CONTENTS

5. MOBILE CELLULAR NETWORKS AND SERVICES

5.1. Participants and competition on the market

At the end of 2004 three telecommunications operators continued to implement trade activities on the mobile cellular networks and services market: one operator of an analog mobile network in conformity with standard NMT, RTC LTD, with the trade name of MOBIKOM, and two GSM operators: MOBILTEL EAD with a trade name of M-TEL and COSMO BULGARIA MOBILE PLC with a trade name GLOBUL.

During the year M-TEL retained its leadership position on the market along with the lasting strengthening of market presence of the second mobile operator GLOBUL, which is due both to the total growth of mobile services users and the attraction of users by the other two operators. It should be noted here the more and more fading away of the operability of the first national operator MOBIKOM. The number of mobile telephone services users provided through the analog mobile network in conformity with standard NMT, continued significantly to drop with the strong competition of the digital mobile networks of the other operators, who offer a broader set of services.

In June 2004 a new participant entered the mobile cellular networks and services market – BTC PLC obtained an individual license for carrying out of telecommunications through a public telecommunications mobile cellular network under GSM standard with national coverage as a part of the completion of the company privatization transaction. The anticipated start-up of trade activities of the third digital operator by the end of 2005 will create prerequisites for the growth of competition in the mobile services sector and re-distribution of the market shares amongst operators.

BTC PLC announced its intention to purchase the analogue mobile operator MOBIKOM. The purchase of the residual package of MOBIKOM (49% of CABLE AND WIRELESS and 12 % of RADIOELECTRONIC SYSTEMS) will allow BTC PLC to use the operator's infrastructure as a platform for its new digital network. At the end of the year the Austrian telecommunications operator TELECOM AUSTRIA AG acquired an option for the purchase of 100 % of the capital of MOBILTEL PLC and the finalization of the transaction is anticipated.

During the year an interest was shown in building up of GSM networks of the third generation, based on UMTS[1] technology. UMTS technology allows for high-speed exchange of data between the mobile networks users and offers supplementary applications such as video connection, video conferences, electronic banking and others. At the beginning of 2005 the start-up of a procedure for licensing of UMTS networks operators by CRC is forthcoming. According to the networks development terms, forthcoming to be input, the first mobile 3G services must appear on the market by 2007 at the latest.

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[1] *UMTS - Universal Mobile Telecommunication System*

5.2. Infrastructure of the mobile cellular networks

Table 6 indicates the main parameters, which determine the level of infrastructure development of the digital mobile cellular networks.

Table 6

Operator / Indicator	*MOBILTEL*			*GLOBUL*		
	31.12.2002	31.12.2003	31.12.2004	31.12.2002	31.12.2003	31.12.2004
Coverage per territory	80%	96%	99.1%	42%	77%	85%
Coverage per population	92%	99%	99.40%	78%	95%	98%

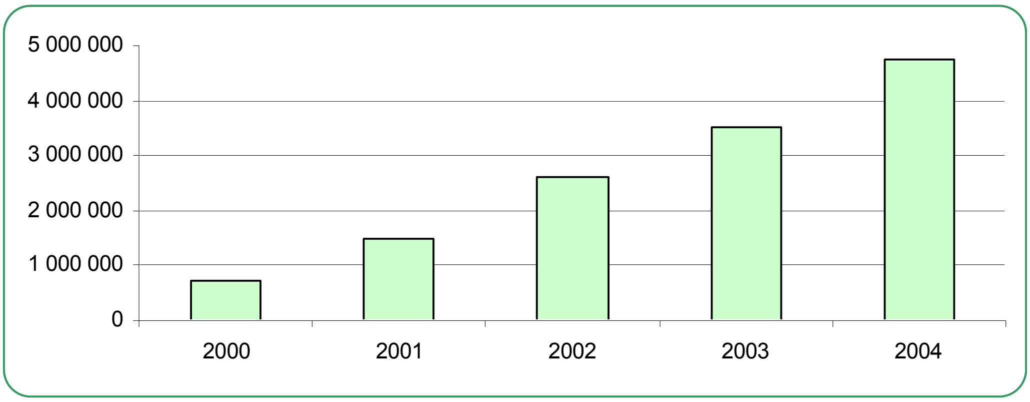
Source: *Data submitted to CRC*

The increase of the number of base stations and cells creates the conditions needed for the improvement of the quality of the services. After the drop off of the restrictions ensuing from the monopoly of BTC PLC, the mobile operators at accelerated rates build up their own base transmission infrastructure.

5.3. Development of the market of mobile telephone services

In 2004 the mobile networks and services market in Bulgaria continued intensively to develop, the share of the mobile subscribers and the revenues from mobile voice services growing up at outstripping rates with regard to the subscribers and revenues of the fixed networks. The restructuring, which has been performed on the Bulgarian telecommunications market for the last few years, corresponds to the tendency observed on a global scale for rapid development of the mobile communications and gradual decrease of the significance of the traditional fixed voice service. At the end of the year the fixed telephone services with relative share of about 35 % in the total volume on the Bulgarian telecommunications market give in to the mobile ones, whose share is half of all the revenues within the sector for last year and amounts to BGN 1,23 billion, having grown up by 25% for the time period.

Number of subscribers to mobile cellular networks in Bulgaria



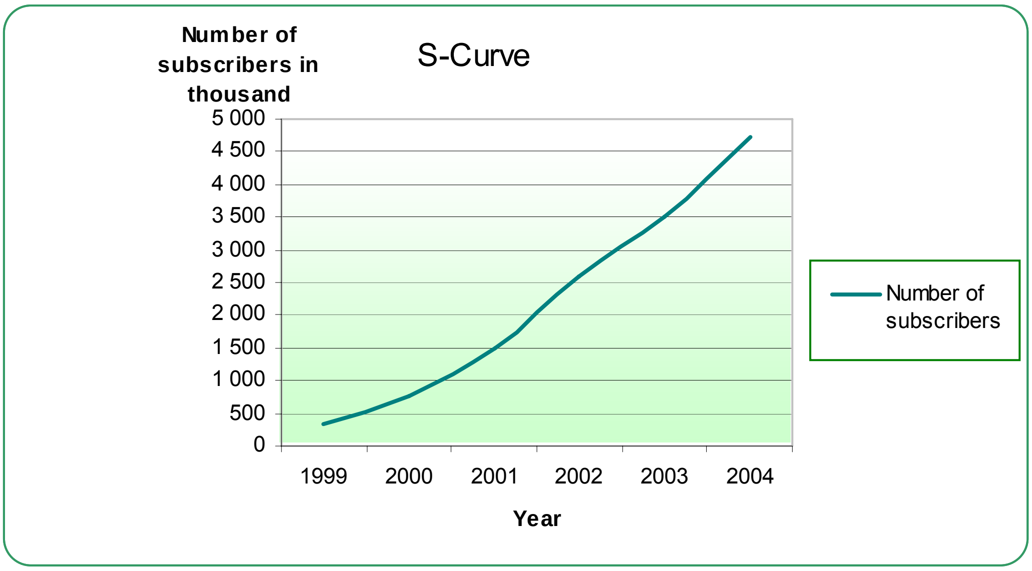
Source: *Data submitted to CRC*

Fig. 51

The number of subscribers to mobile networks continued to grow up in 2004 too and reached 4 729 731 at the end of the year. Yet, the marked growth of 35% compared to 2003 is smaller compared to those for the preceding two years, when the market reported nearly two-fold increase of the new subscribers.

Shown on Fig. 52 is the S-curve of the mobile services market in our country. The building up of the S-curve indicates that the annual growth rate of the subscribers stabilizes. This is a result of the dynamic development of the mobile market in our country for the last few years and its gradual saturation. The positive impulse of the anticipated entrance of a new competitor on the market may provoke short-term increase of the rates, by which the number of subscribers grows up, but as a whole within a medium-term period it is expected that the re-distribution of the market shares through the existing subscribers shall predominantly exert influence over the market structure.

S-curve of the mobile services market in Bulgaria

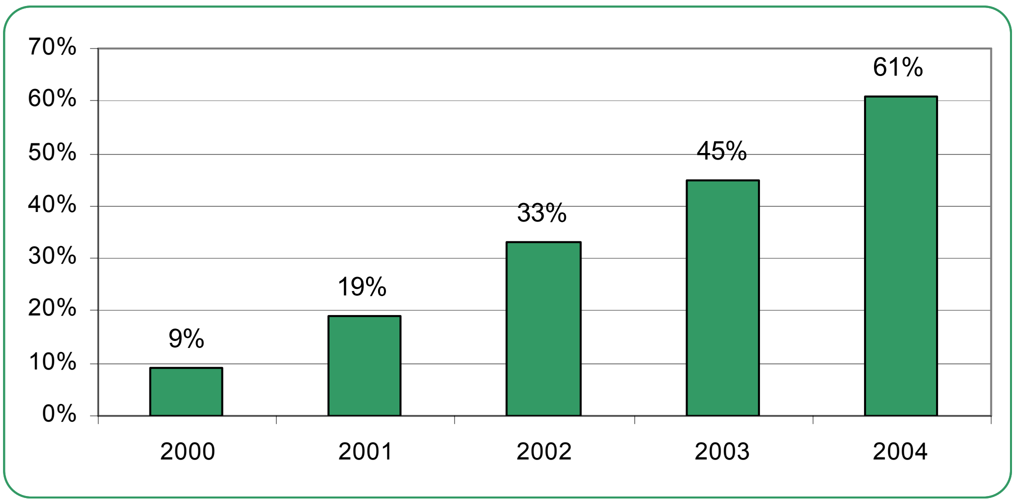


***Source**: Data submitted to CRC*

Fig. 52

The progressive growth of the mobile penetration (mobile subscribers per 100 inhabitants), observed on the mobile services market in Bulgaria for the last few years is seen from Fig. 53.

Mobile penetration in Bulgaria 2000 - 2004

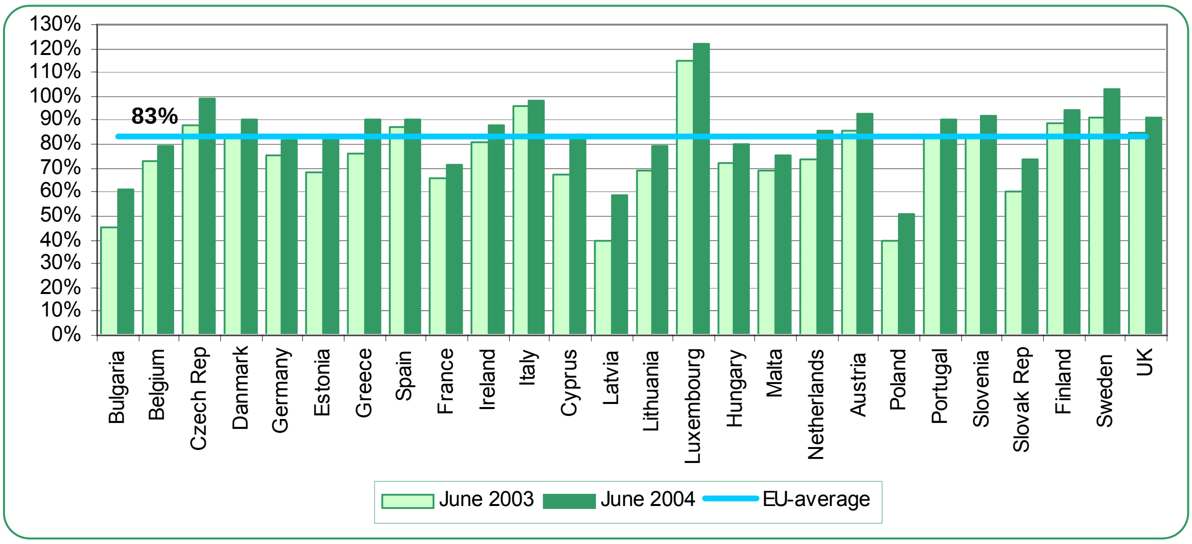


***Source**: Data submitted to CRC*

Fig. 53

At the end of 2004 the mobile telephone penetration reached 61 %. Notwithstanding the 16-per cent increase compared to the end of 2003, it is still significantly under the average value for the EU Member States, which is 83 % (Fig. 54). In view of the saturation related tendency, which is observed on the mobile market, it is difficult to forecast whether the mobile penetration in Bulgaria shall reach the European levels.

Mobile telephone penetration in Bulgaria and the EU Member States



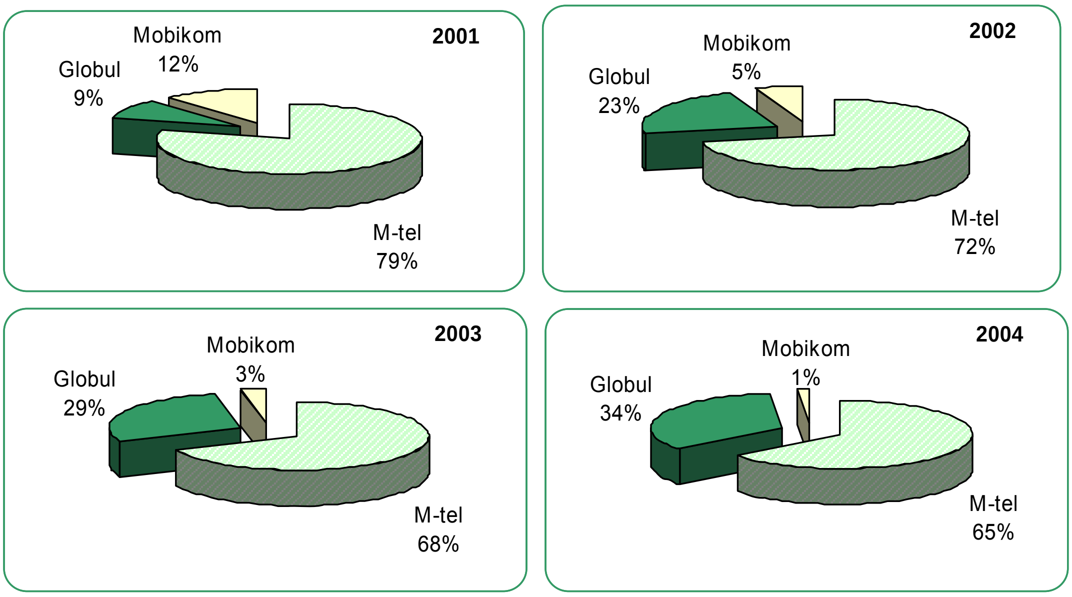
* *The data about Bulgaria are as of 31.12.2004.*

***Source**: 10th Report on the Implementation of the Telecommunications Regulatory Package, IBM Business Consulting Services, 4th Report on Monitoring of EU Candidate Countries (Telecommunication Services Sector), Data submitted to CRC*

Fig. 54

The modification of the market shares of the three mobile telecommunications operators, calculated in conformity with the number of subscribers for the time period from 2001 to 2004 are presented in the following figure.

Market share of the mobile operators based on the number of subscribers



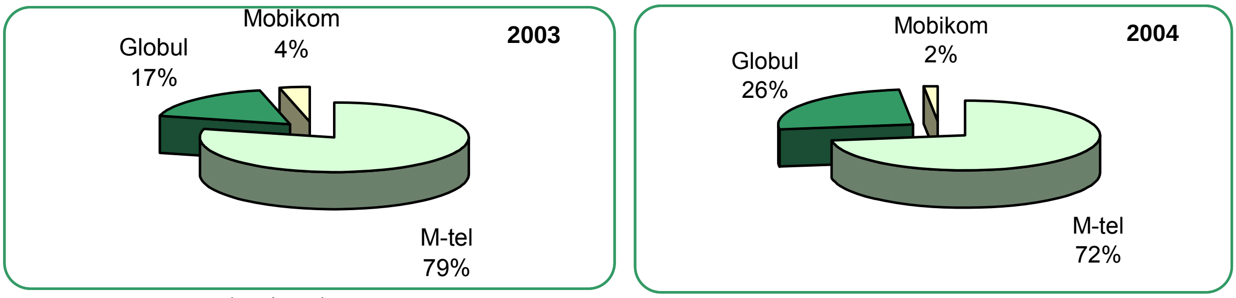
Source: *Data submitted to CRC*

Fig. 55

Notwithstanding the loss of a relative share in 2004 in an absolute expression, M-tel managed to attract nearly 650 000 new clients and remains an indisputable leader on the market with nearly 65 % of all the mobile services subscribers in the country. On the other hand GLOBUL managed to expand its share from 29 % to 34 %. As compared with the same time period of the preceding year the number of the subscribers of M-tel increased by 27 %, and of GLOBUL - by 67 %. For the same time period the number of subscribers of MOBIKOM decreased by 33%, and as of the end of 2004 the analogue operator was with an insignificant market share of 1 %. Along with the strong competition of the digital mobile networks, offering higher quality and broader set of services, a substantial negative factor for the development of the NMT network from a technological point of view is the fact that analogue equipment and handsets are no longer produced.

The market shares of the three mobile operators determined on the basis of the revenues from the provision of services through a licensed network, are presented in the following figure.

Market share of the mobile operators in Bulgaria based on the revenues from the provision of mobile telecommunication services[2]



Source: Data submitted to CRC

Fig. 56

M-tel continues to be the market leader with regard to revenues as well. Notwithstanding the slight drop of 5 % in the total market structure, the revenues of the company marked a growth of 15 % compared to 2003. The annual revenues of GLOBUL were increased by 84 %. The growth of the shares of the digital networks is also at the expense of the revenues of MOBIKOM, which decreased by 42 %, their market share continuing to drop.

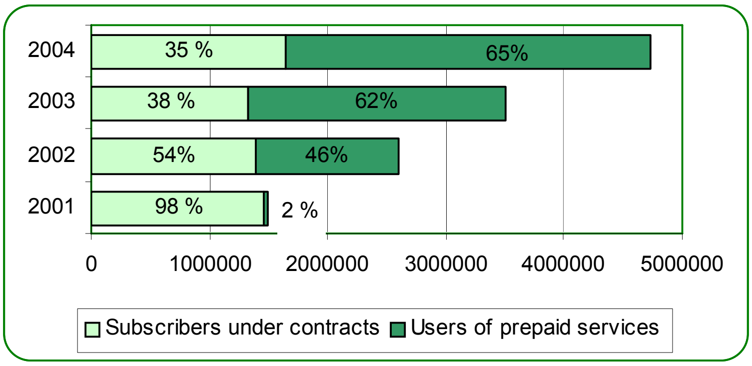
At the end of October the CRC determined MOBILTEL PLC as an operator with significant power on the market of mobile telecommunications networks and the provision of voice telephone services through them. The Decision was passed in compliance with the Telecommunications Act and the Methodology on the Conditions and Procedure for Determination of Operators with Significant Power on the grounds of an analysis of information about the net revenues realized by the operators for the preceding year, the total volume of the market segment of mobile voice services and the market share of each of the participants in this segment, and as of 31.12.2003 these shares were respectively: RTC OOD – 2,3%, COSMO BULGARIA MOBILE PLC – 15 % and MOBILTEL PLC – 82,7 %.

As an operator with significant power over the mobile voice services market, specific obligations are imposed on MOBILTEL PLC with regard to the interconnection – observation of the principles of non-discrimination and confidentiality during the provision of interconnection related services.

In 2004 too, an intensive development was witnessed on the market of prepaid mobile services. Our country follows the world trend – the number of users using prepaid mobile services exceeds the number of subscribers under contracts. As of the end of 2004 the number of users using prepaid services is 65 % of the total number of mobile services subscribers. Notwithstanding the broad spread out of the prepaid services, they generated only 15 % of the revenues of the operators.

[2] *The volume of the revenues was calculated on the grounds of data about the revenues from the provision of voice telephony and other services through the mobile cellular networks.*

Users of prepaid services and subscribers under contracts with the mobile operators



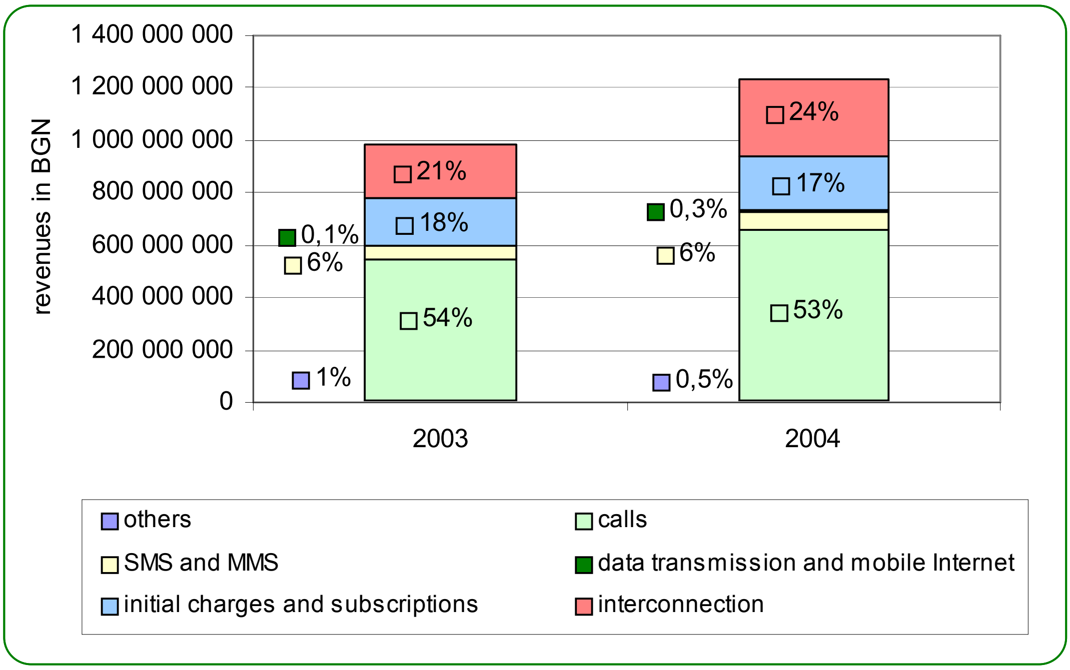
***Source**: Data submitted to CRC*

Fig. 57

5.4. Services provided

The mobile cellular networks provide a wide range and a variety of services. Besides the telephone calls the users have access to services such as voice mail, conference call and emergency calls, data transmission services: short and multimedia messages (SMS and MMS), receipt and sending of fax messages, asynchronic and synchronic data transmission. There is also an opportunity for activation of a large number of additional services as call divert, calls barring, identification of calls (CLIP), stand-by and hold of calls, re-dial of the last dialed number, notification about availability of voice mail or missed calls, bill check, information services and others. The set of value added services of informational and entertainment nature is expanding. At the beginning of 2004 M-tel offered its subscribers and users the information services “M-tel +”, which provide for a possibility to receive through SMS specialized news, horoscopes and others and since the middle of the year the operator’s users had the possibility also to receive multimedia news (containing pictures further to text) through the service “MMS news rental”. GLOBUL introduced the service “Globul chat” through SMS or WAP, which allows for sending of chat-messages.

Distribution of revenues from the provision of telecommunication services provided through mobile cellular networks



***Source**: Data submitted to CRC*

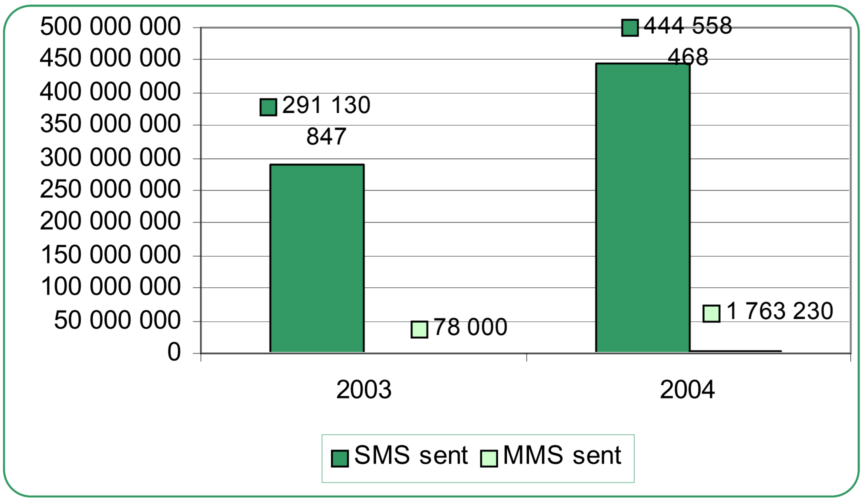
Fig. 58

Shown in the figure is the distribution of the revenues from mobile services for the last two years. Over half of the revenues from the provision of services through mobile cellular networks are formed from the provision of voice telephone services within the relevant network and outgoing calls to other networks, with 17-18% revenues from installation charges and rental fees. The services SMS and MMS generated 6 % of the revenues of the operators for 2004. (Fig. 58). The new data transmission and mobile Internet services are still with an insignificant share of under 1 %. The share of the interconnection related revenues grew up to 24% in the structure of the mobile services revenues. Its volume has grown up in the total interconnection volume of the country and a conclusion may be drawn about grown traffic between the mobile networks in the country at the expense of the traffic from fixed to mobile networks and vice versa.

According to an international research of TGI and the Market Test Agency the sending of short text messages (SMS) is a service frequently used by Bulgarian users: 68 % of the mobile services subscribers in Bulgaria use it and solely 5 % of them use their mobile phones to check their electronic mail.

As it is seen from Fig. 59, the number of sent SMS has grown up almost twice for a one-year time period. After the start-up of the MMS service in 2003 the number of the sent multimedia messages in 2004 is over 1,7 million, which shows a users' interest in this kind of services.

Number of SMS and MMS sent in 2003 and 2004



***Source**: Data submitted to CRC*

Fig. 59

The percentage of non-voice messages is expected to grow up with the growth of the contents market on the part of specialized companies and suppliers.

With the development of the mobile networks the operators commenced the provision of services for access to Internet, data transmission and fax through the mobile phone.

In 2004 M-tel and GLOBUL started up the service “mobile Internet through GPRS” and “WAP through GPRS”, which provides for an opportunity for access to Internet with the help of a mobile telephone maintaining GPRS or PCMCIA card, through a portable computer, PDA or a smart phone. With the mobile Internet all services which are used through web may be used, such as check of electronic mail, download and send of files, search of information in web sites and others. In September the service became accessible for the subscribers of M-tel in the conditions of international roaming as well. In 2005 GLOBUL also plans to introduce the service GPRS roaming.

MOBIKOM offered the service “Mobifix Plus”, which combines the mobile service Mobifon and the VoIP service MobiVoice. The service is designated for all the clients in towns, where MobiVoice does not have a local point, at the same time also being suitable for big corporate clients, which have a telephone exchange.

In 2005 M-tel is planning introduction of services based on EDGE applications. EDGE[3] is a technology, which provides GSM devices with speed for data transmission, close to that with the mobile networks of the third generation and provides the subscribers with a possibility to exchange information: (web sites, digital images and others) up to three times faster than the standards GSM/GPRS connection. The technology allows for high effectiveness with the various business applications as well (Internet, mobile office, electronic banking, access to private corporate networks and others) with a speed for data transmission up to 240 Kbits.

Significance for the successful development of a market with a broad set of services have the possibilities for disencumbered access of the users to the services of interest to them, which are offered by the operators, such as replenishment of prepaid services cards through the Internet, an order or a rental charge for a certain service through sending of a SMS or through the web site of the operator and others.

With the building up of networks of the third generation the mobile operators will be able to offer new services to the users such as video telephony, high-speed data transmission, video/audio – television, video- and photo pictures, mobile electronic trading, and entertainment services – games and others. The economic effectiveness and the demand for new services, based on the UMTS technology will depend on a multitude of factors – the economic development of the country in the next few years, the development of

[3] *Enhanced Data Rates for Global Evolution*

technologies and respectively the prices of the technical means and services related to 3G, as well as on the market policies and strategies of the operators.

5.5. Quality of service

Presented in the table below are data about the number of complaints filed from the subscribers of the mobile networks and the reasons having caused them, as well as information provided by the operators on the monitored parameters for quality of service.

Table 7

	M-tel	GloBul	Mobikom
Total number of files written complaints from users incl.:	*2.566*	*2.307*	*117*
- number of justified complaints	*315*	*438*	*117*
- number of complaints in response to which written replies have been sent	*2.217*	*1.397*	*117*
Distribution of the complaints per reasons:			
- technical failure	*52*	*126*	*14*
- correctness of bills	*1.608*	*1.401*	*72*
- problems in the activation and administration / quality of the services	*273*	*211*	
- dissatisfaction with the service received in the Business Centers	*304*	*46*	
- documents correctness		*159*	*31*
- company policy		*77*	
- others		*287*	
Failed calls (в %), incl.:	*0,95 %*		
- due to overloading of the network	*0,90%*	*0,80%*	*0,05%*
- due to technical failure	*0,05%*	*0,10%*	*0,004%*
Average time for the elimination of failures	*42,15 min.*		*3,53 ч.*
Average time for the activation of the services (in hours)			
- activating new subscriber	*0,25*	*-*	*2*
- Internet access provision	*0,25*	*2*	*-*
- roaming	*0,25*	*1*	*24*

Source*: Data received in CRC*

The differences in the data shown above are mainly due to the number of subscribers, the quantity characteristics and the territorial coverage of the networks of the three mobile operators. Compared to the preceding year GLOBUL report nearly double increase of the number of complaints in written form filed by the users, for M-tel the increase is 5%, while MOBIKOM reports its decrease by 10%. With regard to the number of unsuccessful calls M-TEL retains the level from the last year. GLOBUL succeeded in decreasing the unsuccessful calls due to technical reasons by 93,3%, and MOBIKOM – the unsuccessful calls due to the overloading of the network – by 50 %. As compared to its competitors MOBIKOM has a considerably longer period for elimination of failures.

5.6. Prices and price policy

The operators of mobile cellular networks set their prices and price policy freely and communicate them to the CRC for information.

The formation of the price packages of the three mobile operators is based on two basic components: rental charge and a fee for a minute of call.

MOBIKOM continued to offer its services to its subscribers through four tariff packages: “Mobi L”, “Mobi XL”, “Mobifix” and “Cityphone”.

The two GSM operators are sensitive to one another with regard to the prices and their marketing strategies. They monitor each other’s activities and respond in due time at a change in the competitive behavior of the other one. At the anticipated entrance of a new player on the market the two GSM operators strive to make use of their situation by retaining their subscribers through decrease of the prices of the services offered, more profitable conditions at the conclusion of contracts with a fixed term and others.

In 2004 GLOBUL and M-tel offered to their subscribers and users reductions in their tariffs and continued to segment the market, offering packages with volumes of minutes for calls, which satisfy the specific needs of the various groups of clients.

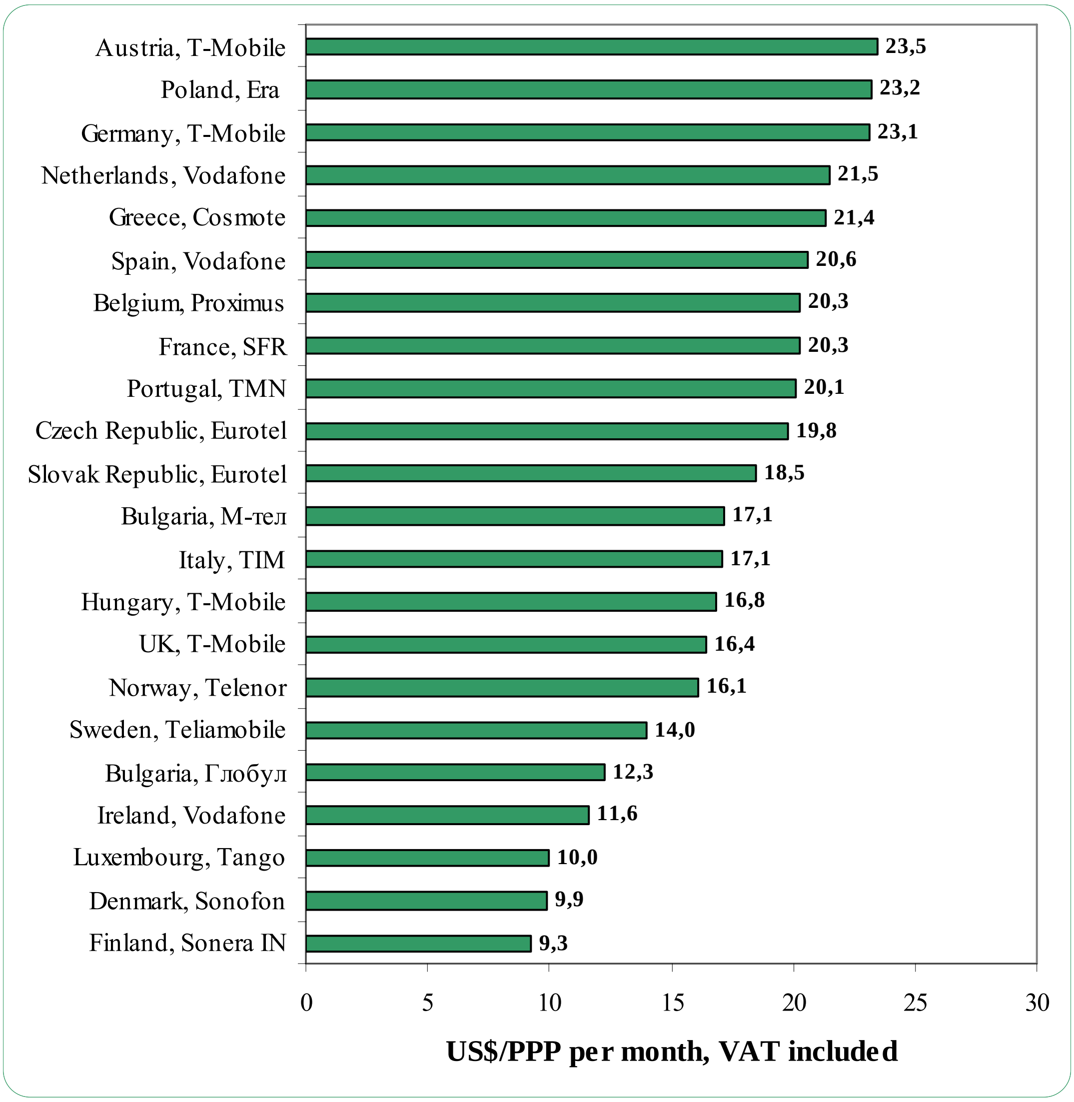
GLOBUL continued to stake on the strategy of equal tariffs per one-minute call to all the networks in the country without peak hour zones. At the very beginning of 2004 M-tel introduced a fifth promotional subscription plan, including a reduced monthly subscription fee and a unified tariff plan for calls to all national networks. In May 2004 the first GSM operator announced new lower prices and also offered to its clients, tariff plans including packages with minutes of calls and standard prices valid out of the package. The manner of trifling the calls was changed – per each 30 second, instead of the initial 15, and after that per each second.

In April GLOBUL offered new lower prices for packages with minutes for calls designated for corporate clients and in September – plans with new packages for calls for natural persons with reduction of the tariffs by up to 18 %.

Within the framework of the individual price plans both digital operators offered to the users a possibility for calls at reduced prices with a limited number of preliminarily selected numbers – M-tel through the service “Family and Friends”, at which the subscribers use 50 % reduction in calls with two preliminarily selected numbers in the network of M-Tel, and GLOBUL through the service “For Friends”, allowing for cheaper calls with up to three selected numbers.

Presented on Fig. 62 are users’ prices for mobile services of operators from EU and Bulgaria included in the mobile basket of OECD for low consumption. The low consumption basket is based on average prices and generalized information provided by operators and regulators from OECD member states and contains one third of the installation fee, the price of the monthly rental charge, the price for 30 SMS and 25 outgoing calls per month. Solely national calls are included in the consumption basket, of which 42 % are calls to the fixed network, and 58 % - calls to mobile networks (inclusive of 18 % to the networks of other mobile operators and 40 % within the same mobile network). The calls to the fixed network are with duration of 1,6 min, and those to other mobile subscribers – of 1,4 min. 38 per cent of the calls are in peak time hours and days – within the most expensive time zones on weekdays. The discounts and the free of charge minutes and SMS included in the monthly rental charge are taken out at the calculation of the baskets.

Consumer prices of mobile services in EU and Bulgaria - OECD mobile basket – low consumption



Source: *Teligen, data supplied to CRC*

Fig. 60

Non-price competition is observed between the two GSM operators, which are stated in a race and rivalry for attracting the consumers through differentiation of the offered services: an opportunity for activation of a large number of complementary services, promotional packages of mobile telephone set and subscription etc. GLOBUL and M-tel started up loyalty programs, at which the regular clients receive bonus points with a possibility to use them for discounts from the monthly bills, complementary free of charge minutes of calls, text messages, receipt of price discounts when marketing in certain commercial sites etc.

The three mobile operators continued their policy of organization of various promotional campaigns for price reductions of telephone handsets, bonuses and discounts at the offering of their services through prepaid cards.

The end user prices of the mobile services depend both on the price strategies of the companies and the agreed prices for interconnection with the fixed network of BTC PLC and the mobile networks.

Presented in the table below are the prices for fixed-to-mobile termination in the country for the time period 2000 - 2004:

Table No 8

Date of entry into force:	Price per minute in peak time* (BGN/min.)	Price per minute in off-peak time** (BGN/min.)
01.11.2000	BGN 0,425	BGN 0,366
01.10.2001	BGN 0,425	BGN 0,346
01.05.2002	BGN 0,385	BGN 0,391
01.07.2003	BGN 0,381	BGN 0,368
01.05.2004	BGN 0,381	BGN 0,366

The prices are exclusive of VAT

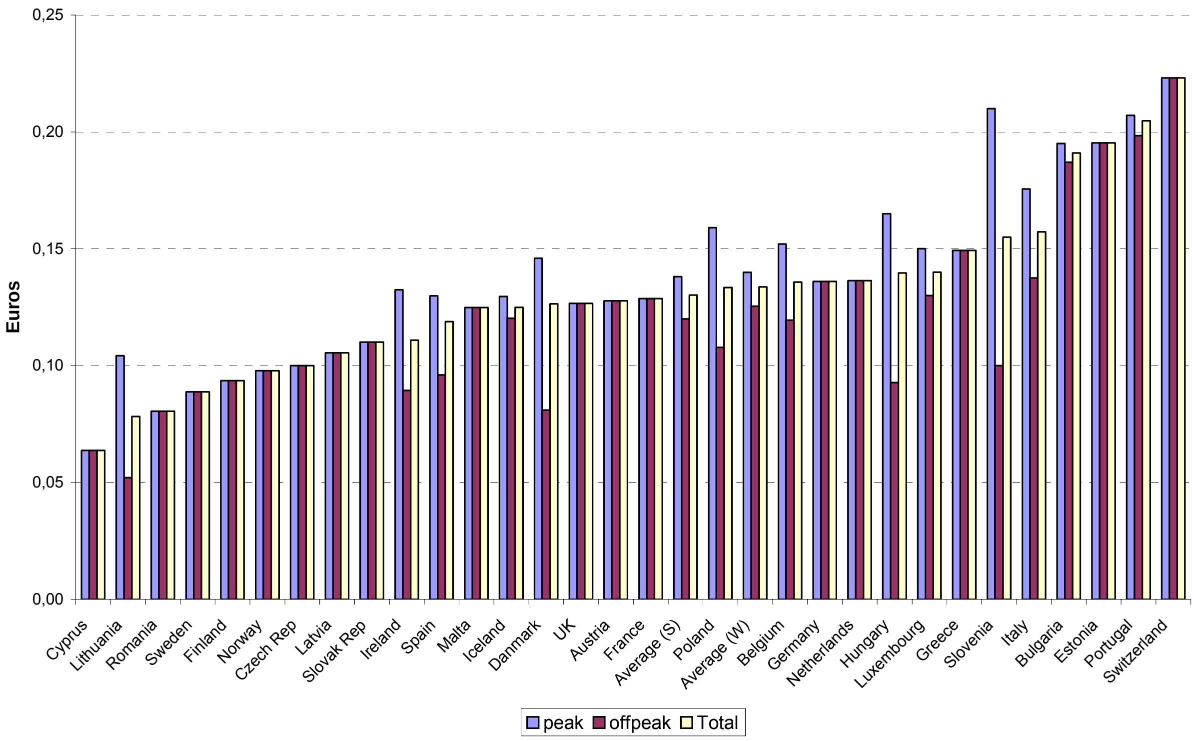
** From 7 am to 21 pm*

*** From 21 am to 7 pm*

***Source:** Data submitted to CRC*

Comparisons of the prices for fixed-to-mobile termination of calls with the levels in the EU are presented in Fig. 61. The data are a result of a research of the working group „Mobile Markets" of IRG and are topical as of 01.01.2005.

Prices for mobile termination as of 01.01.2005



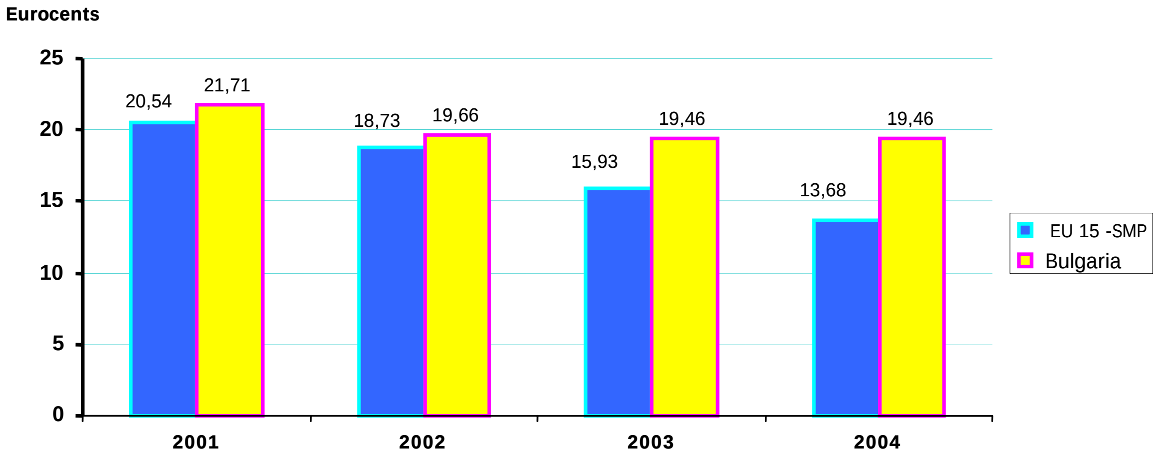
***Source:** IRG MM WG, CRC*

Fig. 61

It is seen from the figure that Bulgaria is among the four countries with the highest mobile termination rates: by about 43% higher than the average value for the investigated European countries (0,1337 €).

The mobile termination prices on the Bulgarian market has retain their levels for the period 2000 - end of 2004, while the number of mobile services subscribers on the telecommunications market in Bulgaria has grown up ten-fold for the same time period. According to data of the European Commission, the fixed-to-mobile termination prices in the EU Member States have decreased at average by 28% for a three-year time period (July 2001 – July 2004) - from 20,54 Eurocents to 14,76 Eurocents average weighted levels. The average price for EC-15 for 2004 was reduced by 16 % compared to 2003, when it was 17,58 Eurocents.

The prices for termination in the networks of operators with significant market power in EU-15 and the prices for termination in mobile networks in Bulgaria for the last four years are juxtaposed in the figure below.



Source: *CRC, 10th Report on the Implementation of the Telecommunications Regulatory Package*

Fig. 62

The tendency of decrease in these prices in the European countries is due to an interference of the national regulatory authorities in the form of regulation of operators with significant market power on the interconnection market and on the mobile services market (where the legislations of the relevant countries stipulate the regulation of the prices for interconnection of these operators), as well as of operators who do not have significant market power, in event of investigation when approached on the occasion of the competition related conditions on the relevant market or the imposition of marginal prices, for the prevention of excessive tariffs. According to the effective legislation the regulatory authority in Bulgaria does not have legal grounds for the regulation of these prices.