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Communications in High Speed

EETT NEWSLETTER

ISSUE 14th

OCTOBER 2007

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- > The Local Loop Unbundling (LLU) Lines exceeded 190,000
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EETT

HELLENIC TELECOMMUNICATIONS AND POST COMMISSION

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ΕΠΙΚΟΙΝΩΝΙΕΣ ΕΝ ΤΑΧΕΙ

EETT Newsletter
Official Report of the Hellenic
Telecommunications and Post Commission (EETT)

Issue : 14th
Month: October • Year: 2007
Pages: 16

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Message of the President



Dear Readers,

The country's Prime Minister designated 2007 as the Broadband Year for Greece.

As the year draws to an end, the particularly encouraging results justify the entire effort. As early as from mid-year, according to data by the Communications Committee (CoCOM 1-7-2007), our country no longer comes last in terms of broadband penetration, and it is our estimation that by the end of the year, we will be in the 23rd position among EU member states, with more than 1 million broadband connections and an estimated penetration over 9%, compared to 4.4% at the end of 2006.

Local Loop Unbundling (LLU), which has been implemented by EETT, has played a vital role in this progress. It is expected that by the end of 2007, LLU lines will have increased by more than 10 times compared to the beginning of the year, exceeding 250,000 lines and representing more than 20% of broadband lines, whereas from the end of the 1st semester of 2007, they constitute more than 50% of broadband development. Based on the current market trend and data, we may positively estimate that by the end of 2009, LLU measured as a percentage over the main telephone lines, will have reached the average European level.

Therefore, it is safe to say that in 2007, our country has entered a converging course with the EU. This conclusion is further enhanced by the fact that the increase in broadband penetration in Greece for the 1st semester of 2007, according to data provided by CoCOM, reached 2.4%, compared to a total of 2% in the EU. This is the first time that our country spans remarkably the difference with Europe, at least in terms of broadband penetration.

With more than 2,000 broadband connections activated each day, 2007 was fairly characterized as Broadband Year - a more accurate term will be beginning of the Broadband period for our country - since apart from the fact that broadband connections have been doubled in Greece (from 490,000 to more than 900,000 connections), we now stand witnesses of the construction of at least 75 optical fiber Metropolitan Networks, 140 wireless networks, thus expanding broadband applications all over Greece, the installation of another 250,000 broadband connections in the regional areas of the country that was also boosted by Information Society's Programme 4.2, the provision of digital services to the citizens, such as e-healthcare and e-government (by Municipalities, such as the Municipality of Trikala in Central Greece), the convergence between fixed and mobile telephony and the provision of increasingly competitive broadband service packages by fixed and mobile telephony providers (double-play and triple-play).

In 2007, we were pleased to host the Conference of the European Regulators Group (ERG) in Athens, on October 11th and 12th, with interesting conclusions regarding the new European Regulatory Framework and the common strategy of European Regulators on issues such as next generation access networks, wholesale broadband access, mobile and fixed telephony termination rates, international roaming as well as the convergence of services.

Concluding my opening message in this issue of Communications in High Speed, it should be noted that thanks to the efforts put forth by the State, the Enterprises, the Market and the Regulator, the increase rate in broadband connections is accelerated and the average access speed is improving systematically. Competition increases bringing new investments to the market, more players with new network infrastructures and contributing to further cost reduction in broadband connections.

The goal for the coming year should be greater coordination and active efforts by all of us – the State, the Enterprises and the Regulator - so that we may soon converge with the European average, increase the investment and development rate in the field of telecommunications in our country, and increase the quality of the electronic communication services offered. Finally, reference should also be made to the very positive results registered in the Postal Services market, which is growing in a healthy manner, offering more competitive and higher quality postal services in our country. The issue of the new European Directive on postal services is also anticipated, as well as the date for the full liberalization of the market, something which will constitute a particular challenge for EETT.

Marousi, October 2007
Professor Nikitas Alexandridis
President



EETT hosted the Conference of the European Regulators Group (ERG) in Athens

On October 11th and 12th, EETT hosted the Conference of the European Regulators Group in Athens. Within the framework of the Conference proceedings, various issues were discussed. Those issues were related to the new European regulatory framework on electronic communications, as well as to the common strategy of the European regulatory authorities on issues such as the next generation access networks, wholesale broadband access, fixed and mobile telephony termination fees, international roaming service and convergence of services.

Furthermore, a Press Conference was held within the framework of the proceedings, which was attended by Mrs. Viviane Reding, Commissioner for Information Society and Media, Mr. Kostis Hatzidakis, Minister of Transport and Communications, Mr. Roberto Viola, Chairman of the European Regulators

the last position in broadband development, which is a negative fact for the country's competitiveness and the citizens. However, within one year, it has managed to multiply broadband penetration rate, reaching 6.8%. Constant progress is being marked and for this reason congratulations are in order for EETT. Nevertheless, EETT's work has not yet been completed, since Greece can and must reach the European Union average. All competent organizations must work together towards this goal, as broadband is the solution for Greece, mainly due to its particular morphology". Also, Mrs Reding noted that on November 13th, the European Commission will adopt the reform of the European institutional framework for telecommunications.

The Minister of Transport and Communications, Mr. Kostis Hatzidakis stated: "The telecommunications

In the telecommunication sector many opportunities are eminent and numerous new jobs can be created. Personally, I would not want to miss this opportunity".

The President of EETT, Professor Nikitas Alexandridis, underlined the following: "It is with pleasure that we realised that thanks to the efforts put forward by the State, the Enterprises and the Regulator, the growth rate of broadband connections is accelerated, while at the same time the average access speed is systematically improved. Competition becomes more and more intense, bringing in new investments, more players and new network infrastructures to the market and contributing to a further reduction of the cost of broadband connections. The strict implementation of recent regulatory regulations has already brought very encouraging results.



From left: Professor Nikitas Alexandridis EETT's President, Mrs Viviane Reding Commissioner for Information Society and Media, Mr Kostis Hatzidakis Minister of Transport and Communications, Mr Roberto Viola Chairman of the European Regulators Group (ERG)

Group (ERG) and Professor Nikitas Alexandridis, President of EETT.

During the Press Conference, Commissioner Reding stated the following: "There are many reasons why the four of us are sitting at this table. This fact constitutes a message by itself. Our goal is to render the European Union a leader in new technologies. To this effect, we want to have a powerful national Regulator in each member state, who will contribute towards an open market in favor of competition, the economy and the consumers. The Regulator must be independent and perform his work on the basis of European and national legislation. I would like to express my support to EETT and the excellent work it performs. This has not been an easy work, since Greece was late in implementing European legislation. Greece occupied

market must be supported in order to attract large investments and protect the consumer's interest. In this sector, EETT must have a dominant role. Besides, we support EETT's effort in facilitating the smooth operation of the market. All of these areas left behind in the implementation of the European Law and telecommunications, we must accelerate the adaptation process. The government invests a lot in telecommunications, not only in terms of hope, but money as well. There is plenty of room for all in this particular market, both for OTE, who has made significant progress in recent years under the supervision of its President, Mr. Panagis Vourloumis, as well as for high quality alternative providers. Our goal is to develop broadband services, the new generation of optical fibers as well as to bridge the digital gap.

Nevertheless, since as a country we must not tolerate being the last, we must realize that more coordinated and drastic efforts are required by all of us – the State, the Enterprises and the Regulator – in order to converge with the European average as far as the utilization of electronic communications is concerned".

The Chairman of the European Regulators Group (ERG), Mr. Roberto Viola stated: "ERG is particularly satisfied with the work of EETT and the cooperation between EETT and the other independent regulatory Authorities. Also, we are pleased with the progress of the Greek broadband market and we look forward to further development and constructive cooperation".



The Local Loop Unbundling (LLU) Lines exceeded 190,000

A significant increase is demonstrated in fixed telephony Number Portability in parallel with the evolution made in LLU

LLU lines showed a significant growth, reaching approximately 190,000 lines, which is about ten times more compared to the end of 2006.

It is noted that OTE has already delivered to alternative providers approximately 590,000 LLU lines in the whole country. 368,000 of those LLU lines still remain available to satisfy their subscriber's requests. By the end of the month, collocation services will be reached at 131 of OTE's local exchanges compared to 115 in mid July. It is noted that provider's physical collocation requests in the regions of Attiki, Thessaloniki and other major cities have already been provided. The current planning provides that physical collocation will satisfy requests of alternative providers in the Regional Areas.

The evolution of broadband lines is illustrated in Charts 1, 2 and 3.

Increase in fixed telephony number portability continued during October 2007, simultaneously with increase in local loop unbundling. Number portability is a facility that enables consumers to change their service

provider whilst keeping their existing telephone number.

According to data obtained by the national base for telephone number Portability of EETT, fixed telephony number portability recorded more than 45,112 telephone number porting transactions, against 25,325 mobile telephony numbers.

Since 2004, the year number portability became available and up until October 31st, 2007, fixed telephony number portability recorded 272,962 telephone number porting transactions, against 463,222 mobile telephony numbers.

Thus, although mobile number portability recorded a weighted mean monthly traffic of 27,969 numbers in 2007 compared to fixed telephony, which recorded 18,960 porting transactions, in October 2007, fixed telephony exceeded 45,000 numbers compared to mobile telephony which exceeded 34,600.

Fixed and mobile telephony number porting currently exceeds 50,000 each month. During the last few months, 50% of these numbers represent porting of fixed telephony numbers, confirming that fixed number portability rate exceeds 27,500 numbers per month.

Chart 4 illustrates the evolution of number Portability in Greece in the last four years. Intense increase is recorded starting from the end of 2005, mainly due to mobile telephony, while even more intense increase is recorded from the start of 2007, when it picks up the increase rates of local loop unbundling.

Number Portability started off as a facility to Greek consumers, by the Regulation issued by EETT in 2002 (Ref No. EETT 254/71/31-5-2002) and was set in operation in March 2004, following a public and international competition for the awarding and operation of the National Reference Database for Portability (NRDBP).

Chart 1:
Development of Local Loop Unbundling (LLU)

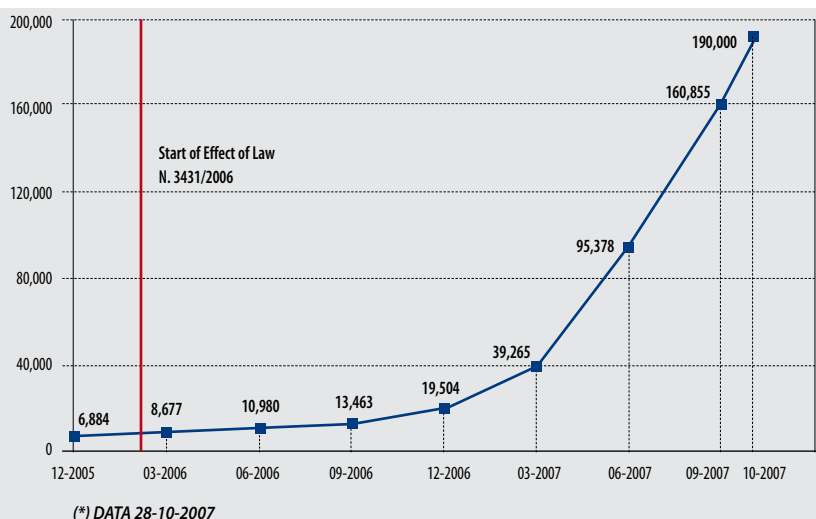
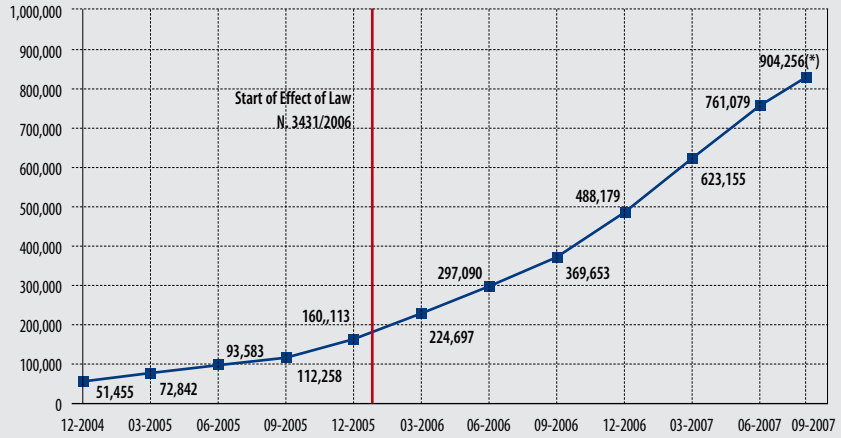




Chart 2:
Development of
Broadband Lines

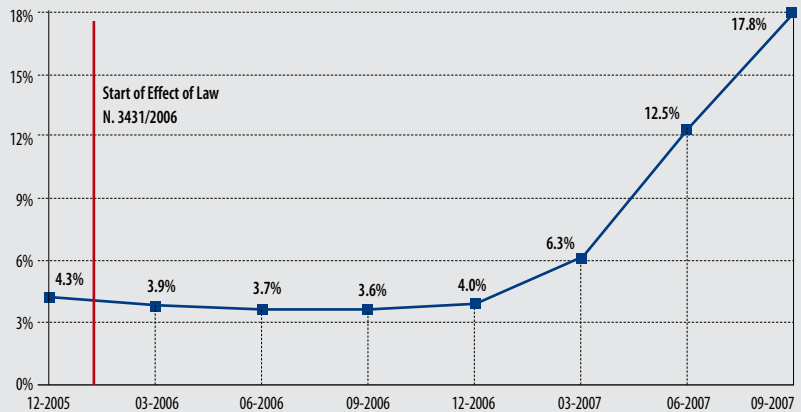


(*) DATA 31-8-2007

The following are included in broadband lines:

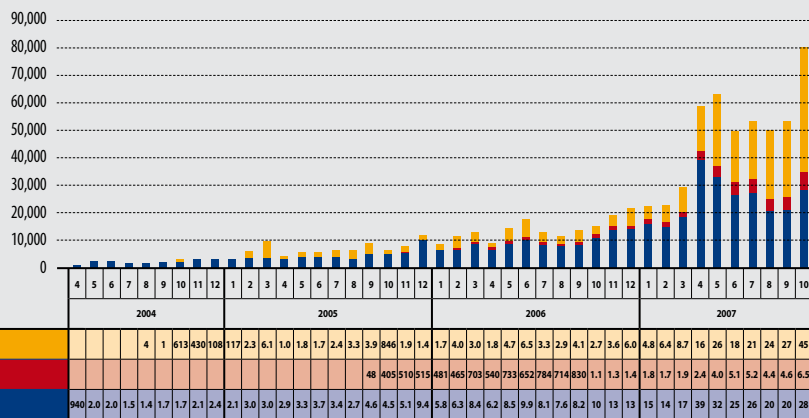
- ADSL lines based on OTE's existing network and provided through OTE's ARYS lines either by OTE or by alternative providers.
- Local Loop Unbundling (LLU) also based on OTE's network, yet exclusively offered by alternative providers, who have the ability to offer their customers such services as "fast" internet, fixed telephony, subscriber television or Video on Demand.
- Other types of lines, such as optic fibers, leased lines, fixed wireless access lines, satellite links, etc.
- It is noted that broadband lines do not include lines based on third generation mobile telephony networks (mobile broadband).

Chart 3:
Development of Local Loop
Unbundling Lines in the
Local Loop as a Percentage
% of Broadband Lines



(*) DATA 31-8-2007

Chart 4:
Transferred Numbers
per Month





Fast Increase of Collocations within the Frame of Local Loop Unbundling throughout Greece

Boosting of Broadband Services in the Province is the Main Goal for EETT

The regional areas of the country, where telecommunication providers may offer broadband services through Local Loop Unbundling (LLU) increase rapidly. The intensive physical collocation space construction programme in OTE's Local Exchange Offices (LEO), which has already been completed in the areas of Attiki and Thessaloniki and all the other major cities, plays a decisive role in this development, while it is currently expanding rapidly in the remaining parts of Greece under constant and close supervision by EETT.

It is noted that by the end of 2007, collocation services will be offered by more than 160 LEO's of OTE. In this way, approximately 3,5 million telephone line owners in the entire country will be able to use LLU services, thus acquiring the ability to chose between more than one broadband service providers.

In the light of boosting of broadband services in the form of broadband network and infrastructure development in the regional areas of Greece, EETT monitors and intervenes according to its responsibilities in the course of implementation of programme 4.2 of the Information Society. Within this frame and following the analysis of

the respective Market, EETT proceeded with the appropriate regulatory actions and the imposition of obligations to OTE (which are provided for by the Reference Unbundling Offer - RUO), thus facilitating providers intending to develop activity in the provision of telecommunication services through





local loops both at the urban centers as well as the regional areas.

Given that the providers must be free to use technology of their choice for the provision of LLU services, and based on the regulations provided in RUO, OTE is under obligation to provide access to pertinent facilities which are necessary for the effective implementation of complete and shared access to the local loop, such as collocation of different types (physical, remote and virtual) and the connecting cables. Through physical collocation, the providers may install the appropriate equipment in OTE's local exchange office in order to connect the local loops to their network by means of their own infrastructure or the infrastructure of other providers of their choice.

Also, OTE is under obligation to negotiate in good faith and satisfy equally and timely all reasonable requests by the providers.

Furthermore, EETT, taking into consideration the particular geographical characteristics of the Greek Province as well as the capabilities of

OTE's access network in the province, boosts the provision of broadband services through wireless means. In particular, EETT has granted four Fixed Wireless Access permits in the frequency band of 3.5 GHz, the holders of which acquire the capability to develop wireless networks through WiMAX technology. The development of the networks in question will contribute decisively to the propagation of broadband services in the Province, allowing users to gain easy and fast broadband access to the Internet, even in the most remote areas of the country, where the use of LLU is not technically feasible or financially viable.

Aiming at the extensive development of broadband networks and also taking into account the fact that Wireless Access networks strengthen the participation of all citizens to the new digital environment being formed, EETT has released the use of the frequency band at 2.4 GHz and 5GHz so as to allow the creation of Wi-Fi networks without the need for a pertinent permit. Through Wi-Fi technology, the users are capable of gaining access to the broadband

network, as long as their computer or mobile phone is within range of the Wi-Fi antenna which is installed at Wi-Fi hotspots. Such hotspots may be provided in restaurants, cafeterias, hotels, shopping centers, etc.

At the same time, the development of broadband services is expanded through mobile telephony networks with the use of UMTS or HSDPA technologies that may offer fast broadband access speeds to the user, no matter where he is or even when on the move. EETT monitors the activity of three mobile telephony companies in the field and the presence of offer in the market for technologically innovative solutions at competitive prices.

Finally, with the continuous provision of information to the technical departments of Municipalities, Prefectures and Regions of the entire country on optical fiber network passing and rights of way, EETT contributes to the installation of modern and necessary infrastructures, aimed at the interconnection of the entire country with high speed and capacity networks.



EETT's Role in the Prosperity of the Consumer

*by Ioannis Paleologos, Professor in the University of Piraeus
and Member of the EETT's Plenary*

In a free market or a market economy, the answer to the problem of perfect distribution of production resources and the socio-economical problems in general, is given by the price mechanism, which functions freely in a competitive environment, without any external interventions.



Ioannis Paleologos
*Professor in the University of Piraeus
and Member of the EETT's Plenary*

In the market economy system, the price forming mechanism offers the answer to the questions: what will be produced, how much will be produced, how will it be produced and for whom will it be produced?

The competitive price system of free economy is a sufficient condition (however not necessary as well) in order to optimize the entire economic system (i.e. to bring it to optimum situation according to the Pareto condition). Nevertheless, in order for full competition to ensure the optimum allocation of resources and goods, and by consequence the prosperity of the consumer, there are certain assumptions that need to be satisfied, (a) the goods must be private and indivisible, which means that the consumption of their quantities by one person must exclude the simultaneous consumption of the same quantities by other persons, (b) absence of external effects, (external economies and diseconomies), which means that the consumption of one person must not be affected by the consumption of other persons, (c) that the "law" of decreasing returns to scale or the law of increasing cost will apply. When this law applies, profit is maximized for the producers according to the equation $MC = P$ (where MC = marginal cost, P = price of good in the market). On the contrary, when cost decreases (increasing return to scale) the $MC=P$ scale leads to negative profits since $AC > MC$ (AC =average cost). Due to

the high fixed cost (high sunk cost) and the scale economies created, decreasing cost leads to monopolistic conditions, (d) complete information and conditions of certainty in the market (i.e. absence of asymmetrical information between producers and consumers).

Potential failure to meet the above mentioned conditions results in failure to achieve system optimization, i.e. non optimum allocation of production resources and goods, in which case market failure results along with the creation of monopolistic or oligopolistic conditions. Market imperfections are handled either by internalization of external effects, or by state corrective policy, in which Adam Smith's invisible hand or the "Laissez Faire" concept are replaced by the invisible hand of the state, i.e. the regulatory authority.

In order to control oligopolistic and monopolistic phenomena in the various markets, the state, which constitutes the second financial institution in free economies after the market institution, intervenes by creating Independent Regulatory Authorities, which aim at minimizing or eliminating arrhythmia in the markets in order to maximize consumer welfare. However, in what way does the Independent Regulatory Authority, i.e. EETT, contribute in the telecommunications market towards the welfare of the consumer? The telecommunications market is a market with an oligopolistic structure,



with intense interdependence between the small number of business of the sector as a main characteristic. In the oligopolistic market, the firm operates under a state of uncertainty, whereas during the implementation of the pricing policy, it takes into account behaviours of the competitors. In the telecommunications market, there is the main provider, namely the one holding a dominant position in the market (i.e. the one possessing significant power in the market, SMP), namely OTE (former physical monopoly) and the alternative providers, namely OTE's competitors. The implementation of rules of competition in the electronic communication market strengthens the role of EETT. The new Law 3431/2006 authorizes the Independent Authority (i.e. EETT) to implement Law 703/1977 on competition principles in the electronic communications market.

The Regulatory Authority has at its disposal two main intervention tools in order to render competition

workable to the benefit of consumer prosperity in a now liberated telecommunications market: Competition policy and regulatory policy (ex ante Sectoral Regulation). Both policies aim at rendering competition more effective. In particular, Regulatory Policy means aim at the ex ante sectoral regulation of SMP enterprises (cost-oriented pricing obligation), so that the market may work according to the principles of competition. Regulatory Policy intervenes ex ante in the pricing policy of the monopolist or the enterprise holding a significant position in the market (such as OTE), aiming at strengthening competition and promoting consumer prosperity. On the other hand, the Competition Policy is exercised when it is considered that competition may work, namely when competition is more desirable. According to the Economic theory, Competition Policy means are aimed at the ex post control of the behavior of SMP enterprises, which create, preserve or strengthen SMP's with negative consequences on consumer prosperity. Such behaviors are a) foreclosure practices on the part

of the SMP enterprise in the electronic communications market (e.g. denial of access to essential facilities) b) undue exploitation of predominant position by the prevailing provider (e.g. price squeeze) and predator pricing, which averts the entrance of other competitors in the market, c) cooperating behavior (harmonized practices) that lead to anti-trusts, with adverse consequences for consumer prosperity. In addition, the goal of the Pricing Policy is the ex ante control of enterprise mergers and acquisitions that change the market structure (change of shares and change of concentration level in the market) and strengthen the dominant position of SMP enterprises in the oligopolistic market. By applying transparent and unbiased procedures, without external interventions, EETT promotes competition in the respective market to the benefit of consumers. It is commonly believed that by applying the principles of competition (without ignoring the complexity of the electronic communications market), EETT contributes to consumers' welfare.





Radio Spectrum Availability for New Mobile Telecommunications Services

The radio spectrum is a rare resource and a public asset of strategic nature for our country as well as for all member states of the European Union (EU), which requires proper coordination between the various users, in order to ensure that all needs are taken into consideration. The industries depending on the radio spectrum (such as mobile telecommunications and radio broadcasting) are growing rapidly in Europe and they already constitute a vital component of the European economic environment. The rapid development of technology and the convergence of telecommunications, mass media and electronic devices, have created a dynamic environment, in which access to the radio spectrum is rendered necessary.

Technological progress has started to change the quality and sense of communications, signaling the beginning of a new era in the propagation of communications and information based on powerful electronic avenues. Optical fibers, integrated broadband networks, intelligent networks, UMTS and multimedia broadcasts represent significant achievements of the last few decades.

The services that depend on the spectrum represent approximately 2-3% of Europe's GNP. Studies which were carried out by the World Bank and OECD, clearly associate the development of electronic communication services to financial development.

Thus, although the demand for making available radiofrequency spectrum band is particularly high, the spectrum does not seem to be adequate. Methods must be found in order to effectively ensure this valuable resource, that will be based on the main characteristic of service and technology neutrality.

The information and communication technologies (ICT) policy is constantly developed as a the most significant chapter, both for covering the specific demand on the part of the users, as well as for the overall development of the Information Society. In the future, new applications in the Information Society will rely greatly on radio communications (particularly on 3rd generation mobile communications, IMT-2000), for which spectrum availability is a main factor of successful propagation. Naturally, the release of an adequate radio spectrum will certainly raise to certain issues for present users,

such as the issue regarding potential interferences.

An important element that needs to be considered is the transition to digital television, which has already advanced significantly in certain member states, as well as the elimination of analogue television from 2012 to 2015. This procedure releases a large band of valuable radio frequency (the so-called digital dividend). A coordinated approach with reference to the allocation of the spectrum in question on a European level is necessary, in order to exploit the benefits of the transition and offer the ability for the development of new, innovative services in Greece and the entire EU. Mobile television is one of the main candidate services that will benefit from the digital dividend. However, it is evident that other bands are also examined, as well as issues regarding time planning and capability. It will also be necessary to handle cross border requests.

The UHF broadcasting band (470-862 MHz) is considered the most suitable for mobile multimedia services, due to its technical characteristics. It also offers advantages due to the compatibility between DVB-H and DVB-T. However, the use of the spectrum is limited by the diverging national policies regarding the digital dividend.

In particular, radio television entities express the concern that the operation of different technologies close to the broadcasting frequencies they use may cause severe interference. Potentially, the different use of certain frequencies will prove to be impossible at first, due to technical limitations and to interference

problems. However, given the rate of technological evolution during the 21st century - for instance, iPod and Wi-Fi were essentially unknown six years ago - it is very likely that interference will not constitute a great problem in the future thanks to new technical solutions. Already, technical developments such as Software Defined Radio (SDR) and Cognitive Device Radio (CDR) create the preconditions for the close co-existence of different uses of radio spectrum without interference.

Therefore, the spectrum could greatly facilitate the provision of innovative high quality public services, on condition that it will be used efficiently on a long-term basis.

Future Mobile Communication Systems

During the World Radio Communication Conference (WRC-07), which constitutes the climax of the preparatory work of many years and will be held in Geneva from October 22nd to November 16th 2007, future mobile telecommunications systems will constitute one of the major issues of focus. Candidate bands will be addressed for the identification of the so called "IMT" technology, which comprises "IMT-2000", the family of 3rd generation mobile telecommunications standards that is acknowledged by the International Telecommunications Union (ITU) under the common name "3G" (UMTS), as well "IMT-Advanced", which comprises the family of mobile telecommunications standards with 4th generation mobile communication



systems ("4G"), that will offer mobile broadband wireless access to cellular architecture anywhere.

There are two aspects of mobility:

- User mobility: The users have wireless communication "anytime, anywhere and with anyone".
- Device portability: The devices are connected to the network anytime, anywhere.

During the preparations for WRC-07, there was a clear demand for additional spectrum to be identified for mobile communications. A first step could be made in this conference, towards greater flexibility by upgrading the status of the services in question.

The C band (3.4 – 4.2 GHz)

The C band (3.4 – 4.2 GHz) is included among the high frequency candidate bands currently available for mobile systems in Europe. Although this band is attractive for future mobile communication systems, it is used as a main broadband network for satellite services, mainly in the developing countries. Many sharing studies will be needed in order to find technical solutions covering the requirements for mobile services, while at the same time providing sufficient protection to satellite communication in the C zone, against harmful interferences, so that sufficient long-term guarantees may be given to the operators for the operation of their services. Satellite communications will continue to have primary priority in the sub-band of 3.8 - 4.2 GHz.

The UHF band (470 to 862 MHz)

Due to its low frequency, the UHF broadcasting band (470 to 862 MHz) provides optimal signal propagation characteristics in terms of coverage and indoor penetration. Network infrastructures in the UHF band could be more cost-effective than existing systems and could facilitate the deployment of mobile systems in sparsely populated regions and densely constructed urban areas.

The societal and economic potential of the "digital dividend" will have to

be maximized. With the transition from analogue to digital broadcasting, hundreds of radio spectrum MHz will be released, thus offering the ability to reallocate the radio spectrum, as well as new opportunities for market development. This means that the use of the UHF band will have to be assessed in the light of the opportunities offered by new, efficient uses, based on general interest objectives.

Currently, Radio Regulations of the ITU grant broadcasting services a higher regulatory status ("primary allocation") in the UHF band in Greece, as well as in all EU member states.

Many member states have already implemented national strategies to switch off analogue TV and to exploit the digital dividend.

An upgrade of the mobile service status in the UHF band in Greece, as well as in the other member states of the EU would increase flexibility and could remove potential constraints to the future optimal organization of the band for the provision of innovative services.

It is important for the economy of our country, that the mobile communication industry continues to have access to sufficient radio spectrum resources in order to not turn the digital dividend to a digital gap.

Also, every effort should be made to minimise the risks of interference to IMT-2000 networks operating in the EU

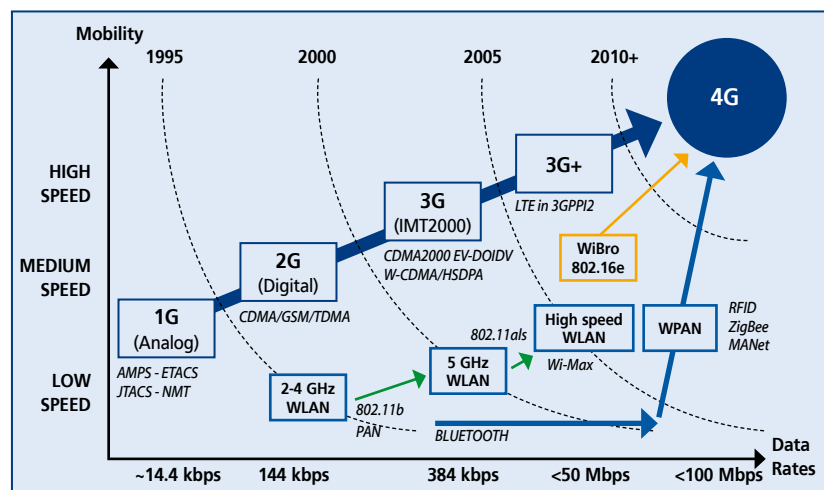
in the 2.5–2.69 GHz band from satellite services.

What is happening on a European and International Level?

On February 14th, 2007, the European Parliament issued a resolution stating that "...part of the spectrum dividend must be made available for technical harmonization on a European level" and that "... the Commission is encouraged to take into consideration the reality of the spectrum dividend during the elaboration of future policy guidelines relating to the radio spectrum...". Also, it invited the Commission to ensure "... that the importance of radio television broadcasts for the free formulation of private and public opinion is duly taken into consideration, along with polyphony during the allocation of broadcasting rights on a European level".

The GE06 agreement (GENEVA 2006), which was signed in 2006 as a result of the Regional Radio Communications Conference (RRC-06) of the ITU offers a comprehensive regulatory framework for the protection of digital radio television broadcasts against harmful interferences. The European Commission has also issued an official mandate to many CEPT countries for technical parameters regarding harmonization options for the digital dividend.

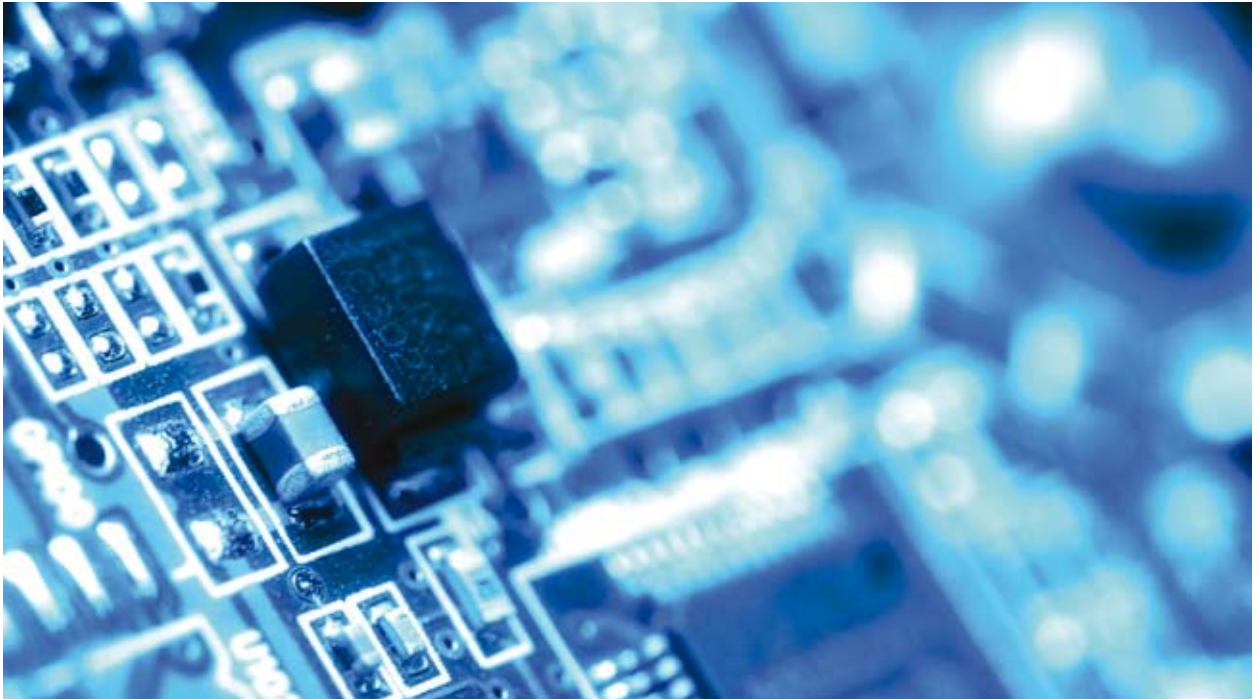
Evolution of Mobile Telephony



LTE: Long Term Evolution



Publication of Radiointerfaces by EETT and their Role in the Use of the Spectrum



1. Regulation of Radioequipment and Telecommunications Terminal Equipment Market

The industry sector of Radioequipment and Telecommunications Terminal Equipment (RTTE) comprises all products using the radio spectrum (e.g. mobile telephones, remote control systems, CB's, etc.), as well as equipment connected to public telecommunications networks (e.g. telephones, ADSL modems, etc.). Directive 99/5/EC, which was transferred to the Hellenic legislation by Presidential Decree PD 44/2002, regulates the above market through a framework of free circulation of the products among the member states of the EU, ensuring that these are safe and do not cause harmful interference to radiocommunications services and the operation of other equipment. Other issues regulated by the Directive include requirements concerning the operational safety

of the equipment, potential effects on human health from mobile telephony, anti-theft specifications for mobile telephones and theft prevention methods, interoperability for 3rd generation mobile telephony equipment, as well as accessibility to radiocommunications services for the disabled and the elderly.

2. The Role of Radiointerfaces

The radio spectrum is not fully harmonized in the member states of the Community. Therefore, equipment manufacturers must be informed as regards the differences in the allocation and use of the spectrum in each country, in order to be able to manufacture and put on the market, equipment that is suitable for use in the Community. Article 4.1 of Directive 99/5/EC (Article 4.1 of PD 44/2002) specifies that member states are under obligation to publish their requirements for putting into service of radio equipment, thus allowing manufacturers to develop products that will be addressed to

as great a part of the market as possible.

In addition, the use of radio equipment is only possible following the issuance of the pertinent right of use of frequency (unless a specific exemption is provided for in the legislation). These rights are issued on condition that specific terms and conditions are met. Compliance of the equipment with Directive 99/5/EC and the respective radiointerface also signifies compliance with the requirements of the right to use the frequency, as regards the radio equipment. In case of exemption from licensing of specific frequency bands, use may only be made by equipment complying with directive 99/5/EC and the corresponding radiointerface.

Compliance with Directive 99/5/EC and radiointerfaces ensures that radio equipment may be used with very low probability of causing significant interference to other users.



3. Elements included in Radiointerfaces

Radiointerfaces must include sufficient information regarding spectrum allocation for the frequency band of operation of the radio equipment and the main technical characteristics of the equipment. A radiointerface comprises of two parts: The regulatory, which is the mandatory part of the radiointerface, and the informative, which is of informative nature and is not mandatory. The elements included in the regulatory part are: Frequency bands and respective services and applications according to the National Frequency Allocation Regulation, licensing status, channel spacing and class of emission, maximum power, duty cycle, etc. The informative part comprises references to harmonized standards, ECC decisions/ recommendations, etc.

4. Radiointerfaces Publication Procedure

Radiointerfaces constitute technical regulations and are thus included in the scope of Directive 98/34/EC (which was transferred to the Hellenic legislation by PD 39/2001), pursuant to which member states are under obligation, among others, to communicate to the Commission any draft technical regulation they intend to approve.

Upon communication of such a new radiointerface draft, the Commission forwards all the information communicated to all member states, so that they are able to participate fully to the reviewing procedure that is established by the Directive. Also, the Commission publishes the communicated drafts and their translation on its website (ec.europa.eu/enterprise/tris/), allowing all financial organizations of the internal market to express their view. Three months after the communication, the Commission may rule that no barriers are created to the free transfer of equipment by the publication of the Regulation, or address comments –detailed opinion to the member state, or decide the “blockage” of the Regulation.

The member state may publish the radiointerface text as it is, or modified according to the comments and remarks that may have been received, accordingly.

5. Radiointerfaces published by EETT

EETT has published radiointerfaces for many categories of radioequipment including, among others, various types of short range devices (e.g. wireless LAN's at 2.4 GHz, remote control devices, radio frequency identification devices RFID's, etc.), maritime radio equipment, wide band audio links, equipment used for fixed links, etc. All standing radiointerfaces are published on EETT's website.





Proceedings of the 36th CERP Plenary Session

On May 10th & 11th 2007 in Tallinn, Estonia, the 36th CERP Plenary Session was held with the participation of representatives from 32 European countries.

At CERP (European Committee for Postal Regulation) take part the 46 member states who also participate at the CEPT, the European organisation of Telecommunications and Postal Regulators.

In view of the new Postal Directive and the liberalization of postal market combined with the latest most important enlargement of the European Union, which is now numbering 27 member-states, the subjects that most preoccupied the plenary were the following:

1. The Role and the Responsibilities of International Institutions of the European Commission

Nowadays, the collaboration of European Regulatory Authorities takes place through:

- The European Commission and especially via the Postal Directive Committee (PDC).
- The CERP.

The Postal Directive Committee assists the EU regarding the application of the postal directive, the collection of information on the development of the market and the action taking.

Most of the 46 countries that participate at CERP, are either member states of the EU, or candidate states, or have a special relation with the EU. Due to that, the interest of the EU to collaborate with the CERP is expected.

CERP is in a better place to promote the European positions within the Universal Postal Union and is more flexible to express opinions, recommendations and directives while other parties such as the Universal Postal Union (UPU), the Posteurop etc, take part.

As a representative of the European Commission stated, there is an important field of collaboration between the EU (PDC) and the CERP, and some overlap may be useful.

2. The Effective Function of the International Post and the Services Provided to Important Users-Bulk Mailers

We should underline, at this point the problems mentioned by the representatives of two important users of postal services, which should be further examined by the above international institutions:

Time Warner is an important user of postal services, at an international level. They referred to the important issues they deal with the distribution of the Time magazine, from the Netherlands where it is printed, to the rest of the Europe, due to the fact that each country has its own specifications regarding the way of writing the recipient's address and the type of the packaging, such as:

- Different address formats.
- Use of different languages even within the same country.
- Special features for graphics printing (i.e. postal operators' logo) which aren't supported by their printers.
- Different plastic packaging requirements.
- Charges based on "terminal dues" agreements, which are not favourable for bulk mailers.
- Different categorisation of the object based on the content and/or its dimensions.

Time Warner considers that in order to resolve these problems and help promote the development of international

post, action should be taken in the direction of standardization and establishment of a philosophy that focuses on the needs of customers.

FEDMA (Federation of Direct and Interactive Marketing) underlined the fact that having access to a data base of addresses in an international level would be very effective for the development of postal services as well as for the environment.

Certain examples were given:

A Swedish company sent 220,000 letters to 10 countries, 30% of which wasn't delivered because the addressee wasn't found, in other words, 66,000 letters were simply lost.

In the United Kingdom, 67% of company addresses aren't correct, consequently 1,1 billion postal items are sent to companies that either have moved out or have closed. All these undelivered letters equal to a loss of 75 million pounds per year.

The big cost of losses and the big pressure to reduce the paper use, for environmental reasons, forces us to take measures in order to obtain total access to a data base of addresses and change addresses in an international level.

It is worth noting that in Estonia:

- a. The broadband integration is exceeding the European average.
- b. The application of electronic governance is emphasized.
- c. The realization of an e-state has began.

After taking into consideration the concerns pointed out by the host-country, Estonia, regarding the way and the procedures of liberalization of the postal sector, the following particularly interesting question was brought up: «Do we really need the universal postal service, as it is defined today?»



Obligations of Postal Services Providers

* Charter of Obligations towards the Consumer (COC)

Companies providing postal services in our country should submit to EETT, during the licence process along with others papers required, a Charter of Obligations towards Consumer (COC). The COC is very important for the consumers (customers) of postal services providers, because it contains a detailed description of terms and conditions that should be fulfilled during the handling of postal items. The COC is publicly available to any customer of the postal operator, while an essential part of the COC is also written in the back cover of the Express Delivery Voucher (EDV), or simply, voucher.

The terms and conditions of the COC refer more specifically to:

- Services provided and their quality (type of services provided, time of delivery, geographical region where services are available, added value services on the top for the provided services).
- Tariffs of provided services.
- Recommended action in case of delay, damage or loss of the item (for example: compensation, Dispute Resolution Committee).
- Action taken in case of undelivered items.
- List of items not accepted to be handled.
- Customer service and the services provided to persons with special needs.
- Cases where COC doesn't apply.

The quality of services is guaranteed through the mandatory tracking and tracing process for all the items handled by a specific postal operator. This process is implemented through the Special Postal Items Track & Trace System, known as SPITTS. Thanks to this system we can check the date and time of arrival or departure of handled



items during their transfer from origin to destination. Special features, such as the voucher's identification code, the weight, the address of the sender / receiver, time of collection / delivery, type of item, type of provided service, way of payment and total charges are also recorded in the SPITTS. The operator should keep this information in electronic format for at least 6 months.

In the combined handling, more than one operator is needed in order to deliver the item to its addressee. In this case, in order to track the item, throughout its handling, we use the common SPITTS which the collaborating postal operators should dispose.

The provider, chosen by a customer to send an item, is by law responsible for the final delivery of the item to its addressee. In case of low quality

service, the consumer has the right to submit a compensation claim within 6 months from the day of departure. Using the information in the SPITTS system(s) is the first step to take in order to locate and possibly resolve the problem. If there is no amicable settlement and the postal provider decides to compensate the complainant, the amount, the time and the way of compensating the customer must be fully described in the COC Especially when loss of an item is evident, the Ministerial Decision 29030/816/2000 sets a minimum compensation fee of 35,21€. The provider should compensate the complainant with an amount at least as high as the minimum set by the relevant Ministerial Decision.

If the complainant considers that the suggested solution is not a fair one, he/she has the right to call a Dispute Resolution Committee (DRC) meeting. The Dispute Resolution Committee is a tribunal and the postal operator is responsible for its proper functioning. It consists of at least 3 members, one of whom is a consumer organization representative. The findings of the DRC are documented and the parties involved may use this document for any legal use. In case where the complainant doesn't feel there was final resolution of the case after the DRC session, then he/she has the option to appeal to EETT in order to examine the whole case and impose, potentially, the appropriate measures that apply to each case.

It is clear that EETT with its regulatory decisions and audits has greatly contributed to the admission of healthy enterprises in the postal sector, the provision of quality postal services, and the effective resolution of problems whenever occur.



New Methods for Radio Frequency Spectrum Management: Spectrum Trading

With the Regulation for the Transfer of Rights of Use of Radio Frequencies (Government Gazette 638/B/27-4-2007) EETT set the foundation for the implementation of spectrum trading in a clear and organized method for the first time in Greece. The term "spectrum trading" is used to describe the process of transfer of Radio Frequency Rights of Use between interested parties in a secondary market.

The main reasons for the implementation of spectrum trading, as well as market tools in general, in the management of radio frequency spectrum are: Lack of available spectrum to meet the ever increasing demand, rapid development of new technologies and inflexibility of traditional spectrum management methods in the way they handle the requirements of providers of electronic communication services and networks on one hand and innovation on the other.

Through spectrum trading, it is anticipated that as time goes by, the Rights of Use of Radio Frequencies will end up to those who value them the most. This will result in the efficient use of this scarce resource and the maximization of the profit for the national economy. Spectrum trading is estimated to bring significant benefits to the end user as well:

- Reduction of Prices of Wireless Communication Services.
- Greater Variety in the Telecommunication Services Offered.
- Increase of Innovative Services.

Despite the anticipated benefits, the introduction of spectrum trading comprises potential risks at the same time, such as obstruction of competition, increase of probability of occurrence of harmful interference and protection of critical services (e.g. public protection, disaster recovery, safety, protection of life, etc.). The reduction of possible risks may be ensured by careful planning of the pertinent spectrum trading regulations, while at the same time acknowledging that spectrum trading is only one of the available spectrum management tools.

Spectrum trading has already been implemented in the USA, Australia and many other European countries, including the United Kingdom. On a European Union level, the significant benefits that spectrum trading could bring in conjunction with other radio frequency spectrum management tools in the development of electronic communication networks and services in Europe, have already been identified. To this effect, the European Commission promotes the coordinated course of all member states towards this direction.

Spectrum trading may be realized in various different ways. To begin with, trading may be distinguished into complete transfer or simple lease of Radio Frequency Rights of Use. Also, a Radio Frequency Right of Use may be transferred or leased either entirely or in parts. The partial transfer may either be geographical (within a subregion of the original geographic area), or spectral (i.e. part of the radio frequency band of the original right), or temporal (certain defined time periods of a day or a week), or combination of the above.

The Regulation for the Transfer of Rights of Use of Radio Frequencies that was issued by EETT concerns the transfer or lease of Radio Frequency Rights of Use in whole (no partial transfers is provided for). The Regulation states the terms and conditions, so that rights of use may be transferred or leased, and specifies the procedure and the required supporting documents.

At the same time, EETT has submitted to the Ministry of Transport and Communications a relative Regulation concerning the partial transfer and/or lease of Rights of Use of Radio Frequencies.



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