



5. INTERNET SERVICES

Internet market, in particular broadband Internet, is a rather important aspect of every society. According to various studies on the relation between the broadband Internet and GDP, carried out in the recent years worldwide, the increase in the number of broadband connections has a direct impact on the increase in GDP. Pursuant to the Strategy for the Development of Telecommunications in the Republic of Serbia in the Period from 2006 until 2010 and the pertinent Plan of Action, the Republic Telecommunication Agency has conducted a series of regulatory measures and activities which concern the development of the data transmission networks and access to high speed Internet, paying particular attention to observing the principles of technological neutrality and the increase of broadband penetration to over 10%.

As of 2005, onwards, there have been significant changes in the Internet market in the Republic of Serbia, in particular in the structure of the end-users' Internet connections and the amount of revenues made from the Internet service provision. Namely, in 2008, the number of broadband connections exceeded that of dial-up for the first time, although if the access is observed by different technologies, dial-up is still the most common technology. However, negative growth of dial-up connections in the past years indicates the growing needs of the users for easily accessible contents of a higher quality, offered by broadband access. This is further confirmed by the fact that the number of broadband connections in Serbia reached 490 thousand in 2008 (55% of the total number of Internet connections), twice as many as in 2007. The most common broadband access is ADSL, and the whole infrastructure for the access to end-user is in the ownership of Telekom Srbija a.d. In addition to the mentioned technologies, the Internet connection can be through cable modem or network developed and built by cable operators, wireless using the licence free frequency bands around 2.4 GHz and 5.8 GHz and through UMTS (3G) mobile operators' networks.

In 2008 there were 201 Internet providers in Serbia. However, in December 2008 there were exactly 197 ISPs registered in the Authorization Register, since some operators had been erased from the Register upon personal request or due to non-compliance with the obligations stipulated under the Law and the Rules on terms and conditions for the Internet services and other data

transmission services provision and on contents of authorization. ADSL access was provided by 21, cable modem access by 22, wireless access was offered by 82 and dial-up by 48 providers.

Table 7. Number of ISPs by Access Technology					Source: RATEL
	2005	2006	2007	2008	
Dial-up	34	51	60	48	
Cable modem	5	9	14	22	
Wireless	38	75	118	82	
ADSL	12	16	23	21	

Table 8. Total Number of ISPs					Source: RATEL
	2005	2006	2007	2008	
Number of ISPs	66	109	159	197	

Figure 42. Revenues from the Internet in RSD Million



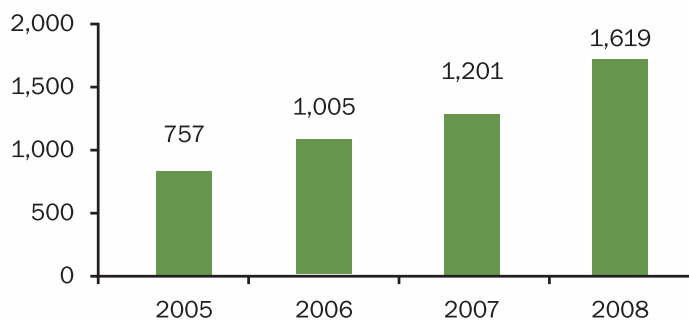
Direct consequence of the investments and business activities of the operators, and the regulatory activities of the Agency, is the constant expansion of the Serbian Internet market. This is further confirmed by the fact that the total revenues from the Internet services were almost doubled in respect to the previous year, and five times bigger in respect to 2005. However, it

remains uncertain how the new economic circumstances will affect the development and growth of the information society in the years ahead.

The total number of Internet subscribers in 2008 amounted to approximately 891 thousand. However, if we consider the availability of the Internet access or Internet services, then the total number of potential subscribers turns out to be 1.6 million, since it also includes around 738 thousand of 3G mobile network subscribers. The total number of broadband connections (without the 3G mobile network subscribers) was almost twice the number of connections in 2007, amounting to approximately 490 thousand, whereas the number of dial-up subscribers was almost reduced to half (cut down by 43%). Thus, broadband access has become dominant.

Figure 43. Number of Internet Users in Thousands*

Source: RATEL



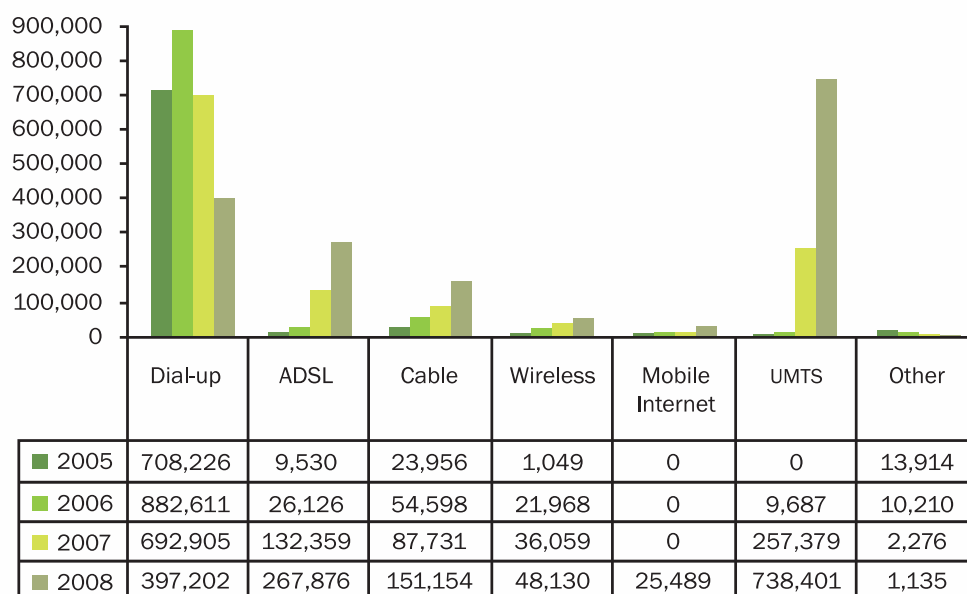
* The total number includes 3G mobile network subscribers.

As mentioned earlier, the total number of broadband connections in Serbia in 2008 was over 490 thousand (55% of the total number of the Internet connections), which is twice as much as in 2007. There was a significant increase in the number of subscribers who access the Internet using ADSL modem, which was doubled in respect to the previous year. Also, there was a considerable growth (over 70%) in the number of subscribers having the Internet access through cable modem. It needs to be pointed out that special modems enabling the broadband Internet through 3G mobile network appeared for the first time in 2008. The total number of these subscribers amounted to 25 thousand or 5% of the total number of broadband connections.



Figure 44. Number of Users According to Access Technology

Source: RATEL



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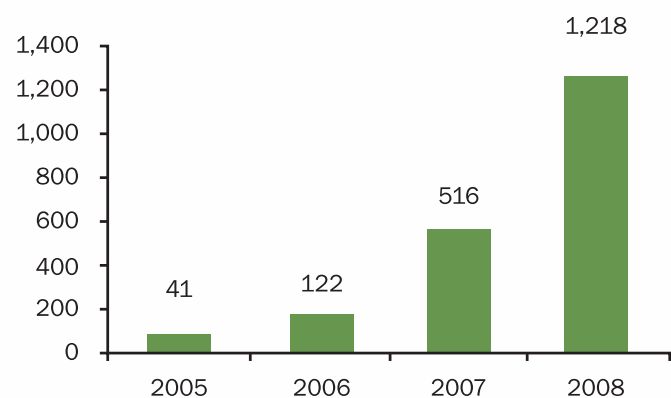
TELECOM MARKET IN THE

REPUBLIC OF SERBIA

IN 2008

Figure 45. Number of Broadband Users in Thousands*

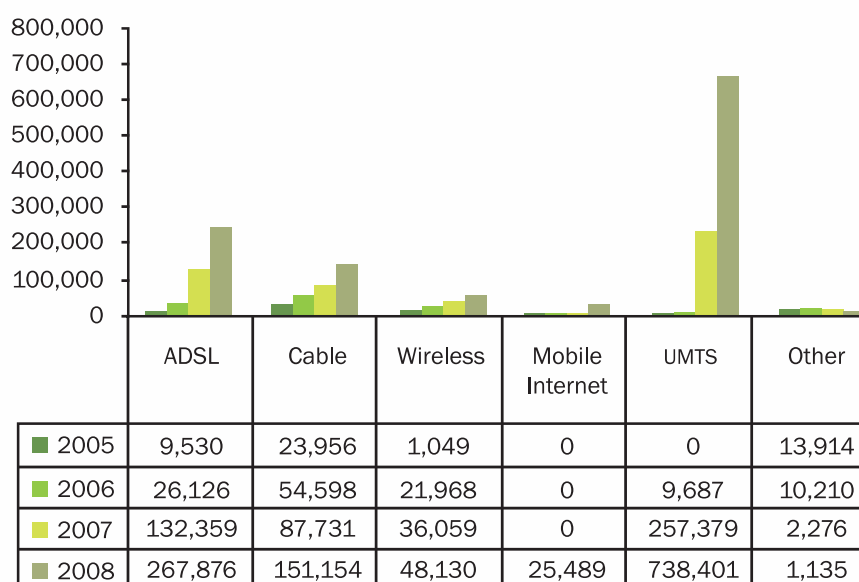
Source: RATEL



*The total number includes 3G mobile network subscribers.

Figure 46. Number of Broadband Users According to Technology

Source: RATEL



The number of Internet connections per 100 inhabitants was 21*, whereas the number of broadband Internet connections per 100 inhabitants was 16*. However, if the 3G mobile network subscribers are excluded from the total number of broadband subscribers, broadband penetration amounts to 6.57%, which is still below the average in both the South East Europe of 7.74%, and the European Union (EU 27) of 22.9%.

In the Internet sector there was an increase in the number of the Internet providers and in the number of users, in particular those with broadband access. The possibility of the Internet access is a very important element of the development of the information society.

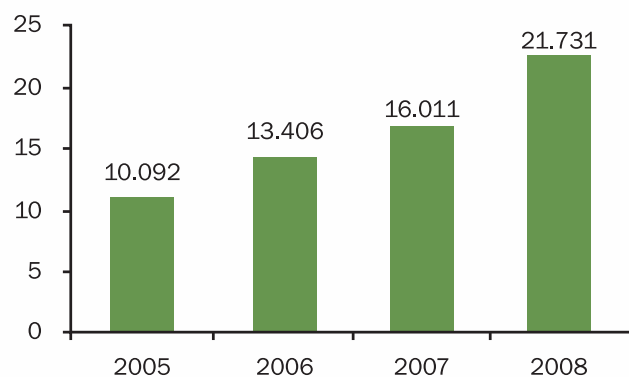
The quality of services largely depends on the chosen technology. A drastic fall in the number of dial-up users has been seen in the recent years. On the other hand, the number of users of the technologies enabling broadband Internet is constantly growing (particularly ADSL and cable).

*The calculation includes 3G mobile network subscribers



Figure 47. Internet Penetration Rate(%)*

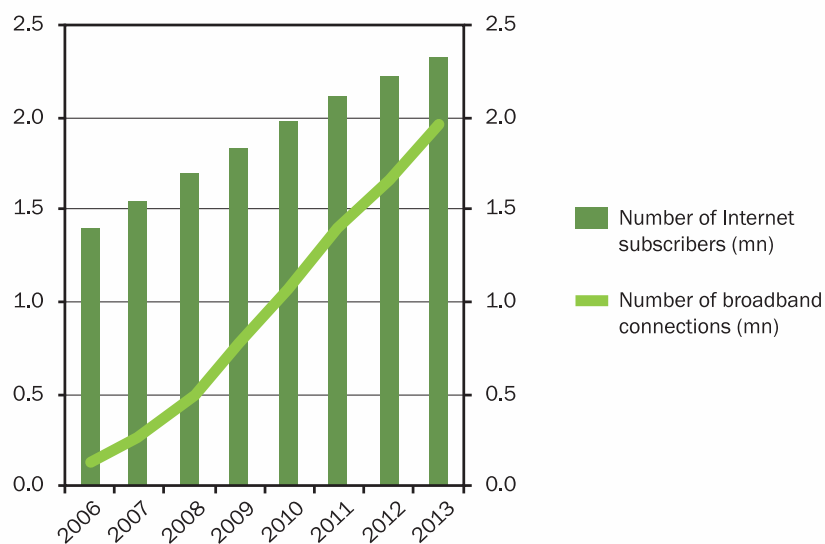
Source: RATEL



* 3G mobile network subscribers included.

Figure 48. Projected Growth Rate of the Internet Service Market (mn)

Source: Business Monitor International, Serbia Telecommunications Report 2009, March 2009





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TELECOM MARKET IN THE
REPUBLIC OF SERBIA
IN 2008

The Internet access via 3G mobile network also deserves special interest. The number of these terminal devices is growing considerably.

Considering the constant growth of the Serbian telecom market in the past four years, a significant rise in the number of Internet connections is expected to be seen in the years ahead, which is also confirmed by the analysis and forecasts of the Business Monitor International. The number of broadband connections in Serbia is expected to reach 1.9 million by the end of 2013.

Based on the pricelist published on the ISPs' websites, it can be noted that a large number of different packages is offered, enabling different flows and different types of access to the end-user. The best selling packages in 2008 were those with downlink speeds of 512 kbps and 1024 kbps (around 174 thousand connections).