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4. MOBILE CELLULAR NETWORKS AND SERVICES

4.1. Participants and market competition

As at 31 December 2002 there are in Bulgaria three mobile operators licensed to construct, operate and maintain mobile cellular networks with a national coverage and provide services through them – RTC conducting business under the trade name "Mobikom", MobilTel with a trade name "M-Tel" and Cosmo Bulgaria Mobile with a trade name "GloBul". The services provided by them are very similar despite having some specificity in the standards used – analogue NMT 450 by Mobikom and digital GSM 900 by M-Tel and GloBul.

In 2002 the third national operator – Globul – strengthened its presence on the market, which created conditions for intensifying competition in the mobile telephone services sector. The emergence of new mobile operators depends on the objectives of the state policy in the sector, the limitations of the radio frequency spectrum and the national numbering space, as well as on the normative requirements for granting individual licenses.

The exclusive rights of BTC over the operations of the established state monopoly, effective till 31 December 2002, imposed certain restrictions on the mobile operators with regard to:

- installation of junction lines for their networks as under §11, par. 2 of the Transitional and Final Provisions of the Telecommunications Act "public telecommunications operators which provide voice services are obliged to construct their networks by leased lines", and
- control and determination of rates for international traffic from and to the mobile operators;

4.2. Mobile network infrastructure

Table 6 presents the basic parameters determining the level of development of the mobile cellular network infrastructure.

Table 6

Operator / Indicator	Mobikom		M-Tel		GloBul	
As at 31 Dec.	**2001**	**2002**	**2001**	**2002**	**2001**	**2002**
Territory coverage	86%	86%	79%	80%	-	42%
Population coverage	96%	96%	90%	92%	40%	78%
Base stations, number	314	314	956	1517	130	407
Increase of the base station number, as compared to the previous year	-1%	0%	84%	59%	-	213%
Cells in use	487	490	2220	3486	382	1138
Increase of the cells in use	26%	1%	86%	57%	-	198%

Source: *CRC*

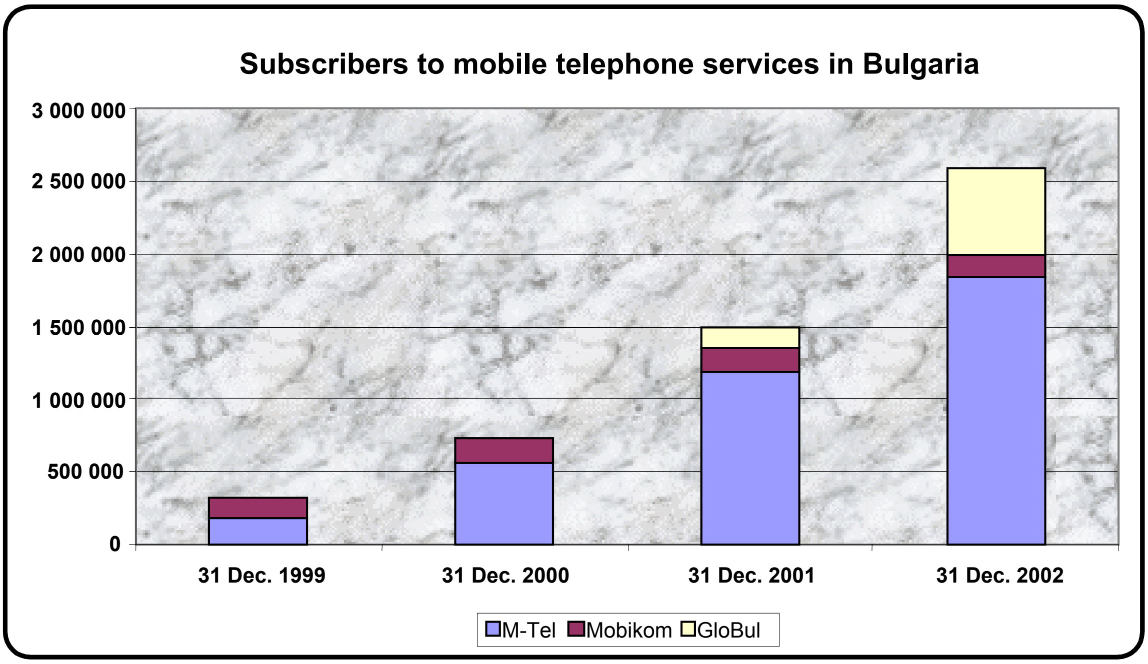
The construction of the mobile cellular networks of the GSM operators M-Tel and GloBul continued at accelerated rates in 2002 as well. According to the basic characteristics of GSM networks such as territory coverage (80%) and population coverage (92%) MobilTel has already entered the "saturation" zone. Due to the increasing number of new customers, the efforts of the company were directed towards the increase of subscriber capacity and improvement of service quality. In order to attain these objectives, the network infrastructure was increased by 60% and an additional radio frequency resource was used having been granted by the regulatory authority. In 2002 GloBul implemented a large-scale investment program costing more than 400 million BGN and directed towards the development of its network infrastructure thus fulfilling its licensing commitments to cover 70% of the population within 24 months. The network coverage by territory (42%) spreads over 100 towns, the major roads, coastal and border areas.

The Mobikom network coverage by territory and population remained unchanged in 2002 but due to the specific technology was still better than the one of the GSM networks. The tendency towards decrease in the number of analogue network subscribers continued and such users oriented themselves to more modern digital networks providing better quality and broader range of services.

At the end of the year 2002 MobilTel maintained business roaming with 253 GSM operators in 102 countries and with 3 satellite operators and it concluded international roaming agreements with another 30 GSM operators in 21 countries. GloBul maintained business roaming with 95 GSM operators in 56 countries and concluded international roaming agreements with another 33 GSM operators. Mobikom provided roaming services in 6 European countries on the basis of agreements with 6 foreign operators.

4.3. Development of the mobile telephone services market

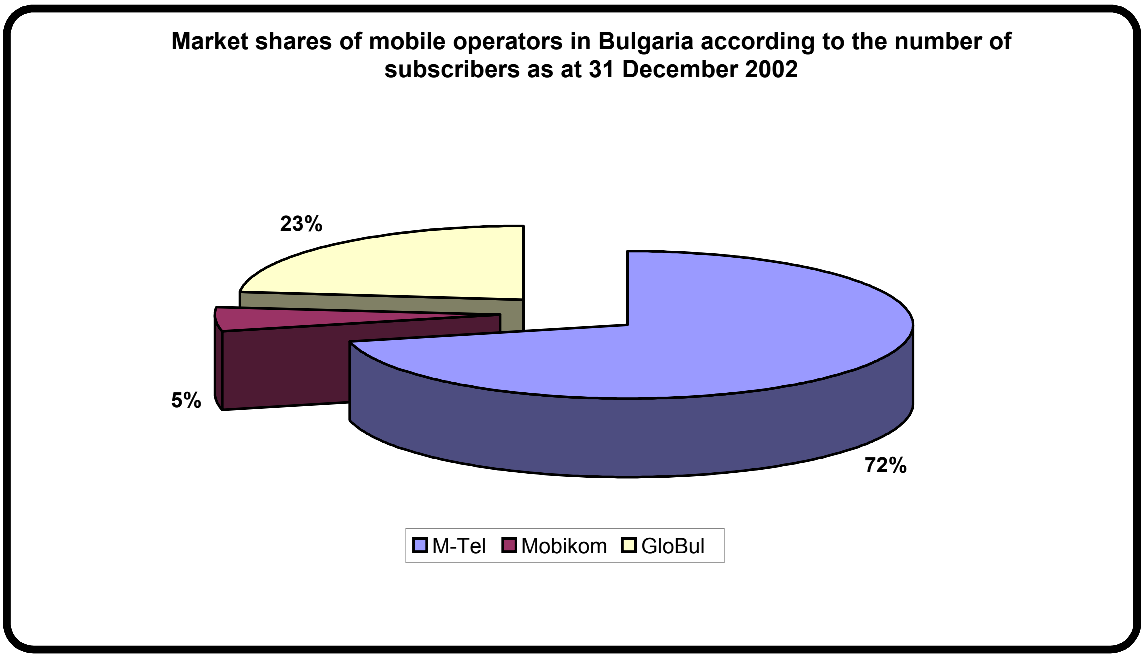
As compared to the previous year, the tendency of almost doubling the total number of subscribers to mobile cellular networks continued in 2002. As compared to the same period in the previous year, the number of GloBul customers increased by approximately 340% as at 31 December 2002. Within the same period the number of M-Tel subscribers increased by nearly 60% and Mobikom users decreased by 20%. The data show that the network of the second GSM operator attracts both new subscribers to the provided mobile services and part of the existing users of the other two operators.



Source: *Communications Regulation Commission*

Fig.23

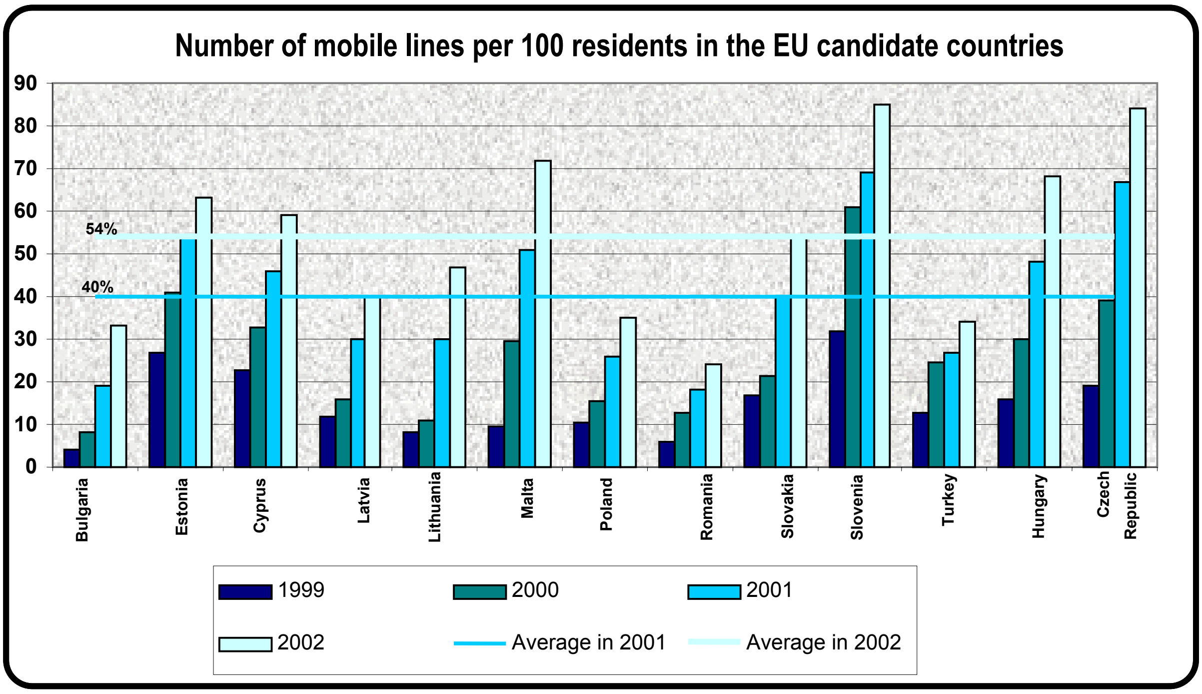
Figure 24 presents the market shares of the three mobile operators, calculated on the basis of the number of their subscribers. M-Tel is still the absolute leader on this market having more than 70% of the users of mobile services in the country.



Source: *Communications Regulation Commission*

Fig.24

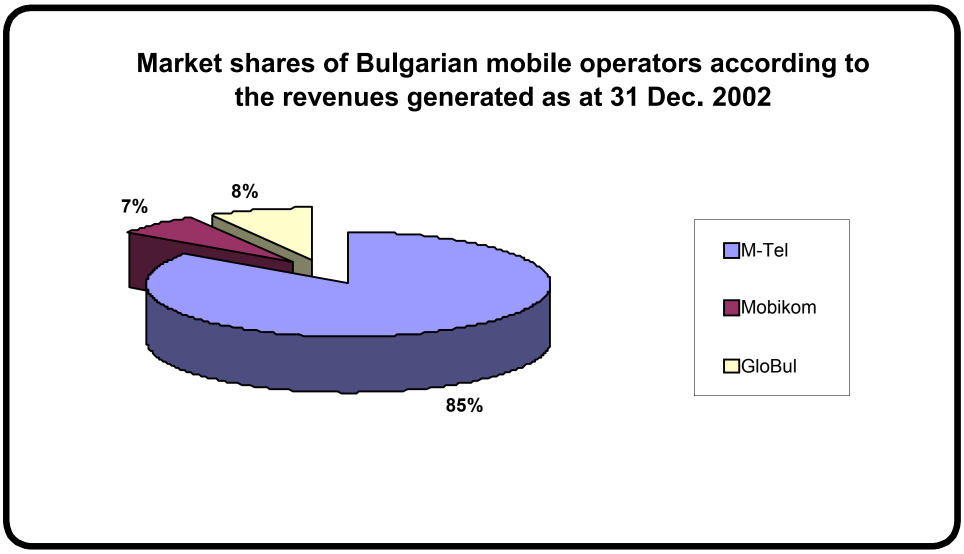
In spite of the recorded increase in the number of subscribers to mobile services, Bulgaria ranked last but one among the EU candidate countries by the "penetration" indicator (mobile subscribers per 100 inhabitants). This indicator marked a growth in Bulgaria from 19% to 33% for the period 2001–2002. The average value for the EU candidate countries was about 40% in 2001 and about 54% in 2002. In 2002 the value of this indicator varied from 24% (for Romania) to 85% (for Slovenia). As a comparison, the average value of this indicator for the EU Member States is about 80%.



Source: *"Baskerville - Telecoms – May 2002", IBM Business Consulting Services, 3rd Report on Monitoring of EU Candidate Countries (Telecommunications services sector)*

Fig.25

Figure 26 presents the market shares of the three mobile operators, calculated on the basis of their income for 2002.

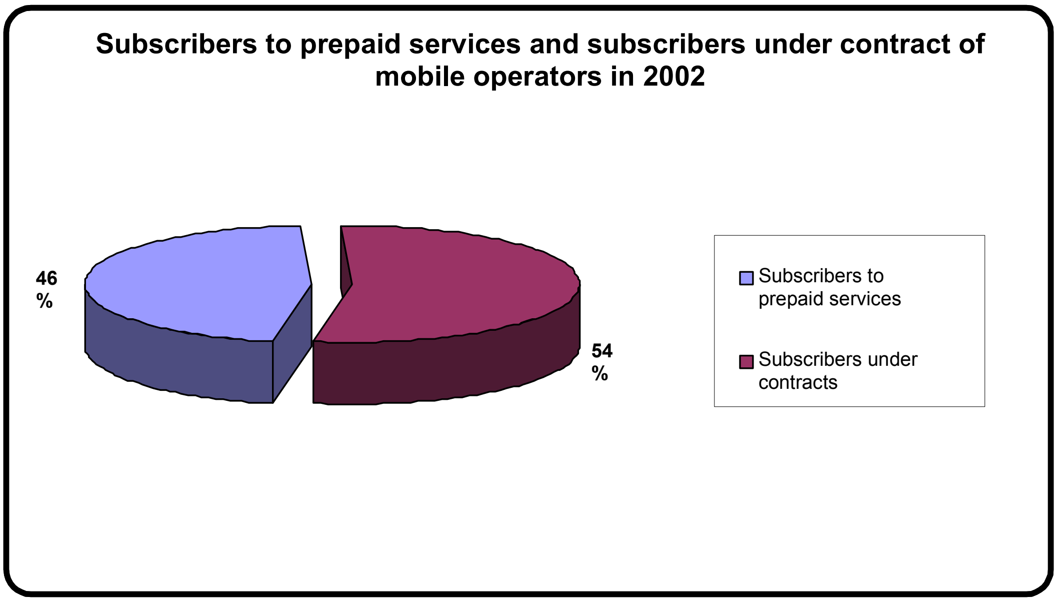


Source: *Communications Regulation Commission*

Fig.26

In 2002 M-Tel retained its dominant market share determined by the amount of the revenues gained by provision of services over the licensed network. The almost tenfold growth of the income raised by GloBul in 2002, as compared to the four months of 2001 during which the network was in operation, is a result of the significant increase in the number of subscribers.

The market of prepaid mobile services marked a noteworthy development that year but our country is still lagging behind the world trends. Apart from Bulgaria, the users of prepaid services are prevailing in the ratio of subscribers under contracts and subscribers to prepaid services in all EU candidate countries, for which such data are available. These services do not require conclusion of contracts and monthly billing which is convenient for the users. As at the end of 2002 the number of subscribers to prepaid services in Bulgaria reached 46% of the total number of users of mobile services. Despite the wide spread of prepaid services, they generate barely 7% of the revenues of the mobile operators.



Source: *Communications Regulation Commission*

Fig.27

The development of the mobile telephone services market in Bulgaria was ensured by the simultaneous influence of the following major factors:

- the competition among the three operators;
- territory and quality improvement of the mobile cellular network infrastructure;
- great popularity of the pre-paid services cards;
- supply of mobile telephones at comparatively low prices;
- variety of rate packages and subscription plans with prices oriented towards different market segments covering users with different financial capacity.

The mobile digital cellular networks offer a wide range of services. The major services, in addition to phone calls, also included voice mail, conference calls, SMS and emergency calls. The networks also support services such as Internet access, data and fax transmission. A wide variety of additional services is also possible to be activated, such as call divert, call ban, caller information, account check, etc.

As at 31 January 2003 there is no license issued for third generation (3G) mobile telecommunications networks and provision of services through them. In comparison, such licenses are granted in five of the EU candidate countries at the same time. Excluding Bulgaria and Malta, at least one operator in the CEECs will be offering GPRS[1] services as at 31 January 2003. Only M-Tel stated their intention to introduce GPRS services to the Bulgarian market in 2003. The delay in provision of services from 2.5G and 3G mobile networks deprives the Bulgarian user from the possibility to use world achievements in this area, such as high-speed data transmission and Internet access, a wider range of services – video conference connection, video on demand, MMS, information services and news, network games, e-commerce and e-banking, telemedicine and telemetrics.

4.4. Service quality

In 2002 Communications Regulation Commission changed the General Terms and Conditions for the relations between MobilTel and the subscribers to and users of the public mobile cellular network. The general conditions define the rights and obligations of the parties, as well as major quality requirements. Disabled persons of group I and II were granted priority for accessing the networks and could avail themselves of options for free national calls within 20 min per month at peak hours or 100 free SMS per month.

Table 7 presents the number of the complaints filed by subscribers of mobile networks and the reasons having caused them as well as the information provided by the operators with regard to the monitored service quality parameters.

Table 7

	Mobikom	**M-Tel**	**GloBul**
1.Total number of written complaints filed by users, incl.:	191	2556	2713
1.1 number of well-grounded complaints	150	546	1921
1.2 number of complaints which received written answers	50	2174	1116
1.3 distributed by grounds of the complaint			
- disapproval of the rates and billing	96	1130	904
- disapproval of the company policy	17	205	104
- technical problems	25	74	265
- violation of contract clauses	37	118	270
- services provided in the shops	-	387	58
- others	16	642	1112
2. Failed calls (%) incl.			
- due to network overload	0,2%	0,9%	1%

[1] GPRS (General Packet Radio Service) – Technology of a 2.5G type packet access which extends the existing GSM network allowing a packet data transmission at a speed many times faster than the standard GSM speed

- due to failure of the radio connections	0,004%	1,0%	2%
3. Average time for elimination of the faults / malfunctions over the licensed network	149.25 min (2160 pcs)	52.50 min (538 pcs)	49.50 min (10 pcs)
4. Average time for activation of the services	up to 24 h	27 min	25 hrs (2 hrs for prepaid services)

Source: *CRC*

The differences in the parameters presented above are a result mainly of the number of subscribers, the quantity characteristics and the territory coverage of the networks of the three mobile operators. There are differences in the methods of measuring of some of the parameters mostly because of the different software systems used by the operators. As compared to 2001, M-Tel recorded a significant reduction in the parameter "failed calls". The improved quality of this parameter may be explained by the development of the network infrastructure and the increased radio frequency resource. As can be seen from the table, Mobikom and GloBul took significantly longer time for eliminations of faults/malfunctions and service activation.

M-Tel and GloBul provide their customers with free emergency calls to medical aid departments, fire services, traffic police, and police authorities. The clients of the mobile operators are also offered free information services on matters related to subscription fees, inquiries on rates, call zones, outstanding sums, etc.

4.5. Prices and price policy

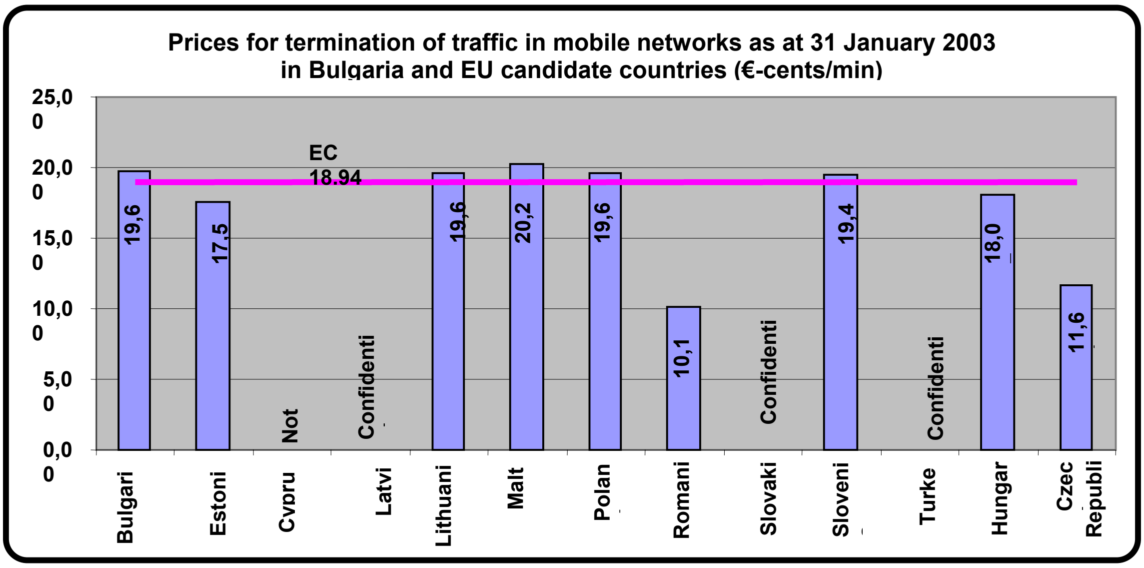
The three operators of mobile cellular networks determined their prices and tariff policy freely. The regulatory authority intervenes only when the principles of fair competition are not adhered to or the user rights stipulated in the Telecommunications Act, the Protection of Competition Act, the Consumer Protection Act or the provisions of the commercial law are violated.

The rate plans and the price packages of the three mobile operators are similar in structure and components and are determined on the basis of three major elements – initial subscription fee, monthly subscription fee and rates for a 1-minute call. Mobikom offered to its subscribers four rate packages – "Mobi L", "Mobi XL", "Mobifix" and "Citiphone", while MobilTel offered four subscription packages – "Business", "Universal", "Economic" and "Limited". M-Tel and Mobikom use flexible price packages whereby offering special services of a "closed subscriber group" type in which there is a reduction of the cost of a 1-minute call to a group member. GloBul keeps on relying on the strategy of a uniform rate plan for all subscribers and to all national networks.

All three mobile cellular network operators introduced cards for pre-paid services. In spite of the significantly higher call rates, this kind of services is very attractive for the users with limited financial resources because no monthly subscription fee is being paid. The operators organized campaigns for discounts on cellular phones and on the initial subscription fee, discounts on the monthly subscription fee for the different types of groups, promotion packages of cellular telephones plus subscription and discounts for pre-paid subscription.

The end consumer prices for subscribers to mobile services depend both on the price strategies of the companies themselves and the negotiated prices for interconnection with the fixed network of BTC and the other mobile networks.

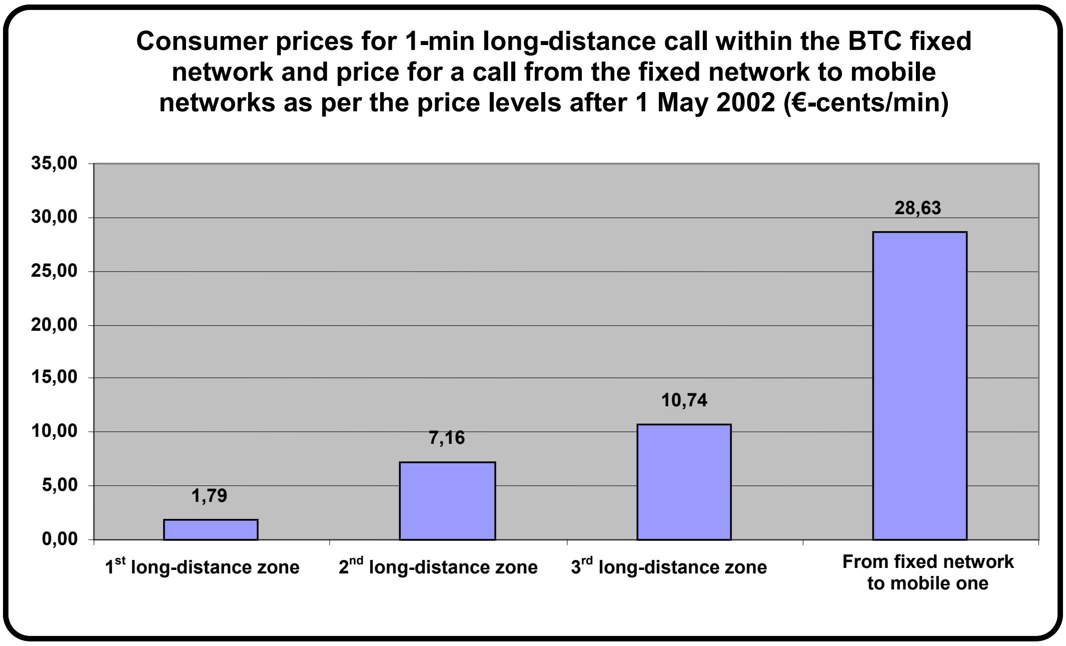
The legal framework in the EU countries makes provisions for the regulation of this type of prices set by the SMP operators through cost-oriented calculation. Based on the data of the European Commission, the average value of the basic price for termination of traffic from fixed networks to mobile ones in the EU countries in 2002 was 18.94 €-cents/min.



Source: *IBM Business Consulting Services, 3rd Report on Monitoring of EU Candidate Counties (Telecommunications services Sector)*

Fig.28

From 1 May 2002 a new basic price of 19.68 €-cents/min was adopted in Bulgaria for termination of traffic from the fixed network to the mobile ones.



Source: *Communications Regulation Commission*

Fig.29

Figure 29 shows that, despite the reduction of the basic price for termination of traffic from the fixed network to the mobile ones by 2.05 €-cents/min, the end user price for a 1-minute call from the fixed network to the mobile ones in Bulgaria remained relatively high on the background of the prices of a 1-minute long-distance call within the fixed network which is almost three times higher than the price of the long-distance call to the remotest zone.

In 2002 the Bulgarian regulatory authority had no legal grounds to regulate the interconnection prices. It is expected that by adoption of a new Telecommunications Act and the respective secondary legislation the regulation of prices will be made compliant with the requirements of the European Union effective as at 2000.