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Data Collection by TA Turkey

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1. Turkey In A Nutshell

TURKEY - Some facts	
Capital	Ankara
Language	Turkish
Population	72.520.000
Country size:	773,473 sq km
GDP per capita	4.023 €
Consumer Price Index	7.72 %

Map of Turkey



2. Telecommunication Authority (TA)


Telecommunication Authority (TA) was founded by the Law No. 4502 of January 27, 2000 amending the Telegram and Telephone Law No. 406 and Radio Devices Law No. 2813. The Authority is a public organization with private budget and administrative and financial autonomy, incorporated so as to implement the powers and responsibilities conferred by Laws and perform other tasks assigned. The Board is independent in performing his tasks. The Authority is related to the Ministry of Transportation.

TA executes among others its tasks under law to establish a dynamic telecommunication sector based on fair and free competition and to protect consumer rights.


Mission of the Telecommunications Authority:

- regulating and supervising the telecom market,
- monitoring the technical innovations,
- protecting competition,
- ensuring compliance with international norms,
- protecting consumers,
- observing the developments and security policies.


2.1 Liberalization Process Overview

 1994:

- o Two GSM 900 mobile operators (Turkcell and Telsim) and cable TV operators started operation under revenue sharing agreements with Türk Telekom.

 1997:

- o Turkey made commitments under the GATS agreement on basic telecommunication services to liberalise the Turkish basic telecommunication services market by 2006.

 1998:


- o Revenue sharing agreements of the two mobile operators were transformed to 25-year licences issued by the Ministry of Transport.

 2000:

- Telecommunications Authority was established as the sector specific regulatory body.
- GSM 1800 licences were granted.

 2004

- Türk Telekom's monopoly rights concerning voice telephony and establishment and operation of telecommunications infrastructure abolished.
- Market liberalised.
- 43 long distance telephony service providers authorized.
- Foreign ownership restriction at Türk Telekom was abolished.

 2005 and 2006:

- Cable TV services of Türk Telekom structurally separated.
- Infrastructure licenses granted.
- Cable TV licenses granted.

3. Telecommunications/ICT Statistics in Turkey

TELECOMMUNICATIONS STATISTICS

3.1 Telecommunication Authority

TA collects a considerable amount of data on the supply side, particularly from the operators in the Turkish telecommunications sector. This includes;

- ✚ Number of subscribers
- ✚ Traffic
- ✚ Tariffs
- ✚ Infrastructure
- ✚ Employment
- ✚ Revenue and Investment

Data collection in TA is coordinated and executed by Sectoral Research and Strategies Department. The core activity of the department is to collect information to enable TA to perform his role effectively. Another responsibility of the department is providing data for market informations and Annual Report and liaising with international and regional telecommunications organizations like ITU, OECD and EUROSTAT.

3.1.1 From operators

The process of data collection from telecom operators in Turkey began at the end of 2001. Questionnaires have been prepared by the coordination of all Departments in TA and sent out to operators. There are three type of questionnaires (monthly, quarterly and annually). Operators are obliged to send them back by the end of the next month following the end of the period. Questionnaires were in Microsoft Excel files and stored in Excel files after filling out by operator. But in 2005, studies have begun to introduce an online data collection system. A user name and a password have been given to the operators that enable them to log in to the system. After log in process, they saw the questionnaires in HTML format that they have to fill in. In early 2006, trial period has started with only Turk Telekom and 3 mobile operators (Turkcell, Vodafone and Avea). (See Annex B)

3.1.2 From end users

To understand and improve Turkish's degree of awareness and understanding of telecommunications services, attitudes, and their rights and options; TA is now conducting a survey through an independent company to monitor the industry trends. The results of the survey will be published on our web site (www.tk.gov.tr). TA also plans to conduct a business survey in the near future, too.

3.1.3 Users of TA Data

- TA staff
- Other government agencies
- Other regulators
- Telecom operators
- Students
- International bodies such as the ITU, OECD, EC, EUROSTAT etc.

3.1.4 Dissemination

Stats on TA's web site (<http://www.tk.gov.tr/Yayin/istatistikler/istatistikler.htm>)




Annual Report (<http://www.tk.gov.tr/eng/pdf/eng-2005.pdf>)

International Organizations (ITU, OECD, EUROSTAT questionnaires)

ICT STATISTICS

3.2 Turkish Statistical Institute (TURKSTAT)

The main responsible body for collection of statistical information on telecommunications and ICT statistics in Turkey is TURKSTAT. TURKSTAT undertakes following ICT surveys:

-  Household Survey on ICT Usage
-  Enterprises Survey on ICT Usage
-  Technological Innovation Survey

 Research and Development Activities Survey

ANNEX – MARKET OVERVIEW

Market information published in 2005 Annual Report of Telecommunication Authority.

2. TELECOMMUNICATION SECTOR IN TURKEY

2.1. Operators and Provided Services

Authorization efforts of the Authority were also continued in 2005 and the number of operators, which was 192 in 2004, was increased to 218. 2 Authorization Agreements were signed regarding “satellite and cable TV services” and “maritime communications and cruise safety communications services”. 1 Authorization Agreement was signed as Concession Agreement as required by legislation. 1 operator was authorized for the provision of satellite platform services, 5 operator was authorized for the provision of satellite telecommunications services, 7 operators were authorized for the provision of data transmission over terrestrial lines, 1 operator was authorized for the provision of GMPCS services, 1 operator was authorized for the provision of long distance telephony services, 43 operators were authorized for the provision of PAMR services and 16 operators are registered in the scope of General Authorization in order to be internet service provider. As the number of operators in the sector has increased, clients started to make use of several services for cheaper prices and in a more comfortable manner.

2.1.1. Satellite Operators

Satellite operators are categorized into two groups, namely operators providing satellite telecommunications services and satellite platform operators. Satellite telecommunications services cover the performance of unidirectional and bidirectional data transmission via satellites and earth stations. As of 31 December 2005, number of those operators supplying this service is 24. Totally, 413.160,91 YTL of authorization charge was recorded as revenue for the Treasury.

On the other hand, Satellite Platform Operation is realized through the combination and multiplication of analog or digital signals from various transmission media and finally their transmission to subscribers in form of digital packages via satellites. Among the services introduced in Satellite Platform Operation are high-speed Internet access, broadband data transmission, digital TV and radio broadcast, and multimedia applications. As of 31 December 2005, number of those operators supplying this service is 1. For Satellite Platform Service, no authorization was given in 2005. In 2005 totally 76.169,75 YTL of authorization charge was recorded as revenue for the Treasury.

2.1.2. Operators Providing GMPCS Mobile Telephony Service

As of 31.12.2005, there are 5 operators supplying GMPCS Mobile Telephony Service, which is described as a telecommunications service that directly provides users with services covered by GMPCS MoU (Memorandum of Understanding) over a group of satellites, either existing or being planned, whose position and operating frequencies are specified and designated by International Telecommunications Union (ITU), which can be fixed or mobile, broadband or narrowband, global or non-global, geostationary or non-geostationary. Totally 190.424,15 YTL of authorization charge for this service was recorded as revenue for the Treasury.

2.1.3. Operators Serving as Cable and Wireless Internet Service Provider

Operators serving as Internet Service Providers (ISP) provide the necessary infrastructure, hardware and software and supply Internet access service to the end-user. Business of an ISP can be expressed as transporting the users to local and international Internet backbones via computer equipment belonging to it and lines that it leases. Serving in accordance with service provision contracts already made with Turk Telekom.

ISPs in our country also perform their activities based on a “General Authorization” like in developing countries and EU countries. Within this framework, as of 31.12.2005, there are 75 operators registered in the scope of General Authorization including 16 new operators which are registered in 2005. Totally 221.297,85 YTL for the said General Authorizations was recorded as revenue for the Treasury.

In addition, an amendment to the Authorization Implementing Regulation on Telecommunications Services and Infrastructures was made in order to be able to serve the internet service wirelessly, which is currently being served by General Authorization. Authorization of Cable and Wireless Internet Service Providing which is the annex to Authorization Implementing Regulation on Telecommunications Services and Infrastructures was published in the Official Gazette No. 25994 dated 15 November 2005.

2.1.4. Operators Providing Data Transmission over Terrestrial Lines

Data Transmission over Terrestrial Lines means the transmission of data over terrestrial lines such as optical, copper, coaxial, etc. lines to the network termination points without treatment under any process. As of the end of 2005, in our country, there are 21 operators authorized to provide the said service. As a result of giving the said certificates, totally 318.047,23 YTL of authorization charge was recorded as revenue for the Treasury.

2.1.5. Operators Providing Long Distance Telephony Services

Long Distance Telephony Services (LDTS) embraces the introduction of inter-provincial and/or international telephony service to the users over any telecommunications network and infrastructure belonging to the operators by use of any technology. In other words, operators can supply inter-provincial and/or international telephony service to the users over another fixed, mobile or developing network by any technology they wish to use. For LDTS, 1 company was awarded Telecommunications Licenses to provide Type C services. As a result of the authorizations, totally 877.294,41 YTL of authorization fee and was recorded as revenue for the Treasury.

2.1.6. Operators Providing PAMR Services

PAMR Service covers a telecommunications service, which accommodates more than one closed user group within the same system by use of analog and digital technologies, consists of at least one repeater and adequate number of subscriber radio devices, involving the provision of unidirectional and/or bidirectional voice, data and optimized package data, message, image, etc. services to the subscribers, either cellular or non-cellular, and can be operated locally and regionally. As of 31.12.2005 there are 49 companies providing PAMR Services and 190.424,15 YTL of authorization charge was recorded as revenue for the Treasury

2.1.7. Electronic Certificate Service Providers

Following the completion of legislation works, E-Güven Corp., TÜRKTRUST Corp. and TÜBİTAK (The Scientific and Technical Research Council of Turkey) –UEKAE (The National Research Institute of Electronics and Cryptology) notified to the Authority to be electronic certificate service providers. After notifications, the Authority examined the documents provided and inspected the facilities of those three ECSPs. ECSPs straighten out nonconformities and/or infringement of any of the notification requirements determined by the Authority during the inspections and then commenced their operations.

Table 2-1 The Notification Process of ECSPs

ECSP	Notification Date	Assessment Date	Commencement Date
E-Güven Corp.	25.03.2005	12–13.05.2005 22.06.2005	24.06.2005
TÜBİTAK-UEKAE Public Certification Center	31.03.2005	26–27.05.205 28.06.2005	30.06.2005
TÜRKTRUST Corp.	13.05.2005	07–08.07.2005 14.07.2005	16.07.2005

2.1.8. Number of Operators

There is an increase in the number of licensed operators acting in the telecommunications sector of our country. Table 2-2 provides information on the number of licensed operators operating in our country.

Table 2-2 Number of Licensed Operators

Licensed Operators	2004 December	2005 December
Authorization Agreements	1	2
Concession Agreements	3	4
Satellite Platform Operators	3	1
Satellite Telecommunications Services Operators	23	24
Operators Providing GMPCS Mobile Telephony Service	5	5
Operators Performing Data Transmission over Terrestrial Lines	14	20
Internet Service Providers	91	74
Operators Providing Long Distance Telephony Services	43	40
Operators Providing Common Usage Radio Services	9	48
Total	192	218

As can be seen in Table 2-2, there are 218 licensed operators in our country as of December 2005. Therefore, depending on the market structure and investment variables, it is observed that the greatest number of licensed operators is observed in the Internet sector.

2.2. Telecommunications Indicators

2.2.1. PSTN Data for 2005

The Highest bid for 55% share of Türk Telekom was given by the Oger Telekom Common Enterprise with 6.650 billion \$ in 01.07.2005. The next step in the process has been taken with a concession agreement signed between TA and Türk Telekom by executing share transfer after Council of State Decision. The privatization therefore has proceeded successfully.

Showing a fast development since 1980s, in terms of both geographical availability and number of subscribers, PSTN has entered a slowdown process after the GSM services were introduced. Table 2-3 and Figure 2-1 provide information on the number of PSTN subscribers between 1995 and 2005.

Table 2-3 Number of PSTN Subscribers

Year	Number of Subscribers	Percentage of Increase (%)
1995	13.227.704	8,46
1996	14.286.460	8,00
1997	15.579.458	9,05
1998	16.806.982	7,88
1999	17.911.722	6,57
2000	18.395.171	2,70
2001	18.904.486	2,77
2002	18.890.000	-0,08
2003	18.916.721	0,14
2004	19.125.163	1,1
2005	18.997.669*	-0,66

*November 2005

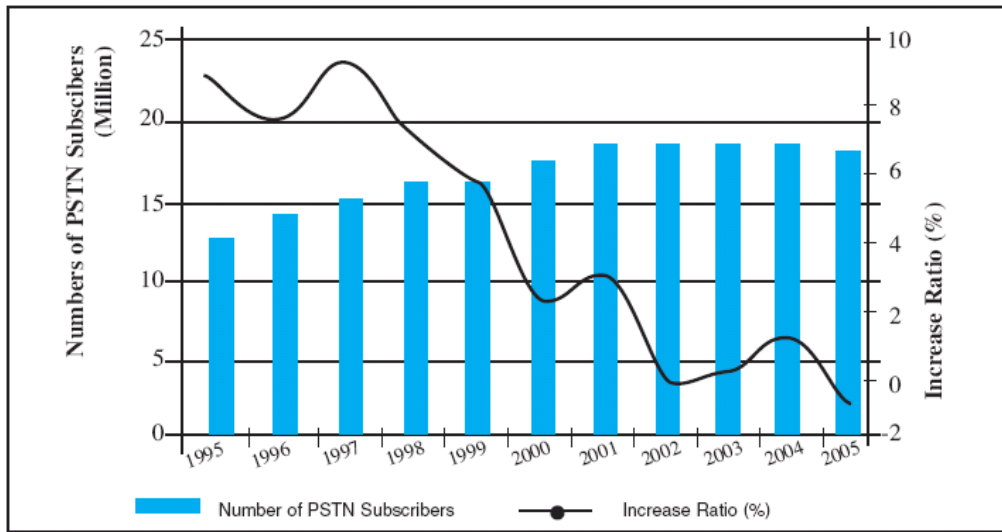


Figure 2-1 Number of PSTN Subscribers and Increase Rate (%)

As can be seen in Figure 2-1, between 1995 and 2001, average rate of increase in number of PSTN subscribers is about 7-8% per year. From 2001, it shows a horizontal trend and there is a 1% decrease in 2005. One of the reasons for this can be considered as the saturation in the market because penetration rate reached 27% (Table 2-4). Household telephone penetration rate reached 98%. Other reasons behind the horizontal trend may be increasing usage of mobile telephone services and LDTS

Table 2-4 PSTN Penetration Values

Year	Number of PSTN Subscribers	Telephone Penetration Values per Population (%)
1995	13.227.704	21,2
1996	14.286.460	22,4
1997	15.579.458	24,8
1998	16.806.982	26,3
1999	17.911.722	27,6
2000	18.395.171	28,0
2001	18.904.486	28,5
2002	18.890.000	27,1
2003	18.916.721	26,7
2004	19.125.163	27,0
2005	18.978.223	26,3*

*Number of population for Turkey in 2005 was obtained from population projection tables of TÜİK.

Although PSTN penetration rate is 50% in European Countries, we should consider household telephone penetration for Turkey instead. Family structure in Turkey is different from European family structure (number of average person in family). In this framework, in the future, it should be considered that increase in PSTN subscription has a close relationship with economic growth and the increase in number of new businesses and housing.

Table 2-5 Regional Distribution of Türk Telekom Subscribers (December 2005)

Regions	January	February	March	April	May	June	July	August	September	October	November	December
Marmara	6.788.761	6.780.408	6.783.300	6.780.396	6.786.801	6.784.827	6.763.532	6.746.085	6.749.433	6.747.772	6.741.997	6.735.096
Aegean	2.891.506	2.887.948	2.889.180	2.887.943	2.890.671	2.889.831	2.880.761	2.873.329	2.874.755	2.874.048	2.871.588	2.868.649
Mediterranean	2.188.897	2.186.204	2.187.137	2.186.200	2.188.266	2.187.629	2.180.763	2.175.138	2.176.217	2.175.681	2.173.819	2.171.594
Black Sea	2.089.488	2.086.918	2.087.808	2.086.914	2.088.885	2.088.278	2.081.723	2.076.353	2.077.384	2.076.873	2.075.095	2.072.971
Central Anatolia	3.329.316	3.325.220	3.326.638	3.325.214	3.328.355	3.327.387	3.316.943	3.308.387	3.310.029	3.309.215	3.306.382	3.302.998
Eastern Anatolia	929.830	928.686	929.082	928.684	929.561	929.291	926.374	923.985	924.443	924.216	923.425	922.480
S.E. Anatolia	911.643	910.521	910.910	910.520	911.380	911.115	908.255	905.912	906.362	906.139	905.363	904.437
Total	19.129.441	19.105.905	19.114.055	19.105.871	19.123.920	19.118.357	19.058.352	19.009.190	19.018.624	19.013.944	18.997.669	18.978.223

As it can be concluded from Table 2-5, subscriber density is maximum for the Marmara Region, which receives the largest share from gross national product, and it is minimum for the Eastern and South-Eastern Anatolian Regions which receive the least share. Figure 2-2 shows distribution of Türk Telekom subscribers across regions.

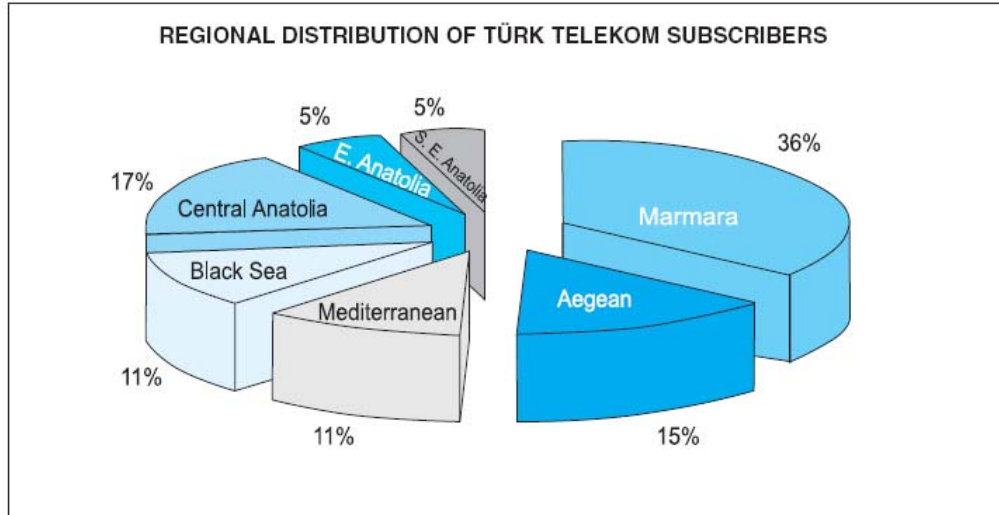


Figure 2-2 Regional Distribution of Türk Telekom Subscribers

Information related to the personnel distribution is given in Figure 2-3.

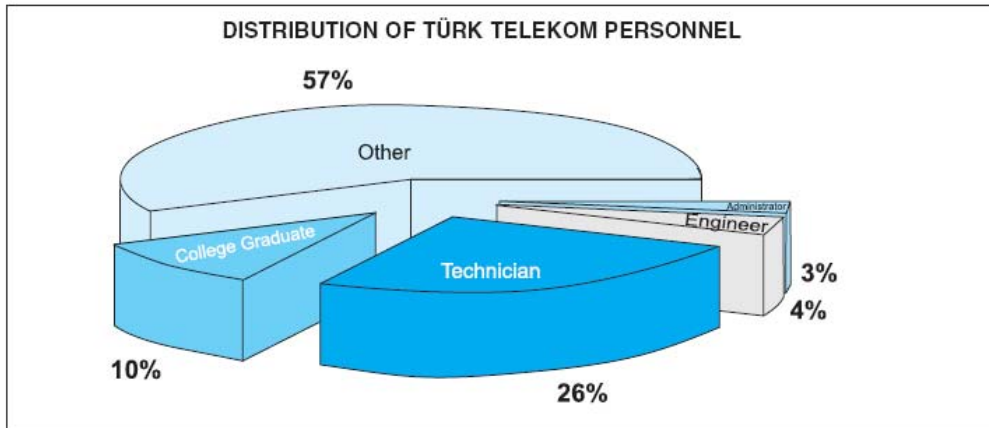


Figure 2-3 Distribution of Türk Telekom Personnel

When the personnel structure of Türk Telekom is analyzed, it is worth considering that the number of engineers in the total personnel is low. Compared to incumbent operators abroad, it is seen that Türk Telekom operates with a lower number of engineers. Total personnel of Türk Telekom in 2001 were 69.500, and as of September 2005 this number decreased to 53.608. This decrease in the number of personnel is considered to be balanced with increase in efficiency. After privatization, Türk Telekom has been trying to keep its personnel, especially technical personnel.

Cable TV

As can be seen from the Figure 2-4, rate of capacity utilization in cable TV sector is less than 50%. So it is seen that network is not used efficiently. In recent years, the increase in the number of subscribers is low. If the status continues, it is hard to expect any improvement on the network efficiency in the next period. One of the major factors affecting this is that Türk Telekom runs two networks (Cable TV-Fixed Network) simultaneously both of whom can be thought as rivals. Finally, there are two main reasons for expecting important improvements. First one is, Türksat A.Ş. has acquired Cable TV network since April 2005, and the second and more important one is license of Cable Platform Service will be awarded.

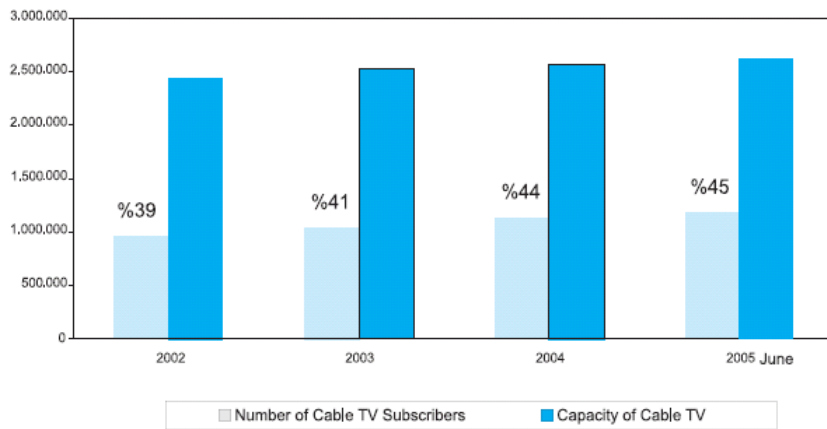


Figure 2-4 Data of Cable TV Services

2.2.2. GSM Data for 2005

GSM sector in our country shows a great development like it does all over the world. Turkey met with GSM in 1994 with two operators entering the market. The number of subscribers which was 80.000 in 1994, increased by 550 times and reached 44 million in 11 years (Figure 2-5). The estimated number of subscribers by the year 2011, made by using past changes of subscribers and with the assumption of the past upper limit of subscribers density of Turkey will be 70% in future, is given in Figure 2.5. The most important reason for taking 70% as an upper limit of subscribers' density is that, the average of Europe is about 80%.

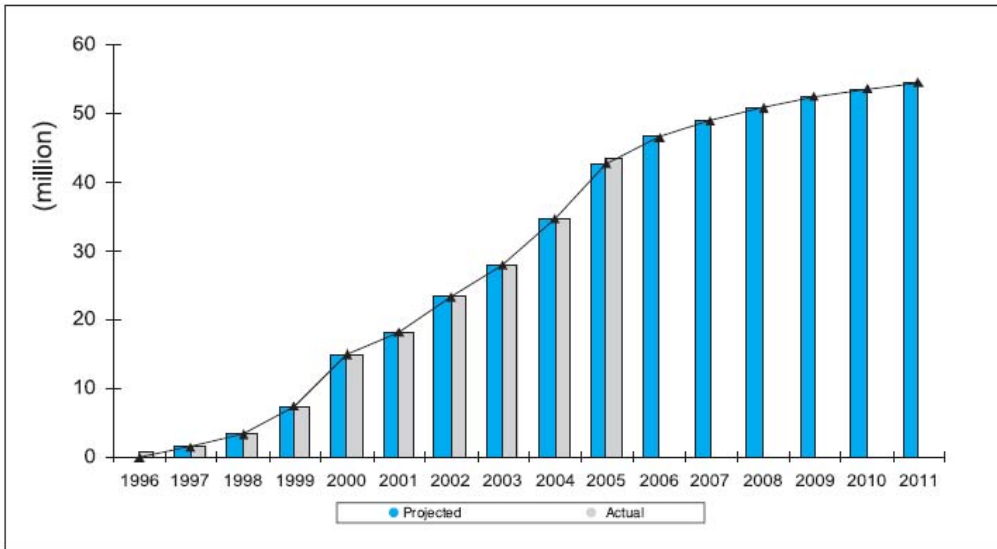


Figure 2-5 Number of GSM Subscribers in Our Country and Projection to 2011

Especially, at the end of 1980s, the wave of change increased in GSM sector. Telecommunication industry attracted not only domestic investors but also foreign ones. In this atmosphere, with the effect of the competition occurred after two new GSM licenses were given, the number of subscribers in GSM sector increased 24% between 2000 and 2005 and reached to today's number. Figure 2-6 and Table 2-6 provide information on number of subscribers and rate of increase in previous years.

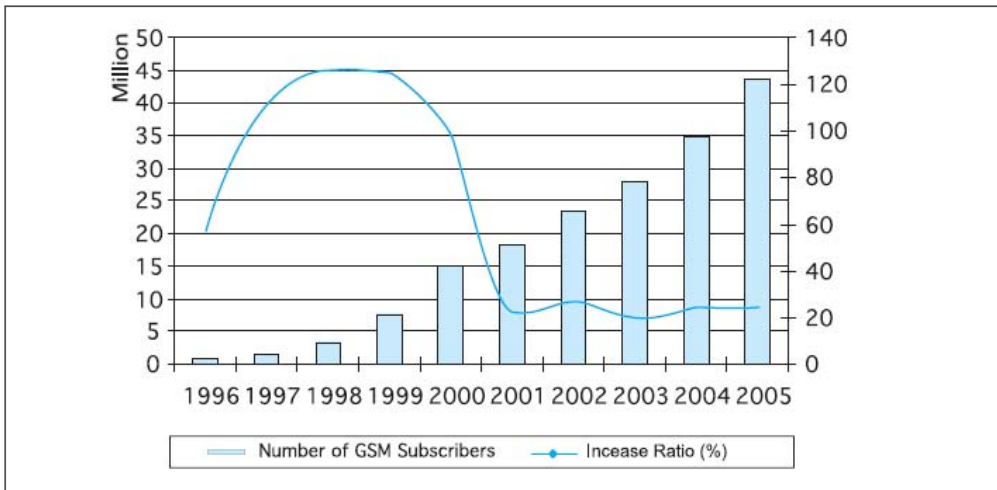


Figure 2-6 Number of GSM Subscribers

Table 2-6 Number of GSM Subscribers

Year	Number of Subscribers	Percentage of Increase (%)
1996	692.779	58,53
1997	1.481.323	113,82
1998	3.360.000	126,82
1999	7.560.000	125,00
2000	14.970.000	98,02
2001	18.228.598	21,77
2002	23.323.113	27,95
2003	27.887.535	19,57
2004	34.707.549	24,46
2005	43.608.965	25,64

Aycell and Aria entered market in 2001, during the period of the economic crisis. The market size exceeded 3.46 billion USD in 2000 reduced to 2.8 billion USD in 2001. Despite the recession in the market, the competition caused declines in prices after the entrance of new operators. In this period, with the influence of economic crisis, there has been a transition from postpaid subscribers to prepaid subscribers, and share of prepaid subscribers in the market rose to 78%. Transition from postpaid to prepaid had an important effect on decreases in revenues per subscribers.

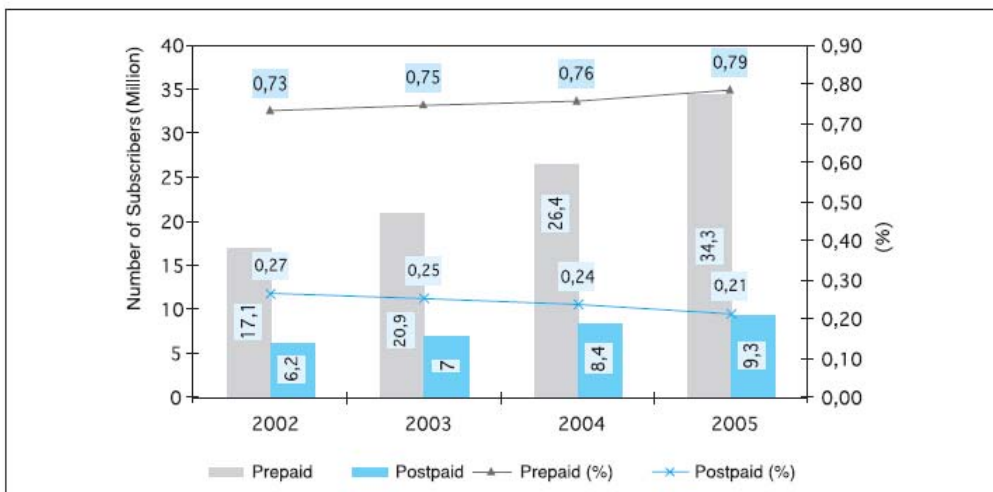


Figure 2-7 Distribution of Prepaid and Postpaid Subscriber of GSM

In our country the number of subscribers reached to 44 million by the end of 2005. GSM penetration rate in EU countries is about 80%, however in our country, the rate is 60%. Also the market revenue is not at the desired level. While the number of subscribers increased nearly 10 times in the six years period between 1998 and 2004, the revenues of GSM increased only 3.9 times. This means the revenues per user has decreased.

While the revenue per user was 30-40 USD in 1998, as can be seen in Figure 2.6 in 2004 it decreased to 12-13 USD because of both increased competition in the market and additional tax burdens imposed after 1999.

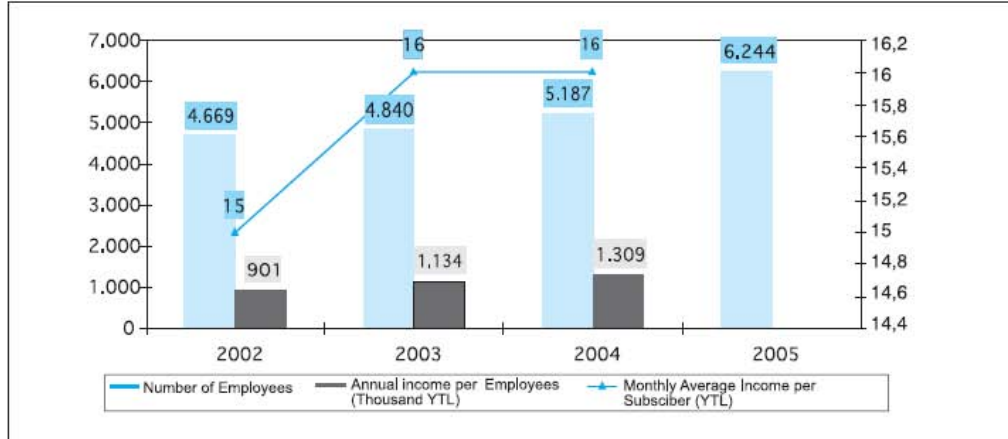


Figure 2-8 Number of Employees in GSM Companies, Annual Income per Employees and Average Monthly Revenues per Subscribers

Figure 2-9 and 2-10 compare SMS numbers in 2004 and 2005 and distribution of SMSs per month for 2005. The total number of SMSs in 2005 has increased 5 times compared to 2004 and reached to 16.728 million.

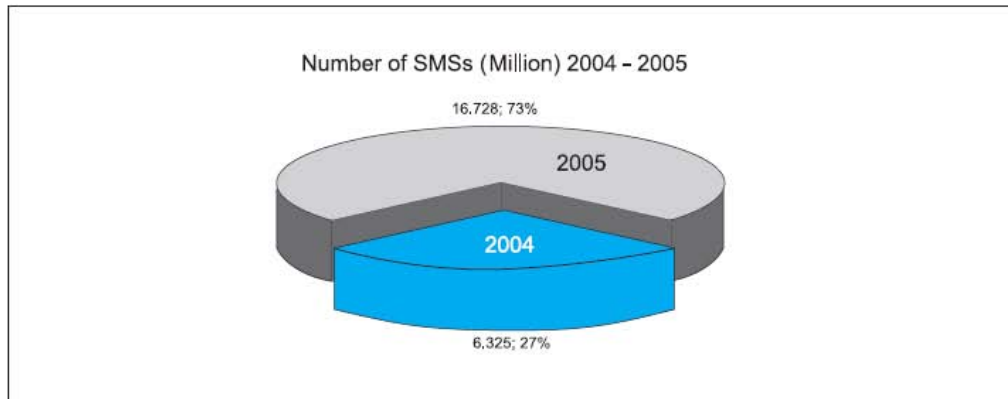


Figure 2-9 Numbers of SMSs in 2004 and 2005

When we analyze the distributions of SMSs by months; in 2005, there is an increase especially in spring and summer. By the religious holidays in autumn and winter the demand for SMSs also increases. So, there is a regular increase in these periods, too. Increase in the use of SMS can be explained by young user profile and diffusion of value added services using SMS.

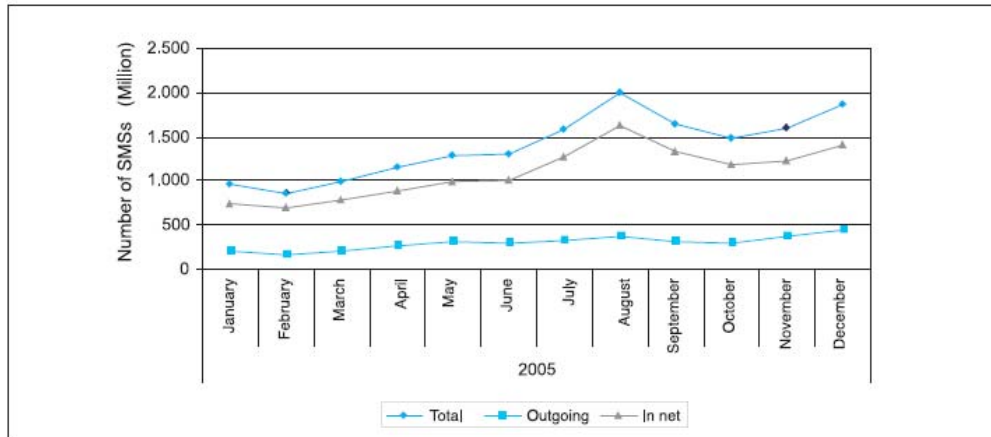


Figure 2-10 Distribution of Numbers of SMSs regard to Months

One of the major factors affecting coverage area and quality of service in GSM sector is the number of base stations. Figure 2-11 and 2-12 provide information about number of base stations and distributions according to years and regions. Increase in coverage area has a direct proportion with the increase in GSM base stations. It is also important for increasing quality of services.

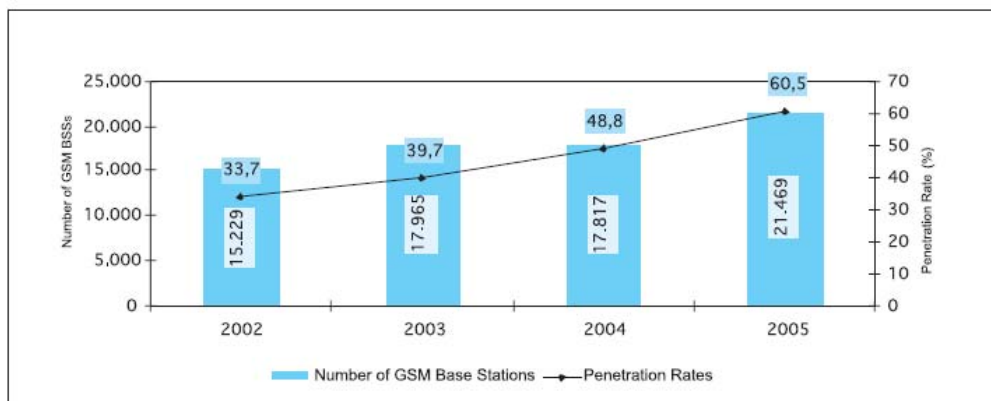


Figure 2-11 Number of GSM Base Stations, GSM Penetration Rate and Relationship between Them

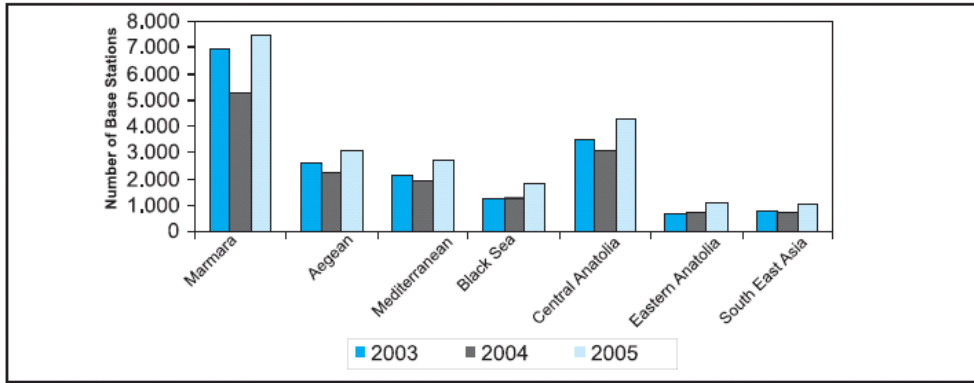


Figure 2-12 Distribution of the Base Station in respect of Years

At the end of 2005, number of base stations reached a total of 21.469 across the country, 7.477 of which are in Marmara, 4.284 in Central Anatolia and 3.52 in Aegean Region.

2.2.3. Comparison of GSM, PSTN and LDTS

In Figure 2-13, exchange of the number of PSTN and GSM subscribers between 1994 and 2005 can be seen. According to time, interception point of two curves is on February 2002. After this time, the number of GSM subscribers starts to increase at a faster rate whereas the number of PSTN subscribers shows a slow increase.

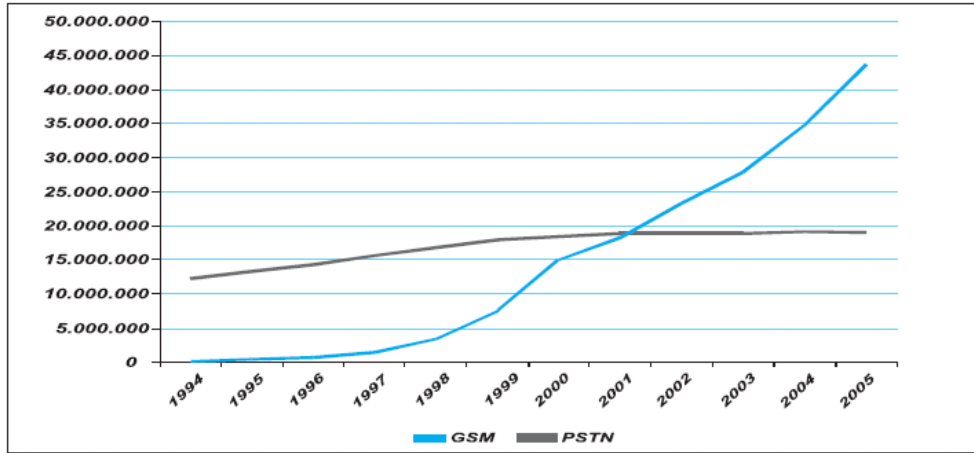


Figure 2-13 Exchange of Number of PSTN and GSM Subscribers

In 2001, due to fluctuations observed in economy, a decrease was observed in revenues of GSM operators. However, due to developments in economy and the dynamic structure of the sector, losses in revenues have been recovered in a short period. Table 2-7 provides information related to revenues and investment of telecommunications sector between 2000 and 2005.

*Table 2-7 Information related to Revenues and Investment of Telecommunications Sector (Billion USD)**

(Billion \$)	2000	2001	2002	2003	2004	2005
Fixed Revenue	4,63	3,86	3,31	4,53	6,15	5,54
Mobile Revenue	3,89	1,99	2,43	3,06	4,77	6,43
LDTS Revenue	-	-	-	-	-	0,07
Other	-	-		0,43	0,57	0,33
Fixed Investment	0,63	0,36	0,19	0,23	0,37	0,35
Mobile Investment	2,89	2,59	1,9	1,83	0,65	1,04
LDTS Investment	-	-	-	-	-	0,01
Total Revenue	8,52	5,85	5,74	8,02	11,5	12,73
Total Investment	3,52	2,95	2,09	2,06	1,02	1,4

In Table 2-7, a decreasing trend is observed in investment level beginning from 2000, and as new GSM operators started to operate in the sector in 2001, an investment above the total revenues in the sector was made. In 2002, about 78% of annual revenue of GSM operators was converted into investment, whilst in 2003 rate of investment/revenue was at the level of 60%. Investments decreased considerably in 2004 to 0,65 billion USD. Investment revenue rate went down the level of 13,5 percentage. Alike GSM, PSTN investments were in low level, changing between 0.2 and 0.6 billion USD by years.

Although in a period, in which world telecommunication sector had difficulties and Turkey had a crisis, number of the subscribers continued to increase. This must be considered as a result of dynamic structure of the sector and efficient competition. Also in the next period, it is estimated that shares of the mobile service revenues in the total telecommunication service revenues will increased much more. The main reasons on this estimation rely on openness of penetration rates to the growth and density of young population in Turkey. Nonetheless, rate of increase isn't sufficient alone for the growth of the market. Hence, increase in GDP is an important factor for the growth of market.

Moreover, operation environment will be shaped again after the monopoly in PSTN services has disappeared and liberalization of market has been provided. We have to see these improvements as a part of natural development process for Turkey. On the other hand, according to concerned judgments of the Banking Law, Telsim Mobile Telecommunication Services A.Ş., whose management passed to Saving Deposit Insurance Fund, was sold to Vodafone for 4.5 billion USD. This was another development for enhancement of the competition.

After publishing annex about the Ordinance on LDTS, authorization of LDTS has been started at May 17, 2004. 44 LDTS operators were authorized since January 2006. Four operator's authorizations cancelled because one of the operators broke the judgments of Ordinance, and three of them demanded their cancellation. 26 operators made an interconnection agreement with other operators for providing services. 24 of these operators made an agreement with Türk Telekom, 24 of those operators made an agreement with Turkcell and Telsim for call termination and carrying traffic. 13 of operators made an agreement for the LDTS-LDTS interconnection between each other. Moreover, one of the operators made agreements with GMPCS operator for the LDTS-GMPCS interconnection.

*Average exchange rate of US Dollar is used in calculations.

Information Society and Internet

Nowadays, countries are racing to become information societies. They develop policies, strategies and projects about “diffusion of internet”, “increasing computer literacy”, “information sharing”, “begin on information society”, etc. Broadband access, known as High-Speed internet, is an important requirement for information society. Broadband access carries on its importance in most of the developed and developing countries. So, its importance can not be denied for Turkey that experiences the process of integration with world and information society.

Broadband access can be provided by some technologies. Cable Internet and ADSL (Asymmetric Digital Subscriber Line) are among the leading technologies. In Turkey, Broadband services are provided commonly by ADSL and Cable Internet and other technologies.

Considering that in OECD countries broadband penetration is about 12 percent, Turkey has a low penetration rate which is about 2%. But, in the recent years, number of ADSL subscribers has increased significantly in 2002, the number of ADSL subscribers was about 2.999 and was over 1.539.477 subscribers by the end of 2005 (Table 2-8). Asymmetric structure of ADSL is found to be one of the most convenient applications for subscribers who desire to use Internet or unidirectional data transfer. ADSL ensures faster access to Internet, transfer of higher resolution images and telephone speeches over the copper cables at the same instant. Some of the important reasons for the increase in ADSL subscribers in our country are; the new investments of Türk Telekom in its infrastructure, effectiveness of ADSL technology in meeting the customer needs and reasonable levels in charge tariffs for the service.

After publishing annex about the Ordinance on LDTS, authorization of LDTS has been started at May 17, 2004. 44 LDTS operators were authorized since January 2006. Four operator’s authorizations cancelled because one of the operators broke the judgments of Ordinance, and three of them demanded their cancellation. 26 operators made an interconnection agreement with other operators for providing services. 24 of these operators made an agreement with Turk Telekom, 24 of those operators made an agreement with Turkcell and Telsim for call termination and carrying traffic. 13 of operators made an agreement for the LDTS-LDTS interconnection between each other. Moreover, one of the operators made agreements with GMPCS operator for the LDTS-GMPCS interconnection.

Table 2-8 Number of ADSL Subscribers in Years

Years	Number of Subscribers
2002	2.999
2003	56.624
2004	452.398
2005	1.539.477

When we consider it from Cable Internet, in other countries there is a significant improvement in Cable Internet technology like in ADSL. But in Turkey, there is no improvement in Cable Internet in parallel with ADSL services. Number of Cable Internet subscribers was 31.729 by the end of October.

As of the end of 2005, in our country, there are 74 operators licensed to provide Internet Service. As it is the case for the rest of the world, ISPs, in our country, provide the necessary infrastructure, hardware and software, and supply access and content over Internet to the end-user.

In our country, number of Internet users attained a continuously-increasing acceleration within 2000-2005. Number of users, being 2.5 millions in 2000, is estimated to exceed 16 million at the end of 2005. Table 2-9 provides information on the number of Internet users between 2000 and 2005.

Table 2-9 Number of Internet Users in Years

Years	Number of Users	Increasing Rate (%)
2000	2.500.000	25,00
2001	3.200.000	28,00
2002	4.300.000	34,38
2003	6.000.000	39,54
2004	10.220.000	70,33
2005	16.000.000	56,55

Despite the fast increase in number of Internet users in our country, it remains in low levels compared to developed countries. As can be seen in Table 2-9, rate of increase in use of Internet is 25,00% in 2000, 56,55% in 2005. The Internet user numbers increased 6,4 times between 2000 and 2005. The fact that the rates are in an upward trend is considered as an indication that the use of Internet will become more common in the medium term.

ANNEX B – ONLINE DATA COLLECTION SYSTEM

TK-SAS - Microsoft Internet Explorer

Address: https://sas.tk.gov.tr/login.php

SEKTÖREL ARAŞTIRMA VE STRATEJİLER DAİRESİ BAŞKANLIĞI
Bilgi Yönetim Sistemi

TELEKOMÜNİKASYON KURUMU

Kullanıcı adı: TURKCELL
Şifre:
Karakterler: M7FX6M

[Şifre Hatırlatma](#)

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TK-SAS - Microsoft Internet Explorer

Address: https://sas.tk.gov.tr/html_form_yukle_bekleyen.php

SEKTÖREL ARAŞTIRMA VE STRATEJİLER DAİRESİ BAŞKANLIĞI
Bilgi Yönetim Sistemi

turkcell [Çıkış]
[Şifre Değiştirme]

[İşletmeçiler](#) | [Genel bilgi](#) | [Bekleyen formlar](#) | [İşletmeçi onayı bekleyen formlar](#) | [Kullanıcı Bilgileri](#)

Form kodu	Form adı	Talep tarihi	Son yüklenme tarihi	Durum	Yükleme durumu	Seçenekler
TK-SAS-25	GSM Abone Bilgi Formu	Eyl 18, 2006	Eki 6, 2006	BİLGİ BEKLIYOR	yüklemeye açık	<input type="button" value="Formu doldur"/> <input type="button" value="İşlemler"/>
TK-SAS-26	GSM Arabağlantı Ücretleri	Eyl 18, 2006	Eki 6, 2006	BİLGİ BEKLIYOR	yüklemeye açık	<input type="button" value="Formu doldur"/> <input type="button" value="İşlemler"/>
TK-SAS-27	GSM Trafik Formu	Eyl 18, 2006	Eki 6, 2006	BİLGİ BEKLIYOR	yüklemeye açık	<input type="button" value="Formu doldur"/> <input type="button" value="İşlemler"/>
TK-SAS-28	GSM Roaming Trafik Formu	Eyl 18, 2006	Eki 6, 2006	BİLGİ BEKLIYOR	yüklemeye açık	<input type="button" value="Formu doldur"/> <input type="button" value="İşlemler"/>
TK-SAS-29	GSM SMS Formu	Eyl 18, 2006	Eki 6, 2006	BİLGİ BEKLIYOR	yüklemeye açık	<input type="button" value="Formu doldur"/> <input type="button" value="İşlemler"/>

sayfa no 1

http://www.tk.gov.tr

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02.10.2006

TK-SAS - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Internet Options

Address https://sas.tk.gov.tr/html_form_doldur.php?url=dcorampko+G0AY1jpTP07MpaC:00hYIBL:MWOPyINrSCRoaMvW8oFlxe9PT1/zeabthdcj9RDkrQykgNT50d5N46Jq+USEKH Go Links

TK-SAS-25 - GSM Abone Bilgi Formu

Yil	<input type="text"/>	
Ay	Lutfen seciniz	
Bölgeler	Prepaid Abone	Postpaid Abone
Marmara	<input type="text"/>	<input type="text"/>
Ege	<input type="text"/>	<input type="text"/>
Akdeniz	<input type="text"/>	<input type="text"/>
Karadeniz	<input type="text"/>	<input type="text"/>
İç Anadolu	<input type="text"/>	<input type="text"/>
Doğu Anadolu	<input type="text"/>	<input type="text"/>
Güneydoğu Anadolu	<input type="text"/>	<input type="text"/>
Toplam (Kümülatif)	<input type="text"/>	<input type="text"/>
Yeni Abonelik	<input type="text"/>	<input type="text"/>
Abonelik İptali	<input type="text"/>	<input type="text"/>

TAMAMLA

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