

# 2005-2010

## REPORT ON THE ACTIVITIES

OF THE REPUBLIC  
TELECOMMUNICATION  
AGENCY  
IN THE PERIOD 2005 - 2010



Republic of Serbia  
**RATEL**  
Republika Telekomunikaciona  
Agencija

[www.ratel.rs](http://www.ratel.rs)





# REPORT ON THE ACTIVITIES OF THE REPUBLIC TELECOMMUNICATION AGENCY IN THE PERIOD 2005 – 2010

Belgrade, May 2010

## 1. Introduction

In line with the Telecommunications Law, the Republic Telecommunication Agency (RATEL) was established in 2005 as a national regulatory authority and an independent legal entity with the aim of ensuring further development of the telecom sector and creating the conditions for the implementation of Information Society by providing the efficient enforcement and improvement of the policy set within the telecommunications sector in the Republic of Serbia.

With the establishment of RATEL, the regulatory framework, as a basis for future reforms in the aforementioned sector, was established as well. From the very beginning of its work, RATEL has directed its activities primarily towards the realization of tasks set under the Telecommunications Law - regulating the relationship between market participants by providing the conditions for the creation of a free and open market, preventing monopolistic behavior and ensuring equal and non-discriminatory treatment of all participants as well as introducing new and quality enhanced services, as well as consumer protection.

Regardless of the fact that RATEL had been faced with numerous spatial, financial, technical and staff-related issues, continuing its work in rather aggravating circumstances with frequent obstructions, the previous five- year period was marked with enviable results related to creating the conditions for the telecom sector regulation and development, ensuring competition, introduction of new services and modern information and communication technologies.

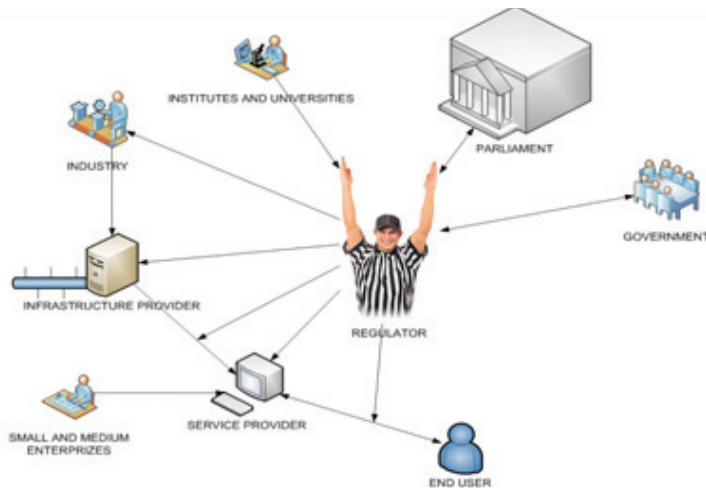


Figure 1.

The Republic Telecommunication Agency (RATEL) –independent regulatory authority

The results of RATEL's activities so far may be observed in the field of mobile and fixed telecommunications networks, in creating the conditions for the development and use of Internet and cable distribution systems, raising the level of telecom market competitiveness as well as within the scope of introducing digital television.

Within the scope of mobile telecommunications, the adoption and application of regulatory provisions resulted in the opening of that market segment. Three mobile telephony operators have introduced new, modern services and provide data transmission services, i.e. Internet services, over the newly built UMTS network (3G) as well. Competition has brought about enhanced quality services as well as a decrease in such service prices. With the aim of strengthening competition in this market, RATEL



adopted the Rules on number portability which would enable mobile telephony end-users to switch between operators while retaining their assigned numbers at the same time.

The adoption of bylaws related to individual segments of fixed telecommunications systems created the conditions for the equal usage of all technologies and the possibility of new fixed telephony market entrants. In mid 2009, having successfully completed the public bidding procedure, RATEL issued two licences for public fixed wireless telecommunications network (*Fixed Wireless Access – FWA*) in the 411.875-418.125/421.875-428.125 MHz frequency band with the usage of CDMA technology in voice services and data transmission provision (lower bit rate Internet). Since these are national coverage licences, it is very likely that in the near future the provision of these services will be available in underdeveloped areas and resolve the issue of party-lines.

Towards the end of 2008 and the beginning of 2009, RATEL adopted numerous Rules which regulate the conditions for the issuance of authorizations for the provision of Internet and other data transmission services. Moreover, the commercial provision of lower bit rate Internet service in the licence-free band was enabled as well. At the same time, the issue of wholesale Internet was regulated as well. The conditions and the procedure for the issuance of authorizations for international interconnection, as well as the authorizations for public telecommunications networks, were defined. Furthermore, the issuance of authorizations for the provision of voice transmission services over the Internet was regulated as well, thus enabling international telephone service at particularly lower prices.

With the aim of resolving the problem of technical monopoly present in the market segment of cable distribution systems, RATEL adopted regulatory provisions that enable the usage of new technologies which, via satellite transmission, provide these services directly to end-users (*Direct To Home – DTH*). A set of technical provisions, aiming at technological improvement of these networks, was adopted as well.

A particularly important result of RATEL's activities in 2009 was the adoption of bylaws which enable the initiation of the public bidding procedure for the issuance of one licence for the provision of fixed broadband network service with national coverage. The licence having been awarded, the conditions for the continuation of the telecom market liberalization were met. From now on, two eminent operators will be able to provide packages of unified services in a manner set under the Strategy for the development of broadband access: bit rate of at least 4 Mb/s for fixed, and 512 kb/s for mobile access. In the following years, we may expect operators to provide bundled services which would lead to lower prices for the end-users.

In the field of broadcasting, by taking part in the activities within international coordination and by adopting the appropriate bylaws, RATEL enabled the initialization of a digital TV service with the possibility of broadcasting 48 different TV programs with national coverage.



## 2. Telecom sector regulation

The principal aims of telecom sector regulation are the following:

- Creating conditions for an open and free market and ensuring equal treatment of all market players,
- Directing the actions of all telecom market participants towards the creation of conditions for the development of Information Society,
- Putting emphasis on the interests of telecom service users,
- Rational and efficient use of all scarce resources,
- Harmonization of provisions, standards, technical requirements and practices with the adequate EU regulatory pack.

Every potential telecommunications infrastructure and/or telecommunications service operator must obtain the appropriate licence from the regulatory authority for performing activities within certain segments of the telecom sector.

### 2.1 Licences

Within its competencies pertinent to the regulation of services which necessitate the use of scarce resources (frequencies and numbering), RATEL has, from the beginning of its operation, issued or renewed the total of seven telecommunications operator licences:

- Licence for public mobile telecommunications network and services was issued to Telekom Srbija on 18 August 2006,
- Licence for public mobile telecommunications network and services was issued to the Norwegian operator, Telenor, on 31 August 2006 with the one-off licence issuance fee amounting to 320,000,000 euros,
- Licence for public mobile telecommunications network and services was issued to Mobilkom Austria on 1

December 2006 with the one-off licence issuance fee amounting to 320,000,001 euros,

- Telekom Srbija had its licence for building, owning and exploiting the public fixed telecommunications network and the provision of public fixed telecommunications network services renewed on 4 May 2007,
- Two licences for public fixed wireless telecommunications network (FWA) in the 411.875-418.125/421.875-428.125 MHz frequency band and voice services, data package transmission and simultaneous voice and data transmission were issued to Telekom Srbija and Media Works on 17 June 2009 with the one-off licence issuance fee amounting to 540,000 euros respectively.
- Licence for public fixed telecommunications networks and services for the Republic of Serbia was issued to Telenor on 19 February 2010 with the one-off licence issuance fee amounting to 1,050,000 euros.

## **2.2 Authorizations**

Authorizations are licences granted to any national or foreign physical or legal persons whose intention is to operate a telecommunications network under standard conditions. The following authorizations were issued during the course of the observed period:

- 199 Internet service provision authorizations,
- 77 authorizations for the provision of cable network radio and TV program distribution service,
- 40 authorizations for the provision of VoIP services (Voice over IP),
- 33 authorizations for public telecommunications networks,
- 2 authorizations for the provision of data transmission services without Internet service provision,
- 26 authorizations for international interconnection, and





- 3 authorizations for the provision of radio and TV program distribution services via satellite.

### 2.3 Radio station licences

Radio station licence grants the right of radio station use, i.e. the use of radio frequencies stipulated in the licence. RATEL issued the following licences in this field:

- 83,135 radio station licences,
- 844 licences for broadcasting radio stations, and
- 2,471 amateur radio licences and 672 amateur radio station permits.

Following the public notice of the Republic Broadcasting Agency, the following licences for commercial radio and television broadcasters were issued:

- 5 television and 5 radio broadcasters with national coverage,
- 3 television and 18 radio broadcasters for the territory of Belgrade,
- 1 television and 1 radio broadcaster for the territory of Vojvodina,
- 28 television and 30 FM radio broadcasters with regional coverage, and
- 102 television and 253 FM radio broadcasters with local coverage.

Public service licences were issued for national area and the area of the autonomous province as well. In the observed period, 1,449 international frequency/location coordinations were carried out.

## **2.4 Technical permit – certificate**

With the aim of ensuring the construction, installation, and operation of telecommunications networks, systems and facilities in accordance with the required standards and technical regulations, the following technical permits-certificates were issued:

- 1,810 technical permits - certificates on compliance of telecommunications networks and systems design and design documentation with the prescribed standards and regulations,
- 1,088 technical permits – certificates on compliance of telecommunications networks, systems and facilities with the prescribed standards and regulations,
- 1,806 technical permits – certificates on compliance of building and installation of telecommunications networks, systems and facilities with the prescribed standards and regulations,
- 125 technical permits– certificates for putting telecommunications systems and facilities into operation,
- 251 reports on technical inspections of telecommunications networks, systems and facilities.

## **2.5 Approvals for the import of goods**

RATEL is in charge of issuing approvals for the import of goods stipulated under the Decision on determining the type of goods the import, export or transit of which necessitates the issuance of certain permits. RATEL has issued 15,307 approvals so far.



## 2.6 Telecom market analysis and regulation

Since its establishment in 2005, RATEL has adopted numerous Decisions pertinent to the gradual process of telecom market liberalization and incumbent operators' service price calculation:

- Decision on designating Telekom Srbija as a public fixed telecommunications operator with significant market power for the public fixed telecommunications services (24 March 2006),
- Decision on issuing an approval to Telekom Srbija for the increase in the amount of connection charge for residential and business users (20 October 2006),
- Decision on designating Serbia Broadband (SBB) as an operator with significant market power for the provision of radio and television program distribution services via cable network (19 February 2007),
- Decision on issuing an approval to Telekom Srbija for additional (special) PSTN/ISDN services price calculation (2 October, 2007),
- Decision on issuing an approval to Serbia Broadband (SBB) for tariff rebalancing within radio and television program distribution services via cable network for the territory of 3 cities (3 February 2008),
- Decision on issuing an approval to Serbia Broadband (SBB) for radio and television program distribution services tariff rebalancing within their own networks (27 June 2008)
- Decision on issuing an approval to Telekom Srbija for tariff rebalancing in fixed telephony services (14 October 2008),
- Decision on issuing an approval for tariff rebalancing within INMARSAT satellite system telephone calls (5 June 2009),
- Decision on issuing an approval to Serbia Broadband (SBB) for radio and television program distribution service

- tariff rebalancing within their own network (12 February 2010),
- Decision on issuing an approval to Telekom Srbija for price modification of the telephone subscription fee (12 February 2010).

## **2.7 Interconnection**

All public telecommunications operators are permitted the right to interconnect with other public telecommunications networks. The conditions of mutual interconnection are arranged by means of an interconnection agreement. In case the operators fail to reach an agreement on interconnection, RATEL shall be in charge of setting out the technical and financial conditions of interconnection. Within the observed period, 25 final interconnection agreements were registered.

## **2.8 Universal service**

Upon RATEL's proposal, the Ministry of Telecommunications and Information Society (MTID) adopted the Rules on designating the initial set of services for the universal service obligation.

The Managing Board of the Republic Telecommunication Agency, in its session held on 12 March 2010, adopted the Decision on designating the following operators as operators with the obligation of universal service provision:

1. Telekom Srbija,
2. Telenor,



3. VIP mobile, and
4. Media Works.

The aforementioned Decision came into force on 26 March 2010, following its publication in the “*Official Gazette of the Republic of Serbia*” no. 15/10, on 19 March 2010.

## 2.9 Leased lines

RATEL’s competencies within the market segment of leased lines pertain to the obligation of an SMP operator (*Significant Market Power operator*) to provide leased lines to other public telecommunications operators at their own request, under the conditions stipulated in the Principles on the shared use of cable ducts.

## 2.10 Consumer protection

Activities related to the sphere of consumer protection refer to, *inter alia*, the process of resolving user complaints about the services provided by telecommunications operators, to the process of informing the public about the key issues within the sector of telecommunications, as well as to raising awareness of the important role of information and communication technologies in our everyday lives. Given the abovementioned, RATEL performed the following activities:

- processed the total of 1,352 cases related to user complaints and provided written replies to such complaints,
- published an Instruction on code of conduct in case of harassment,
- drafted a comparative overview of roaming prices for each of the three mobile operators, as well as for all other

- international operators with whom the three operators have entered into roaming agreements,
- reached an agreement with operators regarding the process of resolving user complaints about entertainment services,
- made ICT User Guides publicly available on its website.

### **2.11 Radio-emissions monitoring**

- 26,978 records of radio-emission measurements and control activities,
- 2,338 radio-emission controllers' reports,
- 37 international reports on harmful interferences,
- 693 decisions on measures undertaken against radio station owners,
- 125 decisions on forced execution,
- 19,546 technical inspections of radio stations,
- 254 reports issued on the technical inspection of telecommunications networks, systems and facilities.

### **2.12 Number portability**

RATEL adopted and published the Rules on number portability in public mobile telecommunications networks which is due to come into effect on 1 January 2011.



## RATEL's competencies are based on the following provisions:

### 2.13 Law

With the adoption of the Telecommunications Law in 2003 (*Official Gazette of RS*, nos. 44/03, 36/06 and 50/09-CC), the beginning of the process of liberalization and the elimination of monopoly within the telecommunications sector in the Republic of Serbia was initiated, as well as the process of bringing national provisions into compliance with the EU legislation. The application of provisions stipulated under the Law necessitated the establishment of the Republic Telecommunication Agency.

### 2.14 Strategies

- Strategy for the development of the telecommunications sector in the Republic of Serbia from 2006 to 2010 (*Official Gazette of RS*, no. 99/06),
- Strategy on increasing the share of national industry in the telecommunications sector development in the Republic of Serbia (*Official Gazette of RS*, no. 03/10),
- Strategy for analogue to digital switchover in radio and television program broadcasting in the Republic of Serbia (*Official Gazette of RS*, no. 52/09),
- Strategy for the development of broadband access in the Republic of Serbia until 2012 (*Official Gazette of RS*, no. 84/09).

## 2.15 List of bylaws adopted by RATEL

- Rules on procedure for radio station licence issuance and on data and documentation to be submitted together with radio station licence request (*Official Gazette of RS*, no. 100/05),
- Rules on the telecommunications and radio-broadcasting controllers' identification card form (*Official Gazette of RS*, no. 111/05),
- Rules on the radio broadcasting controllers' report form contents (adopted by RATEL Managing Board on 10.02.2006, available on website [www.ratel.rs](http://www.ratel.rs)),
- Rules on determining types of public telecommunications services for which licence is required (*Official Gazette of RS*, no. 29/06),
- Rules on compliance control of telecommunications networks, systems and facilities with prescribed standards and regulations (*Official Gazette of RS*, no. 29/06),
- Rules on procedures for the issuance of licence for public telecommunications networks and public telecommunications services and on register keeping (*Official Gazette of the RS*, no. 29/06),
- Rules on form and contents of the form for the report on radio station technical inspection and of the form for the report on telecom networks, systems and facilities technical inspection (*Official Gazette of RS*, no. 34/06),
- Rules on technical permits – certificate issuance (*Official Gazette of RS*, no. 34/06),
- Rules on technical inspection procedure in the field of telecommunications (*Official Gazette of RS*, no. 34/06),
- Rules on costs for technical permits – certificate issuance and for technical inspection of radio stations, telecom networks, systems and facilities (*Official Gazette of RS*, no. 41/06),
- Rules on fees and costs for licence and authorization issuance (*Official Gazette of RS*, no. 58/06),





- Rules on public telecommunications networks and public telecommunications services for which authorization is required (*Official Gazette of RS*, no. 60/06),
- Rules on conditions for the work of amateur radio stations (*Official Gazette of RS*, nos. 06/07 and 20/09),
- Rules on classes of radio-stations for which radio station licence is not required (*Official Gazette of RS*, no. 26/07),
- Rules on administering the Numbering Plan for Telecommunications Networks (*Official Gazette of RS*, no. 87/07),
- Rules on general terms and conditions for interconnection of public telecommunications networks (*Official Gazette of RS*, no. 53/08),
- Numbering Plan of the Republic of Serbia for Telecommunications Networks (*Official Gazette of RS*, nos. 57/08, 77/08, 105/08, 107/08-corr. and 85/09),
- Rules on terms and conditions and the procedure for the issuance of authorization to a public telecommunications operator for interconnection of a national telecommunications network with a telecommunications network of another country (*Official Gazette of RS*, no. 94/08),
- Rules on terms and conditions for the issuance of authorization for public telecommunication networks and on authorization contents (*Official Gazette of RS*, no. 94/08),
- Rules on terms and conditions for provision of voice transmission services over the Internet and on authorization contents (*Official Gazette of RS*, no. 94/08),
- Rules on terms and conditions for the Internet services and other data transmission services provision and on authorization contents (*Official Gazette of RS*, no. 100/08),
- Rules on the application of the cost-accounting principle, separate accounts and reporting of a telecommunications operator with significant market power (*Official Gazette of RS*, no. 103/08),
- Rules on forms for radio station licences (*Official Gazette of RS*, no. 111/08),

- Instructions on the public bidding procedure for licence issuance (*Official Gazette of RS*, no. 12/09),
- Decision on the amount of the annual fee for using the assigned numbers and addresses from the Numbering Plan (*Official Gazette of RS*, nos. 16/09 and 23/09),
- Rules on terms and conditions for radio and television program distribution service provision and authorization contents (*Official Gazette of RS*, no. 26/09),
- Decision on the provision of call-back service without a special authorization issued by the Republic Telecommunication Agency (*Official Gazette of RS*, no. 27/09),
- Rules on costs for radio station licence issuance (*Official Gazette of RS*, no. 04/10),
- Rules on radio frequency usage fees (*Official Gazette of RS*, no. 04/10),
- Rules on number portability in public mobile telecommunications networks (*Official Gazette of RS*, no. 05/10),
- Decision on designating operators with universal service obligation (*Official Gazette of RS*, no. 15/10).

### **2.16 Radio Frequency Bands Allocation Plan**

Since the radio frequency spectrum, as a scarce resource, must be used efficiently and economically, the Government of Serbia adopted the Radio Frequency Bands Allocation Plan, prepared by RATEL and proposed by the Ministry of Telecommunications and Information Society (MTID).

### **2.17 Radio Frequency Assignment Plans**

Plans for radio frequency assignment for various purposes are adopted by the Ministry of Telecommunications and Information Society upon RATEL's proposal.



- Plan on amending the Frequency/location Assignment Plan for terrestrial analogue FM and AM broadcasting stations (*Official Gazette of RS*, no. 2/10),
- Frequency Assignment Plan for radio systems in the 410-420/420-430 MHz frequency band (*Official Gazette of RS*, no. 8/09),
- Radio frequency Assignment Plan for UMTS/IMT-2000 radio system (*Official Gazette of RS*, no. 17/08),
- Radio frequency Assignment Plan for fixed wireless access systems (FWA) in the frequency bands 3410-3600 MHz and 3600-3800 MHz (*Official Gazette of RS*, no. 17/08),
- Plan on amending the Frequency/location Assignment Plan for terrestrial analogue FM and AM broadcasting stations (*Official Gazette of RS*, no. 27/08),
- Frequency/location Assignment Plan for terrestrial analogue FM and AM broadcasting stations for the territory of the Republic of Serbia (*Official Gazette of RS*, no. 74/07),
- Frequency/location Assignment Plan for terrestrial analogue FM and AM broadcasting stations for the territory of the Republic of Serbia (*Official Gazette of RS*, no. 6/06).

## 2.18 Numbering Plan

The Republic Telecommunication Agency shall adopt and administer the Numbering Plan for telecommunications networks in line with the decisions and provisions of the competent authorities of the Republic of Serbia as well as with international institutions the provisions of which are binding on the Republic of Serbia:

- Numbering Plan of the Republic of Serbia for telecommunications networks (*Official Gazette of RS*, nos. 57/08, 77/08, 105/08, 107/08-corr. and 85/09),
- Rules on administering the Numbering Plan for telecommunications networks (*Official Gazette of RS*, no. 87/07).

## **2.19 Decisions adopted by the Managing Board**

In the previous five years, RATEL's Managing Board held 145 sessions. These sessions involved the preparation of 1,200 items of the agenda, adoption of 71 bylaws (rules, instructions, etc.) as well as 2,500 separate enactments (decisions, decrees, conclusions, etc.). There were 155 additional bylaws within the appropriate general or separate enactments addressed to the National Assembly of the Republic of Serbia, the Government, the Supreme Court of Serbia, the Constitutional Court, ministries (particularly to the Ministry of Telecommunications and Information Society and the Ministry of Finance), the Commissioner for Information of Public Importance and Personal Data Protection, public operators and other state authorities.

## **2.20 Instructions and technical conditions**

With the aim of ensuring the efficient observance of the provisions stipulated under the Law and bylaws, as well as standards, regulations and technical conditions within its competence, RATEL adopted and made publicly available the following list of instructions and technical requirements for operators:

- Instruction on the procedure of conducting public consultations,
- Instruction on public bidding procedures,
- Instruction on measuring technical and other parameters of FM radio stations in private telecommunications networks,



- Instruction on technical inspections for radio station owners,
- Instruction on obtaining a radio station licence and drawing-up technical documentation for broadcasting stations,
- Instruction on filling out the application for radio station licence issuance,
- Instruction on applying for a radio station licence for legal and physical entities,
- Instruction on measuring technical and other parameters of FM broadcasting stations,
- Instruction on measuring technical and other parameters of analogue TV broadcasting stations,
- Instruction on submitting a financial report on Internet service provision,
- Instruction on applying for the issuance of the authorization for Internet services and other data transmission services provision and on contents of the authorization,
- Instruction on applying for the issuance of public telecommunications network authorization,
- Instruction on applying for the issuance of the authorization for interconnection of a national telecommunications network with a telecommunications network of another country,
- Instruction on applying for the issuance of VoIP authorization,
- Technical conditions for base station uninterruptible power supply (UPS) systems,
- Technical conditions for base station rectifiers and rectifier systems,
- Technical conditions for base station inverters and inverter systems,
- Technical conditions for mobile telecommunications network subsystems, devices, equipment and installations,
- Technical conditions for fixed telecommunications network subsystems, devices, equipment and installations,
- Technical conditions for subsystems, devices, equipment and installations of cable distribution systems,
- Technical conditions for Internet network subsystems, devices, equipment and installations,
- Technical conditions for cable distribution networks, systems and facilities,

- Instruction on applying for the issuance of the technical permit-certificate for compliance control of telecommunications networks, systems and facilities with the prescribed standards and regulations,
- Instruction on applying for the issuance of the technical permit-certificate for the compliance of design documentation with the prescribed standards and regulations,
- Instruction on applying for the issuance of the technical permit-certificate for the compliance of technical characteristics with the prescribed standards and regulations,
- Instruction on applying for the issuance of the technical permit-certificate for trade in telecommunications systems and equipment,
- Instruction on applying for technical inspection,
- Instruction on drawing-up design documentation for cable distribution systems,
- Instruction on drawing-up design documentation for GSM/UMTS base stations in public mobile telecommunications networks,
- Instruction on the design of electro energetic systems and installations for base station power supply,
- Instruction on reporting interferences in broadcasting station program reception,
- Instruction on periodical licence fee calculation.



### 3. Telecom market

#### 3.1 The importance of the telecom sector

- It is estimated that the rate of return on investment in the telecom sector amounts to 1.4.
- The acquisition of Mobi63 by the Norwegian operator Telenor along with the procedure for the mobile network and services licence issuance, which was completed by means of an auction (the value of the transaction including additional investments amounted to 1,602 million euros), proved to be the best financial investment in the Republic of Serbia.
- The issuance of the third licence for mobile network and services to Mobilkom Austria mobile operator (the value of the transaction and the investments in infrastructure amounted to 570 million euros) represents the largest greenfield investment in Serbia so far.
- There are 600,000 employees in the telecom sector and the total value of the sector is estimated to 10 billion euros.

#### 3.2 Revenues and traffic – statistical data

Year	2005	2006	2007	2008	2009
Revenues (millions of euros)	927	1,300	1,470	1,611	1,503
GDP share	7.2%	5.6%	4.7%	4.87%	-

### 3.3 Investments

Year	2005	2006	2007	2008	2009
Investments (millions of euros)	350	190	899	362	284

### 3.4 Traffic

Year	2005	2006	2007	2008	2009
Fixed network traffic (billions of minutes)	17.3	15.8	12.9	15.9	12.6
Mobile network traffic (billions of minutes)	1.8	2.6	3.8	5.9	8.2

### 3.5 Penetration

	2005		2006		2007		2008		2009	
	Number of subscribers (thousands)	Penetration (%)	Number of subscribers (thousands)	Penetration (%)	Number of subscribers (thousands)	Penetration (%)	Number of subscribers (thousands)	Penetration (%)	Number of subscribers (thousands)	Penetration (%)
Fixed	2,527.30	33.7	2,719.40	36.3	2,854.50	38	3,084.87	41.14	3,145.92	41.96
Mobile	5,510.70	73.5	6,643.70	88.6	8,452.60	112.7	9,618.77	128.27	9,912.34	132.20
Internet	756.70	10	1,005.00	13.4	1,268.50	16.9	1,619.71	21.60	1,705.72	22.75
CATV	530.50	7	541.90	7.2	774.10	10.3	860.79	11.48	1,002.78	13.37





## 3.6 Prices

Low Usage Basket	2006		2007		2008		2009	
	Average monthly bill (in RSD)	% share in the average December salary	Average monthly bill (in RSD)	% share in the average December salary	Average monthly bill (in RSD)	% share in the average December salary	Average monthly bill (in RSD)	% share in the average December salary
Fixed telephone	907.32	4.18%	928.88	2.69%	725	2.2%	877.27	2.8%
Mobile telephone (pre-paid)	488.63	2.25%	351.92	1.02%	364.5	1.1%	349.91	1.1%
TV (national TV subscription)	300	1.38%	350.00	1.02%	387	1.2%	387.00	1.2%
TOTAL	1,695.95	7.81%	1,630.80	4.73%	1,476.50	4.5%	1,614.18	5.1%
High Usage Basket	2006		2007		2008		2009	
	Average monthly bill (in RSD)	% share in the average December salary	Average monthly bill (in RSD)	% share in the average December salary	Average monthly bill (in RSD)	% share in the average December salary	Average monthly bill (in RSD)	% share in the average December salary
Fixed telephone	907.32	4.18%	928.88	2.69%	725	2.2%	877.27	2.8%
Mobile telephone (post-paid)	1,452.59	6.69%	1,257.15	3.65%	1,333.12	4.1%	1,107.96	3.5%
TV (national TV subscription)	300	1.38%	350.00	1.02%	387	1.2%	387.00	1.2%
ADSL	1,567.40	7.22%	1,309.89	3.80%	1,178.00	3.6%	1,021.62	3.2%
CATV	404.73	1.86%	306.92	0.89%	392.61	1.2%	456.31	1.4%
TOTAL	4,632.04	21.33%	4,152.84	12.05%	4,015.73	12.3%	3,850.16	12.1%

### 3.7 Overview of the telecom market in the Republic of Serbia

Each year, RATEL publishes “An Overview of the Telecom Sector in the Republic of Serbia” for the preceding year and makes publicly available the statistical data related to the telecom sector. This edition represents the key document for monitoring the changes on the aforementioned market in the Republic of Serbia as well as for predicting future trends.






### 3.8 Telecom sector


Problems perceived	Solution	Accomplished results
Unregulated market, abuse of the dominant position, illegal operation of broadcasters, low investment level, high prices, low quality, low usage of telecom services	Independent, autonomous, competent and efficient regulatory authority	Regulated market, business predictability, increased investments, presence of world's leading operators, enhanced service quality, lower prices, higher availability and usage of telecom services, higher revenues for operators and higher tax rates

### 3.9 Fixed telephony

Problems perceived	Solution	Accomplished results
Monopoly	Liberalization	3 fixed telephony operators 
Network inaccessibility	Rules on interconnection	More agreements between operators
Low percentage of digital exchanges (83%)	Investments	Enhanced service quality (97%)
Party-lines	Enabling other access technologies	CDMA operators
High prices of international calls	Enabling voice transmission over Internet protocol	Over 40 VoIP operators
Low local traffic prices accruing losses which are financed from other services (international calls, leased lines, etc.)	Tariff rebalance, including call-units and subscription fees	RATEL adopted three decisions on tariff rebalance increasing the subscription fee from 40 to 388 RSD (VAT excluded) within the observed five- year period
Abuse of the dominant position	Rules on the application of the cost-accounting principle and the Decision on designating an SMP operator	Telekom Srbija is under the obligation to seek RA-TEL's approval for every increase in prices
High price of leased lines	New regulatory framework	Analysis on designating an SMP within this market is currently being conducted
Irrational use of telecom infrastructure (operators, local self-governance, public enterprises)	The establishment of telecommunications infrastructure register	The process of forming the Register is currently being conducted
Insufficient building of new infrastructure	Permanent investment encouragement	Investments in CDMA

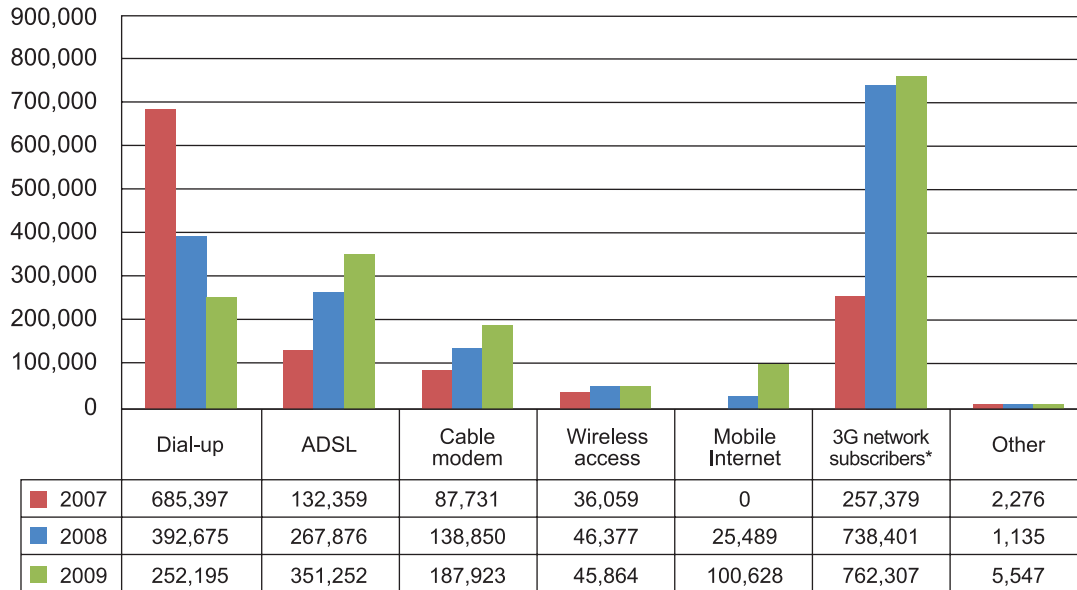


### 3.10 Mobile telephony

Problems perceived	Solution	Accomplished results
Insufficient competition, 2 operators, unresolved issues related to ownership structure	Bidding procedures for the issuance of new licences	3 mobile telephony operators 
Insufficient service quality	Competition	New, enhanced quality services, 3G services
High prices	Competition	Lowest national traffic prices in Europe
Low penetration (73%)	Competition	Penetration over 130%
High roaming prices	New regulatory framework	
Additional 10% tax rates	Abolition of this interim measure	
Complicated building of infrastructure	Simplified process for the issuance of building licences	Adoption of the Law on planning and building

### 3.11 Internet

Problems perceived	Solution	Accomplished results
Unregulated work	Adoption of bylaws	Rules on terms and conditions for Internet services and other data transmission services provision
Monopoly on the wholesale Internet market	Issuance of authorizations for international interconnection	Over 20 operators hold this authorization
Insufficient penetration	Use of other technologies enabling Internet access	Use of licence free 2.4 and 5.8 GHz band and implementation of new technologies – such as CDMA, HSPDA and IPTV.
High interconnection price	The establishment of Internet exchange point ( <i>Internet eXchange Point-IXP</i> )	One authorization for this service issued
Insufficient number of operators	Regulatory provisions	Approximately 200 registered Internet service operators



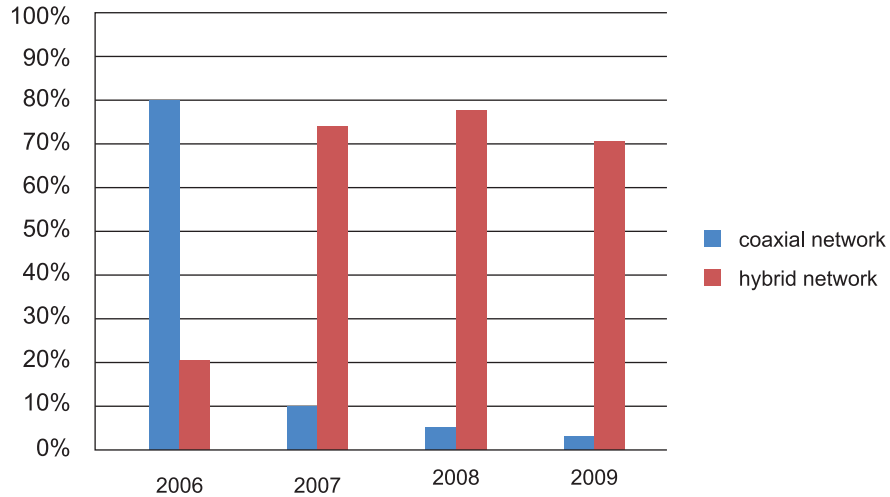
\* 3G network subscribers without mobile Internet

**Figure 2.** Number of Internet subscribers according to access technology

### 3.12 Cable radio and television program distribution

Problems perceived	Solution	Accomplished results
Unregulated work	Adoption of bylaws	Rules on terms and conditions for radio and television program distribution service provision
Unregulated cable network building	Adoption of technical conditions for building	Technical conditions for cable networks, systems and facilities
Insufficient coverage rate	Enabling signal distribution by means of other technologies	Rules on terms and conditions for radio and television program distribution service provision
		Public notice for the application of satellite technologies
Abuse of dominant position	Decision on designating SMP operators	SBB (Serbia Broadband) is under the obligation to seek RATEL's approval for every increase in prices
	Rules on the application of the cost-accounting principle	
Low penetration (7%)	Regulation of operators' performance	Almost half of the total number of households in Serbia have cable television
Insufficient competition	New technologies	New operators using DTH technology





**Figure 3.** Development of networks for cable radio and TV program distribution

### 3.13 Broadcasting

Problems perceived	Solution	Accomplished results
Infrastructure destroyed during bombing in 1999	Assistance and Support to Serbia for Rebuilding its Public Broadcasting and Telecommunication System – ITU Resolution 126 from Marrakesh, 2002	
Inadequate control of operation	Radio frequency spectrum management	More than 9,000 records of measurement and control activities
Illegal operation of broadcasters without broadcasting licence	The procedure of broadcasting licence issuance	Regulated market segment with broadcasters holding licences
Irrational and expensive use of infrastructure	The establishment of the 'Broadcasting equipment' enterprise	
Spectrum congestion, mutual interference and low quality image and sound in certain areas	New plan for digital broadcasting in accordance with RRC -06 conference	<ul style="list-style-type: none"> <li>- eight coverages of the whole territory of the Republic of Serbia for digital TV (one coverage in the VHF band and seven in the UHF band) for portable and mobile reception,</li> <li>- two coverages of the whole territory of the Republic of Serbia for digital radio (in the VHF band) for portable and mobile reception,</li> <li>- six coverages for digital TV in the UHF band for the area of city of Belgrade</li> </ul>



## **4. Information Society**

### **4.1 ICT Skills**

Digital literacy- a prerequisite for the use of ICT services

### **4.2 ICT Access**

Wired and wireless technologies – enabling access to ICT services

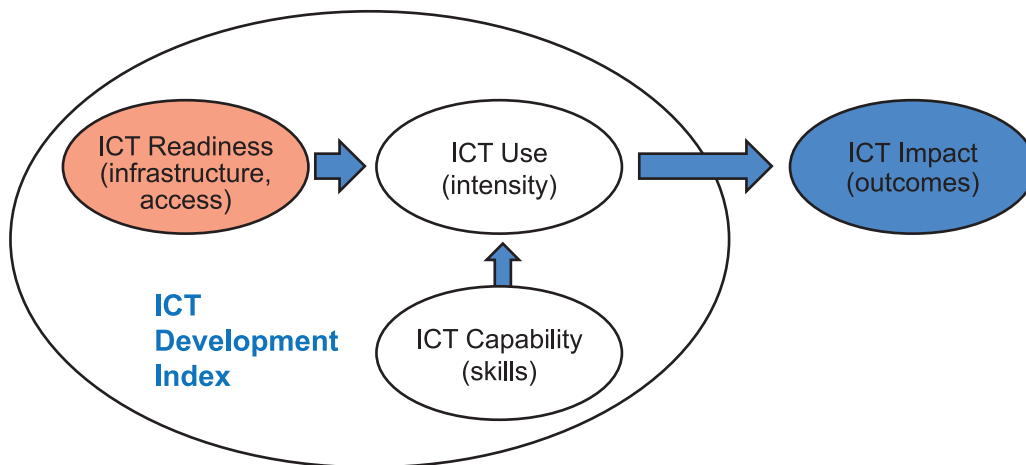
### **4.3 Intensity of ICT Use**

Intensity of ICT services use – e-Government, e-Health, e-Education, e-Signature, e-Documents, e-Business, etc.

### **4.4 ICT Development Index – IDI**

This Index combines 11 indicators divided into three sub-indices:

1. ICT infrastructure and access,
2. ICT use (primarily by individuals, but also households and undertakings), and the intensity of use,
3. ICT skills (or capacity necessary to use ICTs effectively).



**Figure 4.** ICT Development Index

The value of IDI Index for the Republic of Serbia in 2009 amounts to 4.80. According to the data of the International Telecommunication Union, this value amounted to 4.23 in 2008, ranking our country as 53<sup>rd</sup> on the list of 159 countries. Given the fact that data on the IDI Index value of other countries for 2009 have not been available up to the moment of the publication of this Report, the ranking of the Republic of Serbia in 2009 cannot be defined with precision, although we may anticipate that, based on the IDI Index value, it will secure a place among the first 50 countries on the list.



The fact that ICT Access indicators (a to e) have significantly higher values than ICT Use indicators (f to h) is quite obvious and serves as an illustration of the disparity between the existing telecommunications infrastructure capacity and the use of such capacity in terms of telecommunications services transmitted by such infrastructure, as is the case with the use of broadband Internet access services. ICT Skills indicators (i to k) are of the appropriate value.

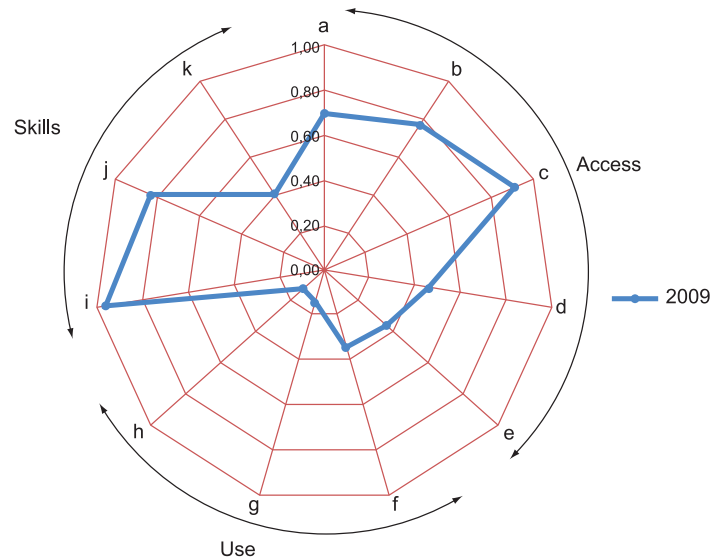
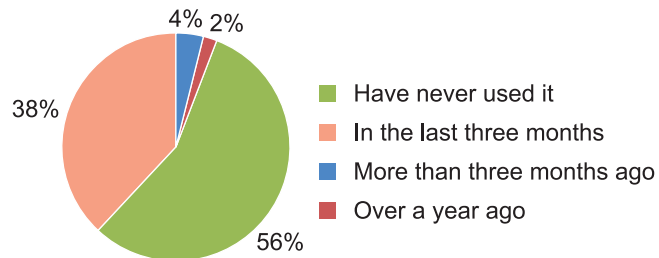


Figure 5. ICT access indicators



Source: Statistical Office of the Republic of Serbia, 2009

Figure 6.

Individual Internet use



## 5. RATEL

### 5.1 Revenues/Expenditures

	2005	2006	2007	2008	2009	2010 (план)
Revenues (millions of RSD)	0.455	405	722.7	1,237	1,810	1,540
Expenditures (millions of RSD)	13.5	275	490.1	556	546	898
Surplus (millions of RSD) Paid into the Treasuries of RS and AP Vojvodina	(13.1)	115	232.6	681	1,264	642

### 5.2 Advisory Council

From its establishment, RATEL's Advisory Council has held nine sessions dedicated to the discussion of key issues related to the development of telecommunications sector and Information Society, particularly to the Strategy for the development of broadband Internet access, Strategy for switchover from analogue to digital broadcasting as well as to issues related to the regulation of services that fall within RATEL's competencies.

### 5.3 Number of employees

	December 2005	December 2006	December 2007	December 2008	December 2009
Secondary education	0	12	17	19	18
College degree	1	4	5	5	5
University degree	12	33	58	62	63
M.Sc. degree	2	5	6	6	6
Ph.D. degree	2	5	5	6	7
Total	17	59	91	98	99

### 5.4 RATEL's resources

#### 5.4.1 Website

With the aim of making all information available to end-users, RATEL's Internet website is integrated with a web portal as well as with a register of issued licences and documents that fall within RATEL's competency. The website is regularly updated.





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**RATEL**



**ABOUT RATEL**  
Information  
Regulations  
Press

**Market**  
Users  
Instructions and forms

**PORTAL**



Complaints about telecommunications operators  
Overview of the EMF measurement  
Other services

**REGISTER**



Register of licences issued to telecoms operators  
Register of issued radio station licences  
Register of decisions adopted by the Managing Board  
Other registers

**News** | 26.03.2010.  
Decision on operators with universal service obligations

**News** | 12.02.2010.  
Rules on number portability in public mobile telecommunications networks

**News** | 15.01.2010.  
The Public Opening of Telenor's Financial Offer for the Licence Issuance Fee for the Second Fixed Operator

**News** | 13.01.2010.  
Public Opening of the Financial Offer Submitted by Telenor Company for the Issuance of the Licence for the Second Fixed Operator

**News** | 11.01.2010.  
Public Opening of the Bids for the Issuance of the Licence for the Second Fixed Operator

**Rules**  
List of all rules.

**Tenders**



NAČELNIŠTVO STANOVIĆI  
REPUBLIKE SRBIJE  
AGENCIJA ZA TELEKOMUNIKACIJE

RATEL	ADDRESS	CONTACT CENTER	FAK	CONTACT	LEGAL DISCLAIMER
Republic Telecommunication Agency	Vilina Voznja 6 11000 Beograd Republic of Serbia <a href="#">Location on the city map</a>	011 0242-673	011 0242-673 011 0232-437	<a href="mailto:ratel@rate.rs">ratel@rate.rs</a> <a href="#">Contact page</a>	<a href="#">Legal disclaimer</a>

Figure 7.

RATEL's website

## 5.4.2 Document Management System

Document Management System (Documentum) is a system for creating, processing and archiving all of RATEL's incoming and outgoing documents.



Figure 8.

Documentum homepage



**5.4.3 Quality control equipment** enables reliable control of the observance of obligations set out in contracts between operators and users



Figure 9. Quality control equipment

**5.4.4 Spectrum monitoring vehicle** enables radio frequency spectrum control within the Republic of Serbia. RATEL's radio-emission controllers are in charge of the radio frequency spectrum monitoring from monitoring centers located in Dobanovci and Niš, as well as directly on the field.



Figure 10. Spectrum monitoring vehicle

#### 5.4.5 Cost-based Model

The concept of defining the operator with significant market power (SMP), as the most important part of the European regulatory regime for electronic communications, involves identifying the operator with the dominant position in the telecommunications market, with respect to one or more services provided. The principal idea of the SMP concept is the prevention of the abuse of monopolistic position, thereby placing both the customer and competitor in the relevant market or market segment in a disadvantageous position, which is particularly characteristic of the telecommunications market, with operators providing a wide range of diversified services. Price control for telecommunications services is focused on the prevention of price subsidies between different services of an SMP operator.

In order to make up for the missing control mechanism in SMP operators' price control, RATEL had prepared draft Rules on the application of the cost-accounting principle, separate accounts and reporting of a telecommunications operator with significant market power (*Official Gazette of RS*, no 103/08), regulating the basic principles, models and methodologies of cost and performance accounting, calculation of costing price and selling price of the SMP's services. The purpose of the Rules is to provide reliable information basis on costs, revenues, business results and engaged assets according to market services of the public telecom operators with significant market power, in order to set out a special tariff regime. Here, the cost-plus method is applied – unit cost of services plus an appropriate rate of return on the capital engaged in the product production or sales.

Having regard to the obligation to select cost accounting model and method, on the one hand, and real possibilities of its application with the SMP operators in Serbia, on the other, the Republic Telecommunication Agency chose the Historical Cost Accounting (HCA) model according to the Top-Down method, based on the functional principle of the Fully Distributed Cost (FDC). The selected model is compliant with the level of the existing accounting information



system in the Serbian companies and it is only the initial solution on the path towards the development of the other two cost accounting models in near future (Current Cost Accounting - CCA and Long Run Incremental Cost - LRIC).

The importance of this kind of price control of an SMP in the Serbian telecom market is manifold, as it:

- (1) enables transparent monitoring of the cost price and selling price of the services which are part of the special tariff regime;
- (2) stimulates a gradual increase in the corporative social responsibility of the operators;
- (3) provides the SMP with a possibility to continually enhance its efficiency as regards business and management of the capital and assets.

### **5.5 Scientific magazine “TELEKOMUNIKACIJE”**

Given the extraordinary importance of the telecom sector within the development of economy in the Republic of Serbia, RATEL has initiated the publication of the professional and scientific magazine “TELEKOMUNIKACIJE”. Since RATEL has the obligation to monitor and encourage the development of telecommunications, this publication represents the result of the professional and scientific contribution of engineers, researchers and academic staff in the field of information and communication technologies. So far, four issues of this magazine have been printed and are available in electronic form at the following address [www.telekomunikacije.rs](http://www.telekomunikacije.rs). The fifth issue is currently being prepared, with topics covering the telecom sector, ICTs, economic aspects of telecommunications as well as telecom sector regulation.



## 5.6 Cooperation with international organizations

- Close cooperation with regulatory authorities in the region and in the EU,
- RATEL, as a representative of the Republic of Serbia, has been officially registered as member of the International Telecommunication Union (ITU) in Geneva since 2006 and is in charge of regulatory issues,
- RATEL has been a member of the European Telecommunications Standards Institute (ETSI) since 2007 and this membership has enabled the application of ETSI standards in the process of drafting regulatory provisions.



## 5.7 Cooperation with the relevant state authorities

RATEL has close cooperation with the following state authorities:

- Government of the Republic of Serbia,
- Ministry of Telecommunications and Information Society,
- Ministry of Interior,
- Ministry of Defence,
- Ministry of Environment and Spatial Planning,
- Ministry of Finance,
- Serbian Armed Forces,
- Republic Broadcasting Agency,
- Serbia and Montenegro Air Traffic Services Agency,
- Serbian Competition Authority,
- Commissioner for Information of Public Importance,
- Protector of citizens (ombudsman),
- fixed-line and mobile telephony operators,
- broadcasters,
- Internet operators,
- CATV operators,
- public enterprise networks,
- radio-amateurs,

- consumer associations,
- telecommunications equipment vendors,
- telecommunications equipment manufacturers,
- research and educational institutions,
- local self-governance institutions.

RATEL has close operation with thousands of business partners.





## 6. Concluding remarks

In view of the achievements made in the previous period, the Republic Telecommunication Agency is very proud to have managed to carry out the entrusted work professionally and competently. There has been a remarkable progress in each segment of the sector, so that all market participants should be satisfied: the government with the development achieved in the telecom market, which also boosted other production and public sectors; the operators for which the marked opening meant new opportunities for development and higher revenues; and, finally, the users who have a vast choice of high quality services at lower prices. Naturally, we are bound to continue with the work in order to achieve yet better results in the telecom sector and reach the level of development such as to keep pace with the European average.

The upcoming RATEL's activities, set out in the Framework Business Plan for 2010, are mostly directed towards the further improvement of the telecom sector, the continuous market monitoring and analysis, the organization and the development of the Agency and cooperation with other institutions and organizations. Given the abovementioned guidelines for future activities, the following year will most likely be the year when RATEL will dedicate special attention to the activities which should contribute to further telecom sector development in the Republic of Serbia, to the creation of adequate conditions for potential investors and investments in this field, as well as to the process of enhancing the quality of services which are to be provided to end-users at affordable prices.

Chairman of the Managing Board

Professor dr Jovan Radunović

## **Appendix – definitions and acronyms used in the Report**

UMTS - Universal Mobile Telecommunications System – one of the 3G mobile telephony technologies,

FWA – Fixed Wireless Access,

CDMA – Code Division Multiple Access –protocol used in wireless 2G and 3G communications,

DTH – Direct To the Home – direct satellite TV program package transmission to users,

PSTN – Public Switched Telephone Network ,

ISDN – Integrated Services Telephone Network,

IMT-2000 - International Mobile Telecommunications-2000 – one of the 3G mobile telephony technologies,

GSM - Global System for Mobile Communications – one of the most often used mobile telephony standards,

DCS 1800 - Digital Cellular System 1800 MHz – mobile telephony standard,

ADSL – Asymmetric Digital Subscriber Line – asymmetric digital subscriber line enabling permanent, high-speed and quality Internet connection without occupying the fixed line,

VoIP – Voice over Internet Protocol,

HSPDA - High-Speed Downlink Packet Access – communication protocol applied in 3G mobile networks,

IPTV - Internet Protocol television – TV signal transmission via Internet,

ITU – International Telecommunication Union,

VHF – Very High Frequency – frequency band from 30 MHz to 300 MHz,

UHF – Ultra High Frequency – frequency band from 300 MHz to 3 GHz,

SMP – Significant Market Power.





Republic of Serbia  
**RATEL**  
Republic Telecommunication  
Agency

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