices. The latter offers security packages for single family homes and apartments. aonAlarmServices systems are connected directly to the aon Security Center via the telephone line.
- **Telenor** is offering IPTV on fiber and launched trial of public transportation payment by mobile phone based on NFC. Through its

mobile music service, Telenor gives access to approximately one million digital rights management-free songs that can be downloaded on a mobile, shared with friends and family or transferred to a mobile phone, mp3 player and PC.

- **TeliaSonera** offers an IPTV platform with channel packages and a number of VoD/ SVoD-services available for all its customers in the Nordic and Baltic region, including a film on-demand service of more than 1500 titles. TeliaSonera is also the first TV distributor to offer "SVT Play" in Sweden, a time-shift service with the latest news and entertainment available for free. In addition, TeliaSonera has extensive music and gaming offerings where customers can choose between "pay-per-download" and subscription services, available on both PC and mobile.
- **TEO's** GALA, the Internet technologies-based (IPTV) digital television service, launched by TEO in 2006, was renamed into Interactive GALA and enhanced with new interactive functionalities including a KARAOKE service and an entertainment offer, Games on TV.
- **Turk Telekom's** TNET SECURITY service enables both ISP users and SME's to load a security program to block viruses, prevent spy programs and stop the pirates with personnel firewall ●

Web 2.0 applications: social networking sites and interactive platforms, blogs,...

- **Magyar Telekom** operates the Origo portal for mobile, iWiW social network for mobile and a freemail service for mobile. Magyar Telekom's Videa service is an online video sharing site. Based on Radio Frequency Identification, Magyar Telekom developed an admission system for schools which notifies parents by SMS when children arrive at school. This system is tested in Szolnok, the new "T-City" in Hungary.
- At the end of 2008, **France Telecom / Orange** had 54 million unique visitors to its network of websites, giving the group the largest internet audience in Europe. The development of a strong internet following - both on a PC and mobile phone - is one of the group's priorities both as a way to attract new customers but also to drive revenues through advertising. The group's brand websites integrate web 2.0 applications allowing visitors to adapt each site to their own needs. Orange has also developed a number of social networking and interactive platforms including Pikeo (based on photos) and Djinngo (based on widgets and web 2.0 interfaces). In France, Orange has developed a partnership with a French national newspaper, Le Figaro, to provide internet and mobile users with daily exclusive video interviews on important news

stories. Finally, in the beginning of 2009, Orange launched the beta version of 2424Actu, an innovative news website that automatically aggregates the most sought-after news items in a single web space. The site includes multimedia content both as written articles but also as TV and radio clips.

- **Portugal Telekom's SAPO Portal/** search engine - www.sapo.pt - is a reference portal in Portuguese language. It launched, in 2008, two new portals in Portuguese-speaking countries: Cape Verde and Angola. In 2009, PT launched Sapo Mozambique. The portal was recently upgraded with SAPO Kids - an educational tool for younger generations; Sapo Casamentos (Marriages) - an online directory for marriage organisation; Auto Sapo - a channel of classifieds for cars and motorbikes also accessible through mobile phone; a new version of SAPO TV and SAPO Messenger's new "Talk to Me" (Fala Comigo) feature. This innovative communication service enables the owners of personal websites and blogs, to put a chat window on their webpage in a simple and rapid way. Portugal Telekom's mobile arm also launched TMN Twitter, a new service enabling TMN customers to update their Twitter account through SMS. Localizz' is



the name of the new service rolled out by TMN, enabling customers to share their location and find out the location of children, relatives, friends or other people included in a list of locatable contacts, in real time.

- **Slovak Telekom's** Soznam service was upgraded with the launch of the content-sharing platform Free.sk and an open Instant Messenger (the communication tool Komunikátor) and an enhanced client email.

e-Health

- Social communities are established to allow users to share playlists on **TDC PLAY**.
- **Telecom Italia** launched YALP, the newly web-based service that offers around 40,000 items of on demand content, ranging from music to movies and 19 top Italian and international TV channels.
- **Telefónica** launched in 2008 its "Keteke" multi-device social network platform with high multimedia content that facilitates entertainment for young people and allows them to interact. Users can access the platform and interact from a computer, their mobile phone or a television via Imagenio. Telefónica also offers Service Clean Networks 2.0 – a business networks security management including cleaning systems of traffic, mail, secure web browsing, etc.
- TTNET Video, an application of TTNET, **Türk Telekom** Groups internet provider company, is a special video portal updated everyday with newly recorded professional videos. TTNET ADSL customers can watch and rate thousands of videos in categories such as News, Sports, Entertainment, Life Style, Auto and Science ●
- **Deutsche Telekom's** Motiva telemedicine system allows for the interactive supervision of patients with chronic heart diseases. The system enables patients to transfer crucial information about their heart rate, blood pressure or weight to the hospital via TV. Thereby, those patients can continue to live in their familiar surrounding. The system is currently tested in the German "T-City" Friedrichshafen. DT is developing an Electronic Health Card equipped with a microprocessor chip saving crucial information about the health of the patient. It is planned to exchange the prior health insurance card with this more innovative solution. The aim of the project is to provide better healthcare by making patients' information accessible to all relevant doctors and health care institutions. T-Systems got the award to build the complete core network which is necessary for the functioning of the whole system.
- **Magyar Telekom** has developed a large range of services in the field of e-health such as the health advisory system, which also includes a Panic Button in case of acute health problem. Magyar Telekom is also operating monitoring technologies.
- **Orange Healthcare** works together with professionals to provide innovative services to facilitate the work of healthcare specialists and help patients. To ensure the rapid and efficient flow of patient data, Orange developed Connected Hospital to provide integrated IT systems in hospitals as well as communications systems such as interactive kiosks or bracelets. The Connected Emergency Response solution takes this a step further by allowing emergency medical teams to communicate with each other in real-time while on-the-move saving critical seconds. Other services provided by the group offer communications devices that allow medics to monitor and dialog with patients at a distance enabling vulnerable people to stay at home. The Medic4you service that was launched in Romania in October 2008, for example, enables patients to consult with doctors remotely by phone or videoconference and share medical records online.
- **OTE** is offering an Instant Alert service for individuals that need assistance and constant monitoring. OTE also developed telemedicine applications which were applied for instance for the Mental Health Centres allowing the interconnection of rehabilitation centres located on islands and the main centre in Athens.

- The Digital Health Network, developed by **Portugal Telecom** in 2008 is the first Health Centre of the Future, allowing already 10,000 users to benefit from online scheduling of appointments and consultations, online patient history. This solution will be replicable in other areas of the country. Through the videoconferencing service, healthcare units and patients benefit from a number of new functionalities, facilitating the doctor-patient relationship. In Portugal, more than 7,000 consultations and eco-cardiograms are carried out remotely. The system is also being used for tele-consultation between Angolan and Portuguese hospitals. The BabyCare technological solution developed by PT Prime at the Alfredo da Costa Maternity enables parents of premature babies to watch their children remotely via the internet.
- **TDC's** e-Health "Circle-project" enables children staying in hospital for a long period to follow their usual school classes via webcam and interactive blackboards. The Medisat/e-Med link services allow remote monitoring /control of KOL or diabetes patients.

- Several ICT solutions have been developed by **Telecom Italia** to help health service providers improve procedures for the assistance and treatment of patients as, for example MYDoctor@home, a service that allows patients suffering from chronic illnesses to monitor their own physiological parameters (body weight, blood pressure, heart rate, the absorption of oxygen by the blood cells, blood sugar levels, pulmonary function, electrocardiography etc.) in their homes simply by using their mobile phone.
- **Telefónica's** Colabor@ platform is a collaborative working environment for health professionals working in different hospitals.
- **Telekom Austria**, in cooperation with the market leader for medical software solutions Innomed and the software partner X-Tention, introduced the hybrid medical report within the scope of a pilot project Klinikum Wels-Grieskirchen, the fifth largest hospital in Austria. Based on Near to Field (NFC) communications, Telekom Austria's mobile arm Mobilkom also launched a system that enables patients to transmit blood pressure results to their doctor's medical database using a mobile phone.



- **TeliaSonera** installed mobile door locks in the homes of 1,300 disabled people in Halmstad and Malmö in Sweden. This enables caretakers to use their mobile phones as keys, which saves time as individual keys do not have to be fetched. Each lock is unique and impossible to copy, which increases security ●

Assistance to elderly and disabled

- **Deutsche Telekom** contributes to the Smart Senior project launched by research, industry and care institutions to develop innovative products designed to help elderly people to maintain their mobility and autonomy for a longer period of time. T-Group companies throughout Europe have developed services adapted to the needs of disabled such as Cosmote's

Smart Eyes, an efficient and voice-controlled navigation system for blind and visually impaired persons and "Emporia LIFE plus" and "Emporia TALK plus", two mobile phones offered by T-Mobile Germany which are especially designed for audio- and visually impaired persons. TeSS (T-Sign & Script) is a

relay service for hearing and speech impaired customers offered by Deutsche Telekom in cooperation with the German Society of Hearing Impaired. Moreover, as part of German "T-City" Friedrichshafen, 10 multi media terminals with an integrated sign language interpreting system are being tested.

- **eircom** provides phones adapted to people with restricted vision or hearing impairment. eircom also offers bills in Braille.
- **France Telecom / Orange's** "Design for All" strategy takes into account the specific needs of senior and disabled users in the design of consumer products and services. In France, the resulting products are sold via a network of 160 specialised "disability solutions" stores. A similar approach is being deployed across Europe alongside an active participation in dedicated forums and exhibitions such as the European Disability Forum in Vienna, Austria. In December 2008, Orange launched a new service, called "Cronos", for sight-impaired customers in Romania. This voice-based service enables customers to consult their consumption plan and provides billing information. Another example includes "Hello", a fully equipped and preconfigured computer

designed for senior users, which was launched by Orange Valley - a branch of the group's innovation network - early in 2009. The Hello pack offers senior citizens a range of intuitive applications via a simplified home-screen, including e-mail, a picture sharing application, access to the internet and office tools.

- **Portugal Telecom** is offering several projects aiming at elderly people or users with disabilities. In partnership between the PT Foundation and the Federation of the Portuguese Cerebral Palsy Associations (APPC), PT has set up educational and training resources centres at the Cerebral Palsy Associations throughout the country, in which users have access to the special PT Solutions for disabled people, notably with cerebral palsy. Portugal Telecom supports several other educational projects for people with mental disabilities, including the Mercury Project, which aims at testing and promoting the use of technologies of support for augmentative communication in the development of persons with development disturbances and autism. Astro Project is a Tele Classroom - adapted to motor disability, deafness and blindness. PT TeleAula is a tele classroom that allows children with severe health problems

or disabilities to attend school from distance. Portugal Telecoms also has a long record of offering services especially oriented at users with hearing/voice problems or visual deficiencies like voice solutions to access the Internet as well as invoices in Braille.

- In 2008, **Slovak Telekom** concentrated predominately on community aid and assistance, mainly targeting physically, socially, or otherwise disadvantaged people, by helping them to gain better access to information.
- **Telecom Italia** in collaboration with the Italian Association of the Blind and Visually Impaired, launched TIM Mobile Speak, a more developed version of TIM Talks. This involves a software application that allows the blind, visually impaired and elderly people to use all functions of mobile phone thanks to an electronic voice that reads out the contents of the display. Moreover, in collaboration with the National Organisation for the Protection of the Deaf (ENS), Telecom Italia launched TIM Mobile Care, a multimedia service offering video assistance enabling people with hearing impairment to receive free of charge all mobile phone instructions in Italian Sign Language.

- **TDC** is introducing new computer based text communication system for hearing impaired people.

- **Telefónica** launched in Spain a vocal SMS service, which translates SMS text into voice, and six new accessible fixed telephone models. In 2008, Telefónica signed an agreement with the National Confederation of Deaf People to put in place a tele-interpretation system of sign language. Telefónica also developed a tele-assistance platform that allows the remote assistance of dependent people and that will incorporate in the future a lot of services such as rehabilitation, monitoring, leisure, etc. This platform is already in service as pilot.

- **Telefónica O2** in Czech Republic offers special fixed-line tariffs for certain disabled groups as well as a special mobile phone and tariff for older people. Telefónica O2 offers the Emporia Life mobile to the elderly and people with disabilities who may have difficulties using normal mobile phones. In 2008, Telefónica O2 continued to operate Hovor pro neslyšící, a service which lets customers with hearing impairment to communicate in the case of emergency or in various life situations – when making a medical appointment, ordering a

repairman or consulting directory services.

- In 2008, **Telekom Austria** started offering free Internet training “First Steps to the Internet” for seniors by apprentices of the company. Telekom Austria pursued its cooperation with the Austrian Blind Union (ÖBSV) to make e-communications services accessible to visually impaired people, including the creation of a barrier-free web site.

- In 2008, **TeliaSonera** shops in Finland and Denmark held in-store events to help familiarize elderly customers with mobile phones features. TeliaSonera and its subsidiary Cygate are developing a system for distance interpretation of sign language through 3G phones. The primary users are people who speak sign language and people with speech impediments. The system can also be used when interpretation is needed due to language barriers.

- **Türk Telekom** developed an invoice data system adapted to the needs of visually impaired people, using a special embossed calligraphy technique. Invoices with data in Braille alphabet are sent together with the original in specially designed envelopes. Türk Telekom also prepared a new Videofon campaign ●

Towards a more
sustainable society



Enhancing digital literacy

- Part of the **BT** digital inclusion programme, the Internet Rangers initiative, was created to encourage, support and recognise the work that young people are doing to help bridge the digital divide. Nearly a third of parents and grandparents have been taught or encouraged to use the internet by a young person under 16.
 - Through the Telekom@school programme, **Deutsche Telekom** provides German schools with free internet connections.
 - **eircom** provides online support and video tutorial activity on key features of the Internet such as online security, setting up of an e-mail account or establishing a wireless connection.
 - **KPN**, together with Parents Online, a foundation set up by teachers, parents and children, launched the campaign "My Child Online" to provide information on child safety when online and connecting with others. The campaign also looks at issues like online bullying, sexual abuses, etc. Several initiatives were launched such as Time Slot, a free software timer that helps parents and children to regulate their surfing habits. MyBee is a free children browser which contains a list of safe websites for children.
 - **Magyar Telekom** launched its Digital Bridge Program through which members of its staff teach digital literacy to people in remote and rural areas.
 - **France Telecom / Orange** produces a bilingual website called Orange-innovation TV to inform and raise awareness about technologies and new innovations in areas such as digital entertainment, communications and the internet, mobile broadband and eHealth. The platform also includes a forum for exchange dreamOrange and regular TV programs on digital culture. In addition, the group runs a number of initiatives to provide information and even training for children or adults who have had little contact with the digital world.
 - **Portugal Telecom** supports several programmes aiming at increasing citizens' digital literacy and stimulate the information society. "e-escola" is a national program for the distribution of laptop PCs with mobile broadband for students and teachers. PT is also developing the installation of Local Area Networks in over 1,200 schools – supplying equipment and wireless coverage – as well as the rollout of a Wide Area Network connecting over 6,400 schools and 19 Ministries at 64 Mbps.
- Portugal Telecom also recycles used company computers which are then made available for instance to primary schools in Cape Verde, Sao Tome and Principe in the context of "PT Digital Africa".
- **Slovak Telekom** launched the Cena Slovak Telekom (Slovak Telekom Award) which took place for the third time in 2008, with the aim to inspire elementary, secondary and special school educators to make use of modern information and communication technologies in teaching subjects other than information science. All projects in competition enriched the virtual library at the web competition site www.cenast.sk, used by educators as a modern and creative teaching source.
 - **TDC** participates in several government and industry campaigns aimed at the elderly as well as children on diverse subjects including net security and mobile etiquette.

- **Telefónica** addresses the geographical gap by launching packages for rural areas ("Duo ADSL Rural") as well as the literacy Gap (Campus Party, Educared, "Ciberescuela") for less favoured categories of the society. By the end of 2008, more than 110000 persons have been trained in schools by the NGO Protégeles together with Telefónica on the correct use of ICT and to alert them of possible activities which could be considered as

illegal. Several initiatives have been created to reduce the health and disability gaps (RETADIS II, SISCODIS, Services for elderly and handicapped and web pages accessibility).

Finally, Telefónica also addresses the economic gap through the recent launch of

initiatives that offer anticrisis measures for SMEs and unemployed.

- **Telefónica O2** Czech Republic launched a new website dealing with the protection and safety of children and offering useful advice and recommendations. Through its O2 Foundation, Telefónica O2 supported the Stop Bullying project which incorporated a mass media outreach campaign. Telefónica O2 Czech Republic is also a general partner of the Safety Line Association, the only free national non-stop crisis help line for children.
- **Telekomunikacja Polska** initiated an agreement for children's safety on Internet which attracted 11 signatories, including internet providers, internet portals and non-governmental organisations acting in the field of children's safety on-line. Through the agreement, signatories commit for instance to combat illegal contents on the internet such as child pornography or exhorting to hate and to launch jointly or individually communication and educational campaigns. Telekomunikacja Polska runs an active program to connect schools to the internet as part of its ambition to improve internet-literacy in Poland. At the end of 2008, over 14,000 Polish schools were connected to the "Education with TP internet" initiative benefiting some 4 million schoolchildren.

- **Telekom Austria** set up a Web 2.0 educational program for schools to assist teachers who promote the safe and responsible use of the Internet. The content of the Web 2.0 school package is based on the experience drawn from the "Web 2.0 Klasse" pilot project initiated by Telekom Austria Fixed Net and the Ministry of Education, Art and Culture (bm:ukk). As part of the project, pupils and teachers of nine Austrian high schools used Wiki and Weblog to test the possible applications of social software in the classroom and gave Web 2.0 a positive evaluation.
- In 2008, **TeliaSonera** and the World Childhood Foundation sponsored a project focusing on how children are affected by online sexual abuse. An international network of experts in the field was also formed.
- With Internet Houses project in education area, **Türk Telekom** contributes to generalise internet usage throughout Turkey. 950 Internet Houses with around 20 full equipped computers and broadband internet access are built all around Turkey and can be used free of charge by citizens. Türk Telekom's subsidiary Sebit, launched an interactive education software Vitamin supported by visual content which has been presented for free to 33.000 public elementary schools in 2008-2009 educational year ●



Addressing climate change

- **BT** reduced its CO₂ emissions by 58% since 1996. BT also focuses on improving its product range with a view to making further improvements to energy efficiency, durability and packaging. As part as education and awareness raising campaigns, BT has developed two games themed around environment and climate change, *Intrigue 2016* and *Go Wild*.
- **Deutsche Telekom** has put a lot of emphasis on the development of ICT solutions which do not only help the company itself to become more energy-efficient but also empower customers to reduce their energy consumption by using innovative products. Deutsche Telekom's smart metering system enables consumers to get informed about their energy and water consumption via a personalised internet portal. This system is tested in the German "T-City" Friedrichshafen. "Sinus" telephones are especially energy-efficient with a switching power supply allowing them to consume up to 30-60% less energy. DT uses the EDGE mobile broadband technology characterized by significantly reduced energy consumption in comparison to the energy consumption of prior GSM mobile communications networks.
- **KPN** has set itself the objective of becoming carbon neutral by 2020 and increased its green electricity usage which evolved in 2008 from 15 percent to 38 percent of its total consumption. By 2011, the share of green electricity should grow to 100%. As a member of the Wind on Sea Initiative and together with the World Wildlife Fund and other companies, KPN called on the government to invest more in large offshore wind farms.
- **Magyar Telekom's** sustainability strategy includes the increasing use of renewable energy (solar, wind, bio-energy) to optimise its energy consumption. Magyar Telekom's smart metering services also help consumers monitoring and hence reducing their energy consumption. Magyar Telekom is offering a series of services which enable businesses to reduce their CO₂ emissions, such as telepresence or hosting solutions. Magyar Telekom has also developed several mobile purchase services which allow consumers to buy paperless parking or motorway tickets.
- Sustainable performance is one of the four ambitions outlined in the Orange 2012 plan. As part of this, **France Telecom / Orange** has made a commitment to reducing its greenhouse gas emissions by 20% between 2006 and 2020 by cutting energy consumption

in networks and buildings, and by optimizing its vehicle fleet. The "Green Datacenters" project for example has enabled the "virtualization" of over 6,000 servers across Europe. In the UK, some 80% of total energy used originates from renewable sources thanks to a green energy contract signed with the group's main energy provider. To help customers reduce their environmental impact, Orange has introduced several new projects. The new Livebox launched in the summer of 2008 cuts its energy consumption by 25% and its weight by 30%. An eco-labeling initiative has been launched in collaboration with the WWF France enabling consumers to make informed choices. Orange also supports the principle of an "intelligent universal charger", which would automatically stop charging when the battery is full, reducing waste. Finally in the context of the Orange Care initiative, announced in February 2009, several offers have been launched that enable customer to recycle old handsets, exchange used-handsets for gift vouchers or even, as part of a specific offer for low-income customers, buy a reconditioned used-handset.



- **OTE** has adopted a climate change strategy which includes the use of renewable energy sources (installation of photovoltaic units), adoption of saving energy practices (such as free cooling systems) and the reduction of greenhouse gas emissions.
- **Portugal Telekom** launched internal awareness raising campaign on climate change and adopted an energy management strategy aiming at reducing energy consumption, maximising the adoption of renewable energies and applying environmental criteria in supplier selection. PT also operates a take back programme and offers e-invoicing for all PT businesses (fixed, mobile, internet, IPTV).
- **Slovak Telekom** adopted a Sustainable Development Strategy and a Road Map for 2006-2008. In 2008, the company met the requirements of the EN ISO 14001:2004 standard; it implemented and launched a system of environmental management. Slovak Telekom also pursued its activities in the field of waste management - recycling up to 40% of waste. Slovak Telekom also continued to increase power consumption efficiency, optimise work space usage, reduce fuel consumption, and test alternative fuels in operation.
- **Swisscom** has signed a target agreement with the Energy Agency for the Economy (EnAW) and undertaken to increase its energy efficiency by 17 per cent from 2002 to 2010 and to reduce its CO₂ emissions by 5,700 tonnes. This will require considerable investment in a simplified network architecture, vehicles as well as buildings while also refraining from using air-conditioning systems. At the moment Swisscom is consolidating even more ambitious targets for the years to come.
- **TDC** has launched a comprehensive programme for replacing network equipment such as street cabinets with the most energy efficient components available saving 400 tons of CO₂ with 37% increased production. Overall TDC has launched an energy reduction plan including extensive use of telepresence which aims to reduce the company's CO₂ emissions by 5 % by 2014.
- **Telecom Italia's** approach in fighting climate change is based on action at two levels: reducing direct and indirect greenhouse gases emissions and supporting the

dematerialisation of goods and services. In 2008, It reduced emissions by modernising the fleet (3,000 tons of CO₂ emissions saved), modernised the oil-fired thermal power stations (200 tons of CO₂ emissions saved) and increased the acquisition of renewable energy and greater efficiency in the use of fossil fuels. Projects to optimise energy consumption brought an overall saving, compared to 2007, of 1.39% in CO₂ emissions, the equivalent of 12,000 tons. As regards dematerialisation, Telecom Italia supplies products and services enabling the elimination or reduction of greenhouse gases generated by the transportation of people or goods. The company also achieved important results in the measurement of greenhouse gases emissions, acknowledged by the Carbon Disclosure Project (CDP).

- **Telefónica España** created in 2008 a WG to transform the energy consumption model of its fixed and mobile operations to increase efficiency. Telefónica is committed to reduce electricity consumption by 30% on its networks by 2015. Telefónica launched the Nokia 3110 Evolve, the first ecological handset on the market, made with recycled materials and with a low energetic consumption. Telefónica

provided several financial entities in Spain with its Internet Connected Home (HCI) solution, allowing employees to work from home, directly addressing the fight against climate change.

- **Telekom Slovenije** launched Eco-Schools and Eco-Quiz projects with the aim of promoting an enhanced integration of environmental activities into every-day operations.
- In 2008, **TEO** launched a project Save Resources and Change Yourself, with the goal to encourage employees and their families to take concrete actions to save natural resources and reduce pollution. Among other results of the campaign, 27% less paper bills were sent to customers.
- In 2008, **Telekom Austria's** fixed network segment approved an energy policy aimed at enhancing energy efficiency and reducing consumption in all main processes. The policy resulted in a 10% energy reduction at TA group headquarters. Telekom Austria's mobile segment Mobilkom proceeded to install new intelligent airconditioning systems at radio sites, which could lead to an energy cut by up to 70%. Steps have also been taken to optimise

the use of energy at computing and switching centers and test the use of renewable energy at base stations. The Telekom Austria Group also contributes to reducing the volume of CO₂ through its services such as digitalisation of bills and processes, video and telephone conferences as well as applications such as e-learning or e-procurement.

- During 2008, **TeliaSonera** held 464 meetings between Stockholm and Helsinki using its Telepresence facility, the virtual meeting room. TeliaSonera saved SEK 5.8 million in travelling costs, some 170 tons of CO₂ emissions and 40 months of working time.
- **Türk Telekom** launched a new campaign to save trees by implementing electronic billing and digitalising its own archives. Türk Telekom started the project of planting 100 thousand trees in 77 cities across Turkey. Türk Telekom also started to develop its Green Data Center concept, focusing on efficient refrigeration ●

Ranking companies

Top European and
World companies



Top 40 telecom operators in the world

Rank	Company	Country	2008 revenues Million €
1	AT&T	USA	84.339
2	NTT	Japan	68.529
3	Verizon	USA	66.201
4	Deutsche Telekom	Germany	61.666
5	Telefónica	Spain	57.946
6	France Telecom	France	53.488
7	Vodafone	UK	51.539
8	China Mobile	China	40.352
9	Telecom Italia	Italy	30.158
10	BT	UK	26.877
11	Sprint Nextel	USA	24.232
12	KDDI	Japan	23.010
13	América Movil	Mexico	21.119
14	China Telecom	China	18.083
15	Softbank	Japan	17.586
16	China NetCom	China	16.758
17	KPN	Netherlands	14.427
18	Telstra	Australia	14.064
19	KT	South Korea	12.117
20	Telenor	Norway	11.718

Rank	Company	Country	2008 revenues Million €
21	SFR	France	11.553
22	BCE	Canada	11.279
23	TeliaSonera	Sweden	10.687
24	Qwest	USA	9.163
25	STC	Saudi Arabia	8.603
26	MTN	South Africa	8.437
27	Swisscom	Switzerland	7.658
28	Telmex	Mexico	7.583
29	Hutchison Whampoa	HK	7.344
30	SK Telecom	South Korea	7.201
31	SingTel	Singapore	7.177
32	Tele Norte Leste	Brazil	6.948
33	Svyazinvest	Russia	6.932
34	Time Warner	USA	6.761
35	Portugal Telecom	Portugal	6.734
36	Comcast	USA	6.714
37	OTE	Greece	6.407
38	Telus	Canada	6.152
39	Belgacom	Belgium	5.978
40	BSNL	India	5.948

Source : IDATE

Top 20 telecom operators in Europe

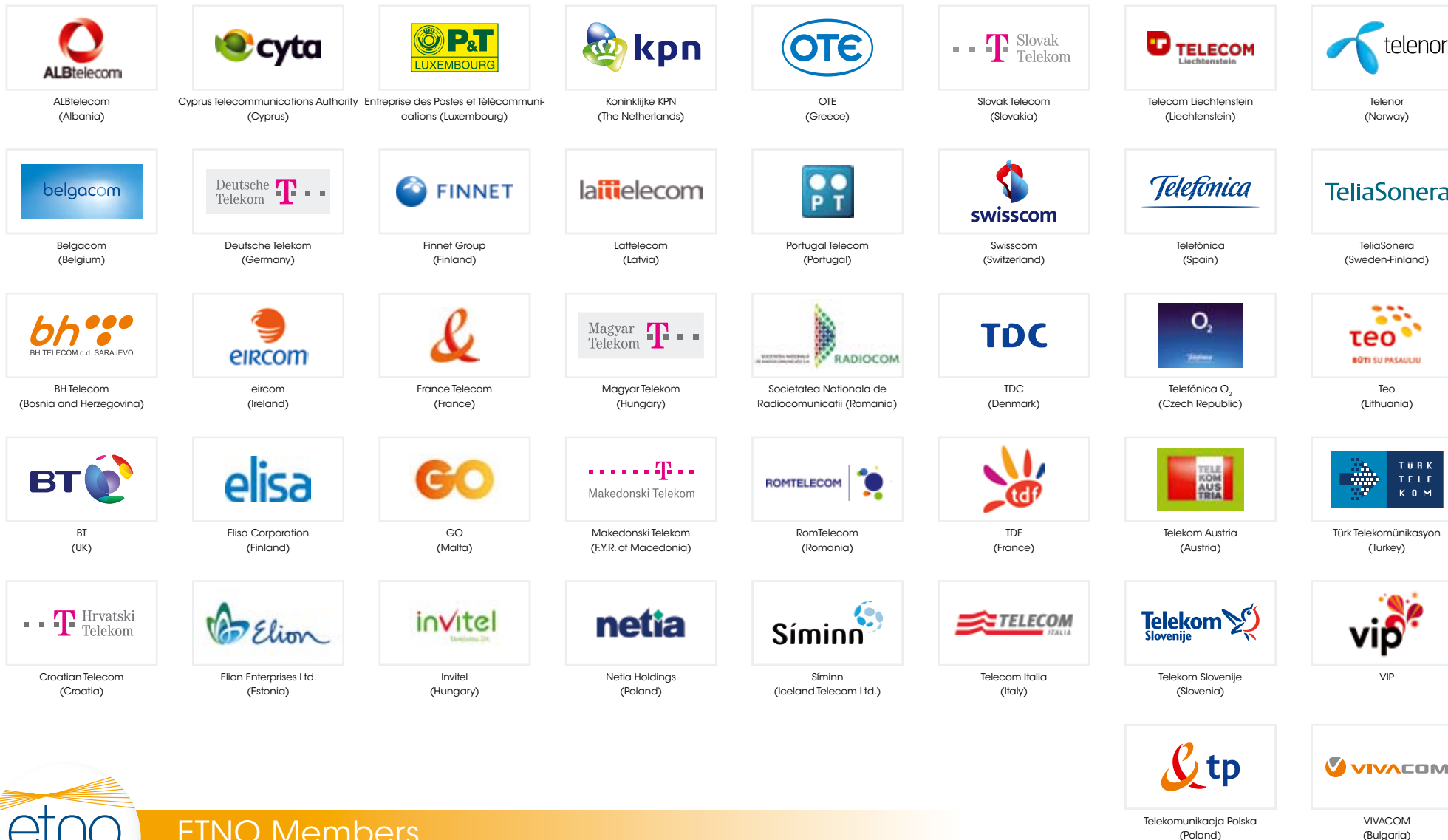
Rank	Company	Country	2008 revenues Million €
1	Deutsche Telekom	Germany	61.666
2	Telefónica	Spain	57.946
3	France Telecom	France	53.488
4	Vodafone	UK	51.539
5	Telecom Italia	Italy	30.158
6	BT	UK	26.877
7	KPN	Netherlands	14.427
8	Telenor	Norway	11.718
9	SFR	France	11.553
10	TeliaSonera	Sweden	10.687
11	Swisscom	Switzerland	7.658
12	Portugal Telecom	Portugal	6.734
13	OTE	Greece	6.407
14	Belgacom	Belgium	5.978
15	Wind	Italy	5.519
16	Turk Telekom	Turkey	5.326
17	TDC	Denmark	5.178
18	Telekom Austria	Austria	5.170
19	Bouygues Telecom	France	5.089
20	Cable & Wireless	UK	4.581



Source : IDATE

Further information:

ALBtelecom (Albania)	www.albtelecom.al	Portugal Telecom (Portugal)	www.telecom.pt
Belgacom (Belgium)	www.belgacom.com	RomTelecom (Romania)	www.romtelecom.ro
BH Telecom (Bosnia and Herzegovina)	www.bhtelecom.ba	Síminn (Iceland)	www.simi.is
BT (UK)	www.bt.com	Slovak Telekom (Slovakia)	www.telecom.sk
Croatian Telecom (Croatia)	www.t.ht.hr	Societatea Nationala de Radiocomunicatii (Romania)	www.radiocom.ro
Cyprus Telecommunications Authority (Cyprus)	www.cyta.com.cy	Swisscom (Switzerland)	www.swisscom.com
Deutsche Telekom (Germany)	www.telekom3.de	TDC (Denmark)	www.tdc.com
eircom (Ireland)	www.eircom.ie	TDF (France)	www.tdf.fr
Elion (Estonia)	www.elion.ee	Telecom Italia (Italy)	www.telecomitalia.it
Elisa Communications Corporation (Finland)	www.elisa.com	Telecom Liechtenstein	www.telecom.li
Entreprise des Postes et Télécommunications Luxembourg	www.pt.lu	Telefónica (Spain)	www.telefónica.com
Finnet Group (Finland)	www.finnet.fi	Telefónica O ₂ (Czech Republic)	www.cz.o2.com
France Telecom (France)	www.francetelecom.fr	Telekom Austria (Austria)	www.telekom.at
GO (Malta)	www.go.com	Telekom Slovenije (Slovenia)	www.telekom.si
Invitel (Hungary)	www.invitel.hu	Telekomunikacja Polska (Poland)	www.telekomunikacja.pl
Koninklijke KPN (The Netherlands)	www.kpn.com	Telenor (Norway)	www.telenor.com
Latttelecom (Latvia)	www.Latttelecom.lv	TeliaSonera (Sweden – Finland)	www.teliasonera.com
Magyar Telekom (Hungary)	www.magyartelekom.hu	Teo Lt (Lithuania)	www.teo.lt
Makedonski Telekom (F.Y.R. of Macedonia)	www.telekom.mk	Türk Telekomünikasyon (Turkey)	www.turktelekom.com.tr
Netia Holdings (Poland)	www.netia.pl	VIPNet (Croatia)	www.vipnet.hr
OTE (Greece)	www.ote.gr	VIVACOM (Bulgaria)	www.vivacom.bg



ETNO Members

European Telecommunications Network Operators' Association