



AN OVERVIEW OF THE TELECOM SECTOR IN THE REPUBLIC OF SERBIA

*Prof. Jovan Radunović, Ph.D.EE, Chairman of the Managing Board
Milan Janković, Ph.D.EE, Executive Director*

An Overview of the Telecom Sector in the Republic of Serbia

- RATEL
- Telecom market in 2005
- Future activities of RATEL



- The Republic Telecommunication Agency (RATEL) is an independent regulatory body defined under the Telecommunications Law in 2003.
- The Law provided the conditions for creating an OPEN MARKET, as a result of:
 - - introduction of liberalization of the monopolized sector,
 - proposed measures of harmonization with the EU regulations,
 - free access to telecom networks and facilities,
 - introduction of equal competition.



- RATEL's principal task of is to provide conditions for further development of the telecom sector and satisfy public interests through:
 - regulation by applying cost-based market economy,
 - introduction of new operators,
 - introduction of new services,
 - enhancement of the quality of existing services.



- RATEL's competences:
 - Issuance of licenses, permits and authorizations,
 - Numbering,
 - Tariff regulation,
 - Control of leased lines and usage of ducts,
 - Interconnection,
 - Universal service,
 - Technical inspections,
 - Definition of standards,
 - Issuance of approvals for import.



RATEL's results so far 1/4

- The Republic Telecommunication Agency became operational and began working on 19th December 2006.
- RATEL consists of: the Managing Board, Legal Department, Accounting, Finance and Analysis Department, Telecom and IT Department, Radiocommunications Department, Radiocommunications Control Department, Standard and Certificate Department and Administration and Personnel Department.
- At the moment there are 65 experts employed in RATEL.
- Having regulation of telecom market as its aim, RATEL has, so far, adopted and published most of the required bylaws. The Rules regulate: planning, usage, control and monitoring of frequencies, technical inspections, standards and certificates and service provision (voice services, Internet, cable TV...). A part of the Rules on numbering has also been adopted. The Rules on networks, interconnection and universal service are underway.



RATEL's results so far 2/4

- Frequency Allotment Plan for analogue FM and TV stations
- Numbering Plan for telecom networks
- > 25 Rules published in the Official Gazette
- > 4 500 radio station licenses
- > 300 technical permits - certificates
- > 100 performed technical inspections
- > 650 issued approvals for import of goods
- Records of 53 ISPs and 29 cable operators, based on survey.
- 15 ISPs entered the Agency's register so far.
- > 1000 clients of the Agency.



RATEL's results so far 3/4

- Licenses have been issued to 5 TV and 5 radio stations with national coverage
- Licenses have been issued to 6 TV and 14 radio stations for the area of the city of Belgrade.
- License for mobile network and services – Telenor ASA, Norway
- Replacement of the license for mobile network and services – “TELEKOM SRBIJA” Joint Stock Co.
- License for mobile network and services – Mobilkom Austria



RATEL's results so far 4/4

- RRC-06 Conference in Geneva: New plan for digital broadcasting, enabling the coverage of the territory of Serbia with 32-48 different TV programs and 12-16 radio programs.
- The Second *SEE Observatory* forum, Zagreb, April 2006.
- The First *SEE Broadband* conference, Belgrade, April 2006.
- The Second and Third *SEE Regulatory Brainstorming* session, Ohrid, June 2006 and Budva, September 2006.
- Since late September 2006, RATEL has been officially registered with the ITU in Geneva, on behalf of the Republic of Serbia, as the representative for the regulatory issues.



Telecom market (2005)

- The analysis of the situation in the telecom sector showed that the development in our country in the past several years was significantly slower compared with similar countries in the region.
- The estimated value of telecom market is approximately 5 billion euro.
- The annual income amounts to approximately 1 billion euro (mobile 45%, fixed 41%, Internet 2%, cable 2%, data transfer 3%, broadcasting 7%).
- Investments in 2005 amounted to approximately 0.4 billion euro.
- The share of the national companies in GDP in 2005 was 7.2%.
- There are 25 000 employees working for the national companies involved in telecommunications.



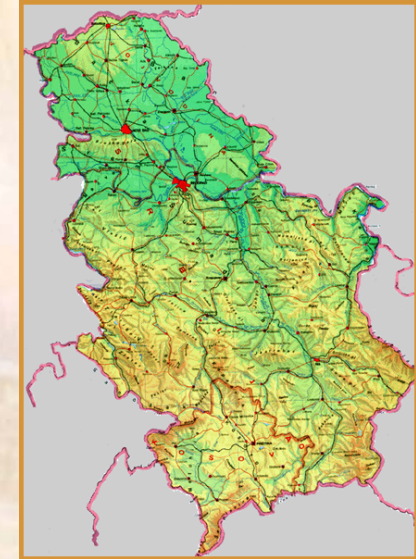
Telecom market - services (2005)

- In 2005, Telekom was the only operator providing public fixed telecom services.
- Mobile telephony services were provided by two operators: Telekom Srbija and Mobtel.
- Internet was provided by 40 operators.
- Cable services were provided by 30 operators.
- Compared with the previous year, there is an increase in the penetration, which amounts to: fixed 33.7%, mobile 73.5%, Internet 10%, cable 7% and ADSL 0.13%.



General overview

- **Population: *7.498 million***
(without Kosovo and Metohija)
- **Surface: *88,361 km²***
- **GDP in 2005: *ca. €12.8 bn.***
- **Average net income
in December 2005: *ca. €260***
- **Total revenue from telecom services in 2005: *ca. € 927 million***
- **Share in GDP: *7.2%***





Telecom market

Type of service	Number of users	Penetration
<i>Fixed telephony (used capacity)</i>	2,527,328	33.7%
<i>Mobile telephony</i>	5,510,690	73.5%
<i>Internet</i>	776,795	10.4%
<i>Cable systems</i>	530,460	7%
<i>ADSL</i>	9,530	0.2%

Source: RATEL
on 31.12.2005

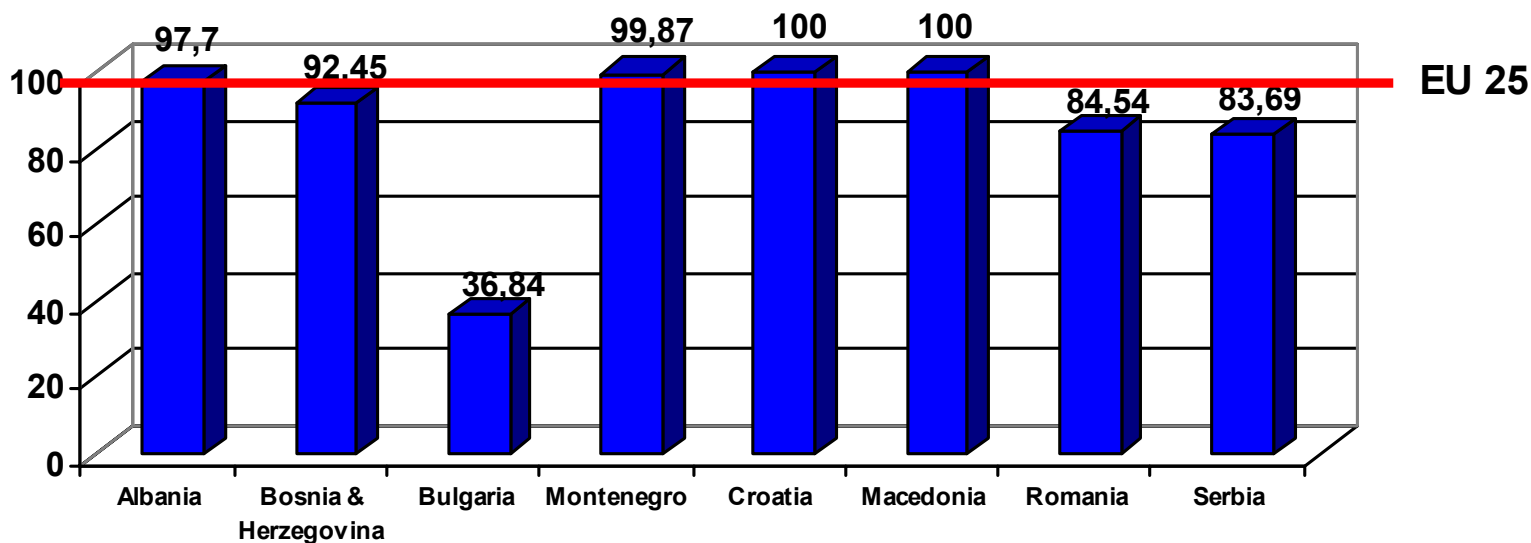


Telecom market 2

- **The total investments in telecommunications 350 million euros (2005)**
- **The total investments in telecommunications, in the past five years over 1.5 billion euros**
- **Outgoing traffic 17304 million minutes (fixed network)**
- **Outgoing traffic 1823 million minutes (mobile network)**



Digitalization rate

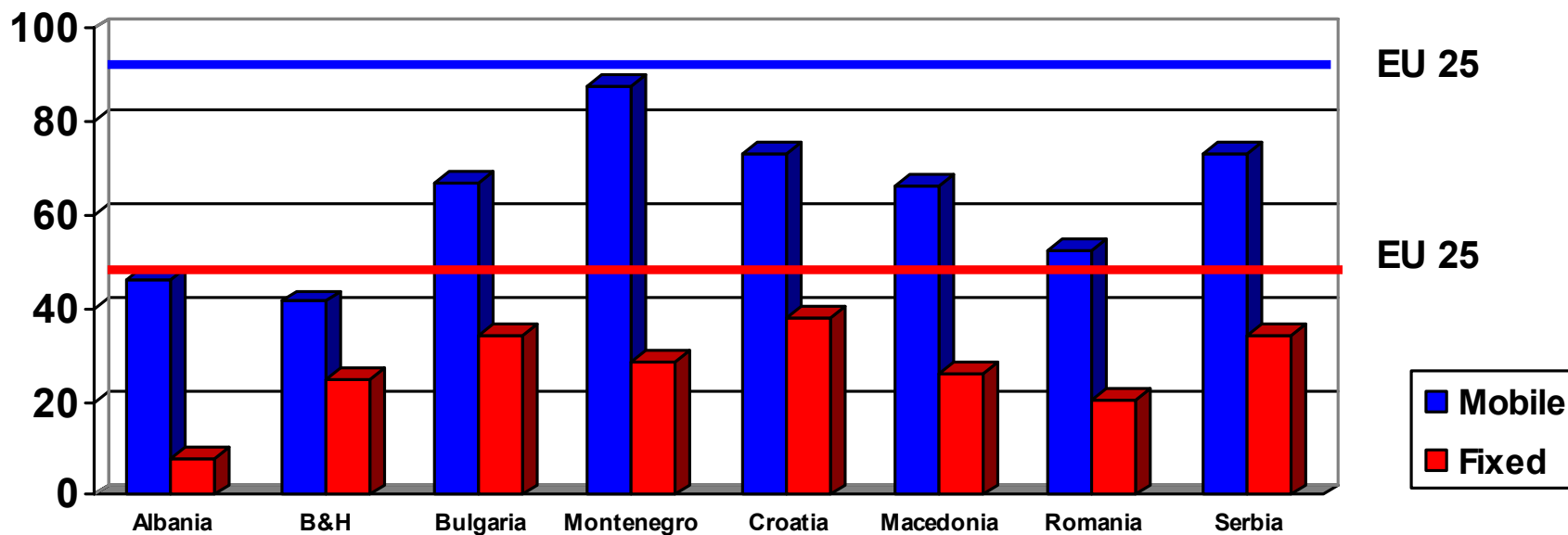


Source: Report 2 – Country Comparative Report (Cullen INTERNATIONAL)

Source: RATEL
on 31.12.2005



Mobile and fixed penetration rate

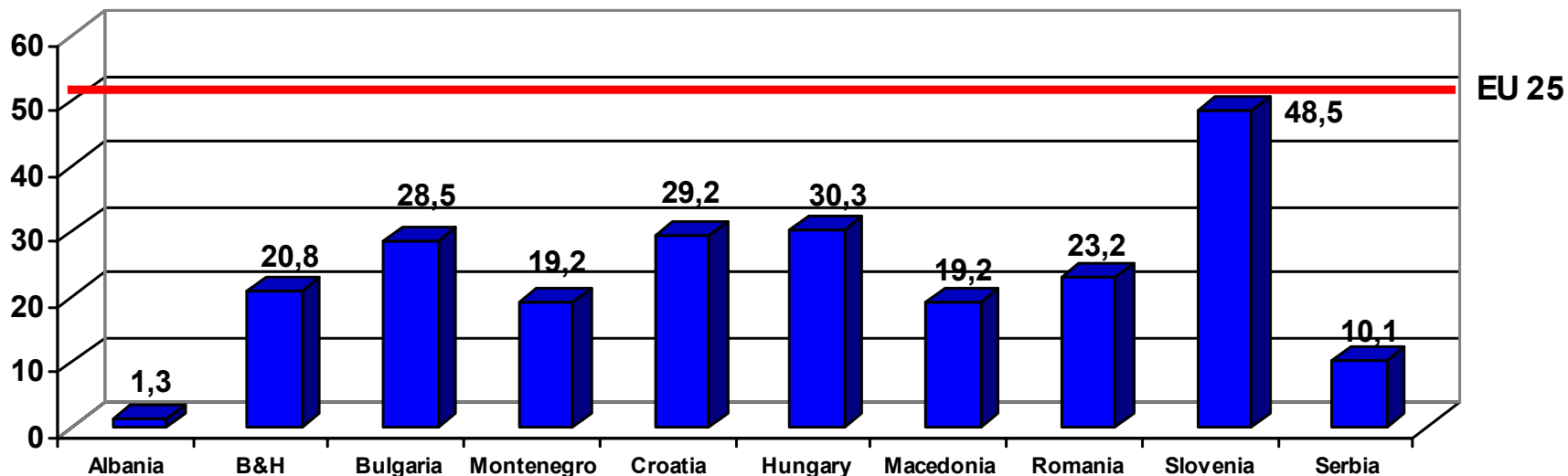


Source: Report 2 – Country Comparative Report (Cullen INTERNATIONAL)

Source: RATEL
on 31.12.2005



Internet penetration rate

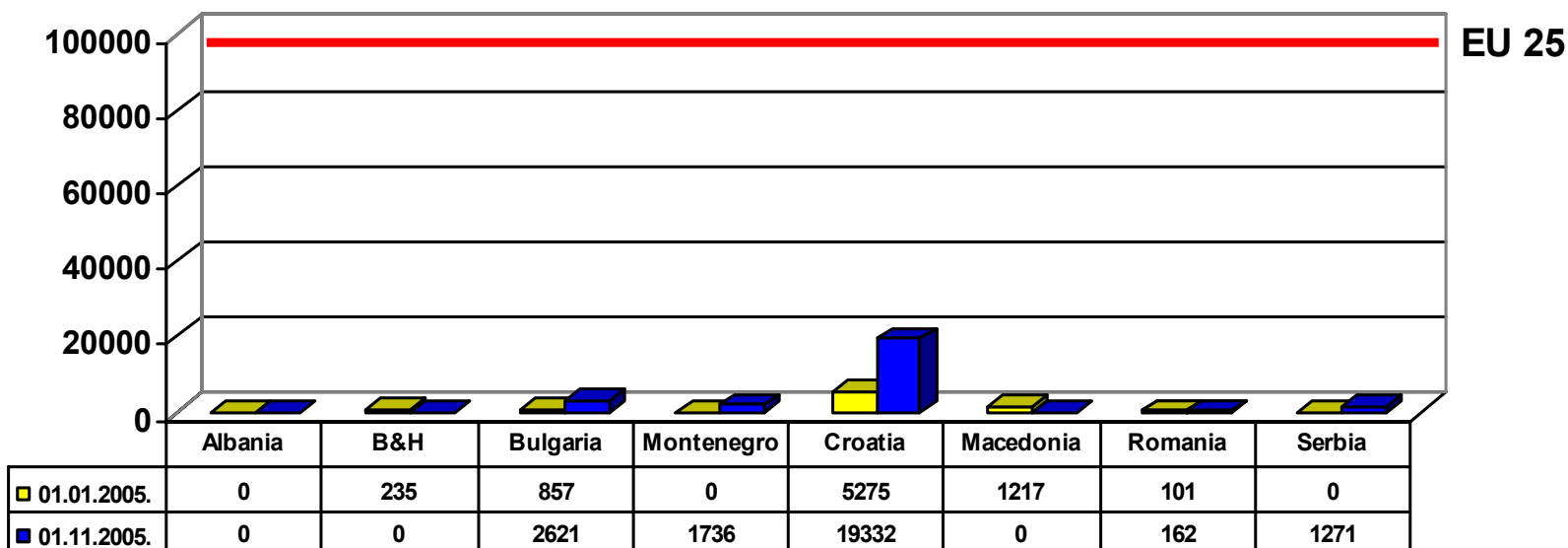


Source: *Internet Usage* (www.internetworldstats.com)

Source: RATEL
on 31.12.2005.



Number of xDSL per million inhabitants



Source: Report 2 – Country Comparative Report (Cullen INTERNATIONAL)

Source: RATEL
on 31.12.2005.



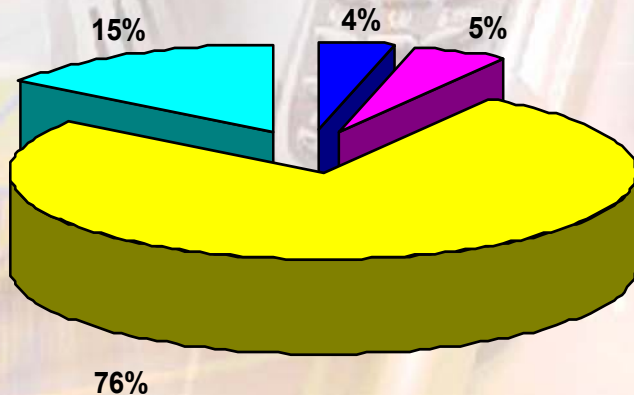
Fixed telephone network

Indicator	
Number of analogue exchanges lines	476,120
Number of digital exchanges lines	2,051,208
Fixed network digitalization rate	83.69%
Percentage of party lines	15%
Number of un resolved requests for new telephone lines	419,405
Income from fixed telephone services	370 million euros

Source: RATEL
on 31.12.2005



Structure of revenues from fixed telephone services in 2005

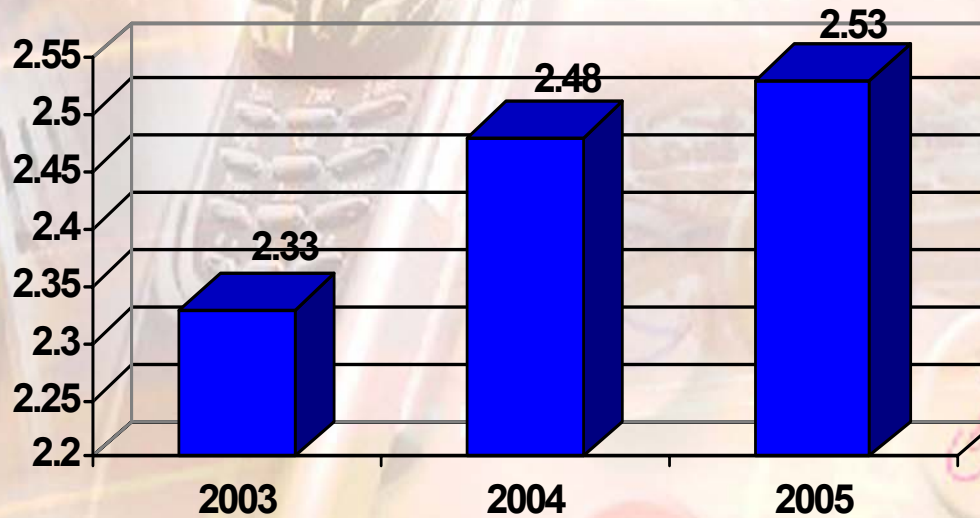


- Income from extension fee
- Income from telephone subscription
- Income from local and long distance calls
- Income from international calls

Source: RATEL
on 31.12.2005



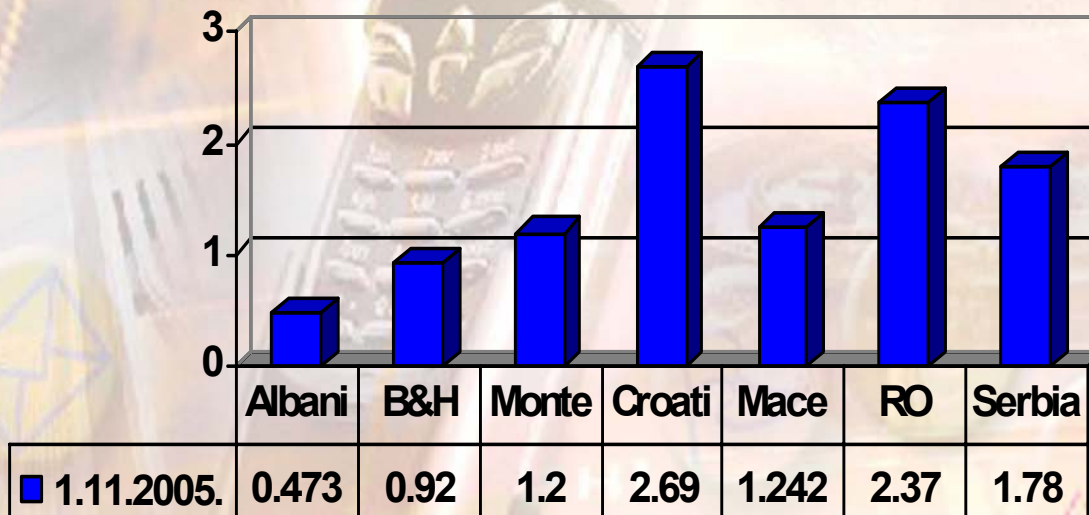
Number of users (million)



Source: RATEL
on 31.12.2005



Number of public payphones per 1000 inhabitants

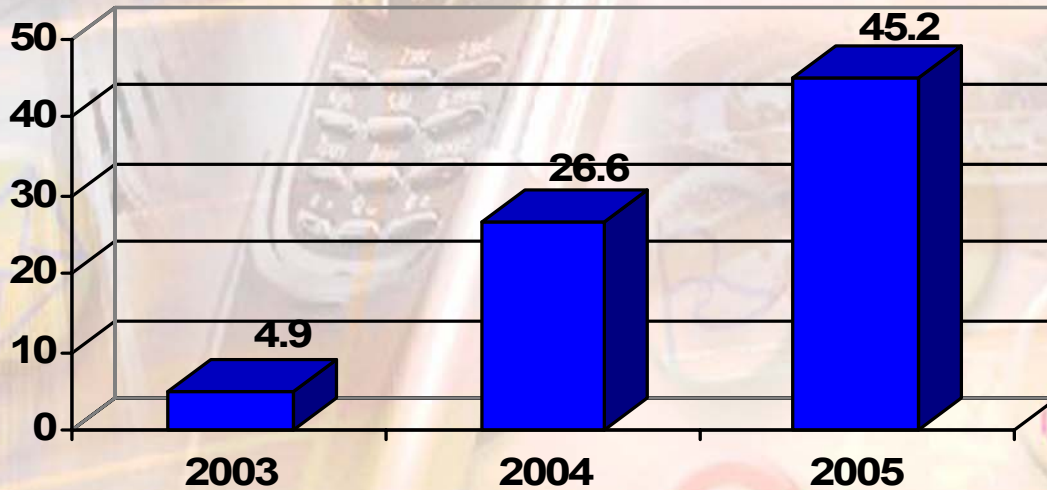


Source: Report 2 – Country Comparative Report (Cullen INTERNATIONAL)

Source: RATEL
 on 31.12.2005






Number of ISDN subscribers



Source: RATEL
on 31.12.2005



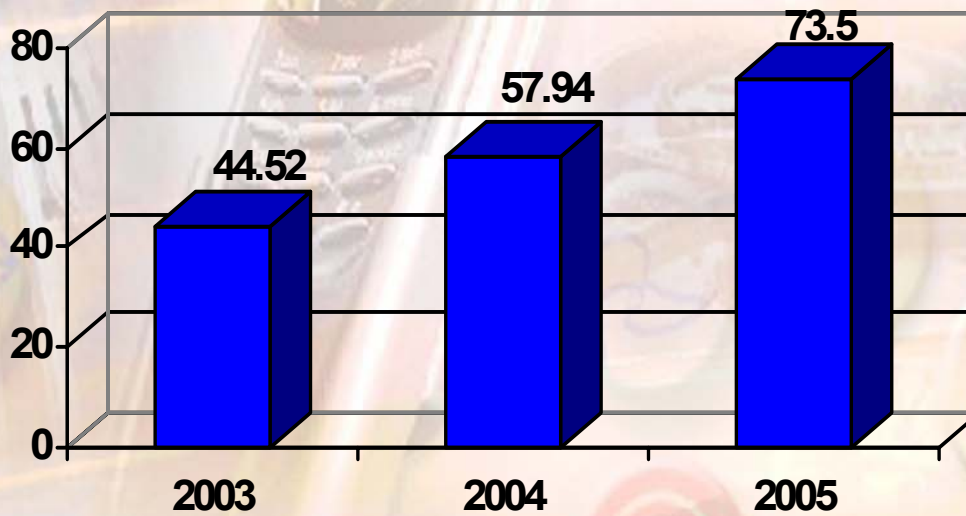
Mobile network

Indicator	Telekom Srbija 	Telenor 	Mobilkom 
Number of postpaid users	283,252	422,482	0
Number of prepaid users	2,709,777	2,095,179	0
Number of GPRS users	336,209	-	-
Percentage of territory coverage	87%	73%	0%
Income from GSM services	168 million euros	234 million euros	0 million euros

Source: RATEL
on 31.12.2005



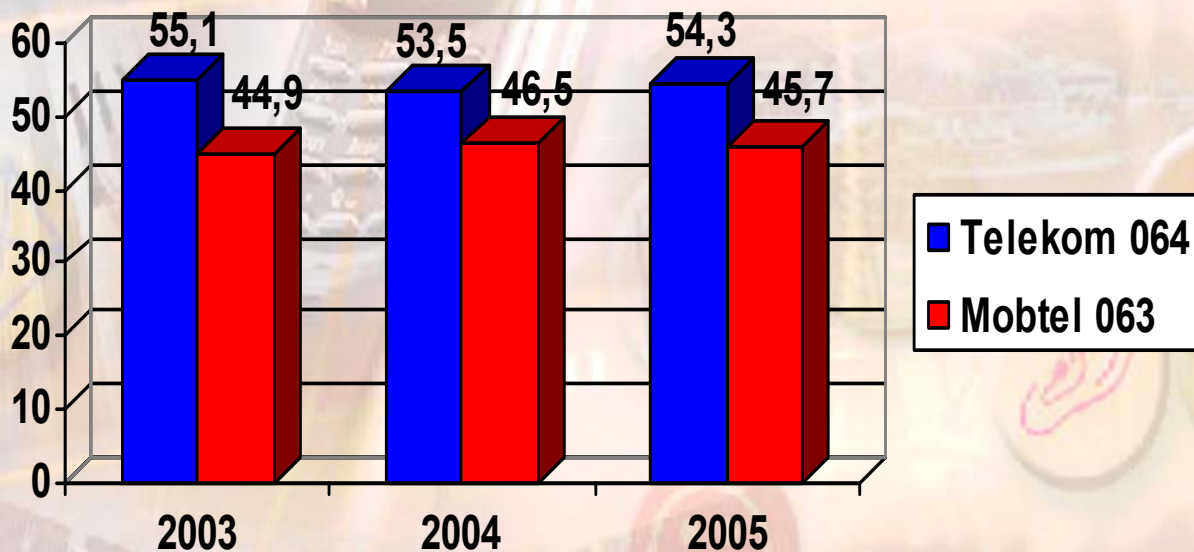
Penetration



Source: RATEL
on 31.12.2005



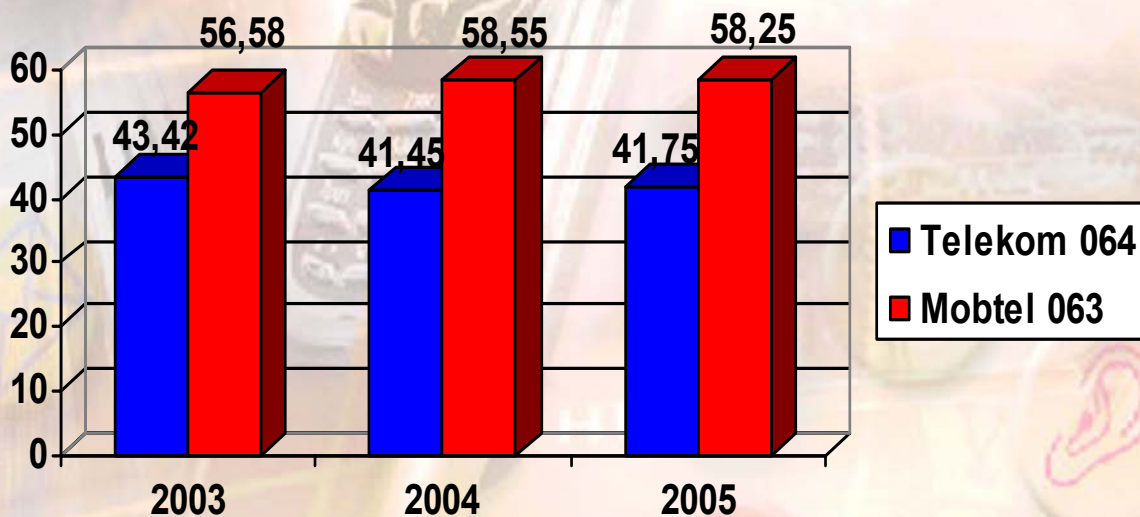
Market share – total number of users (%)



Source: RATEL
on 31.12.2005



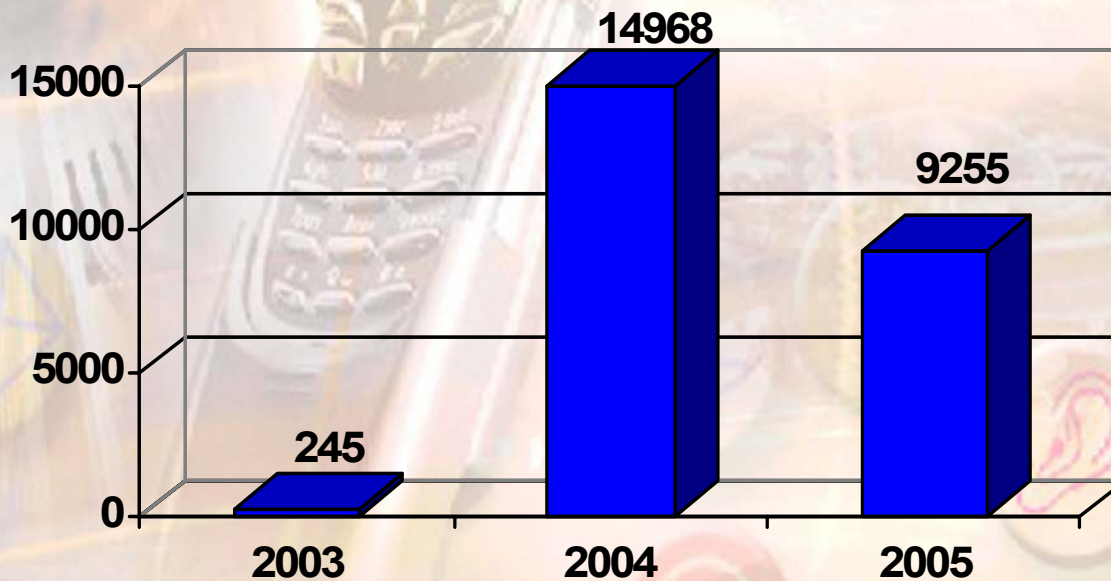
Market share – income (%)



Source: RATEL
on 31.12.2005



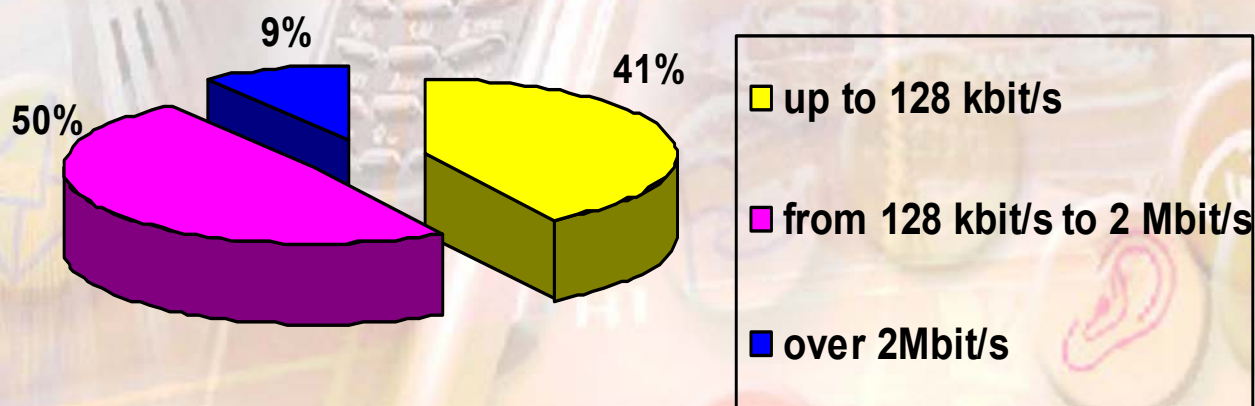
Number of data transfer network subscribers



Source: RATEL
on 31.12.2005



Distribution of the number of subscribers by capacity



Source: RATEL
on 31.12.2005



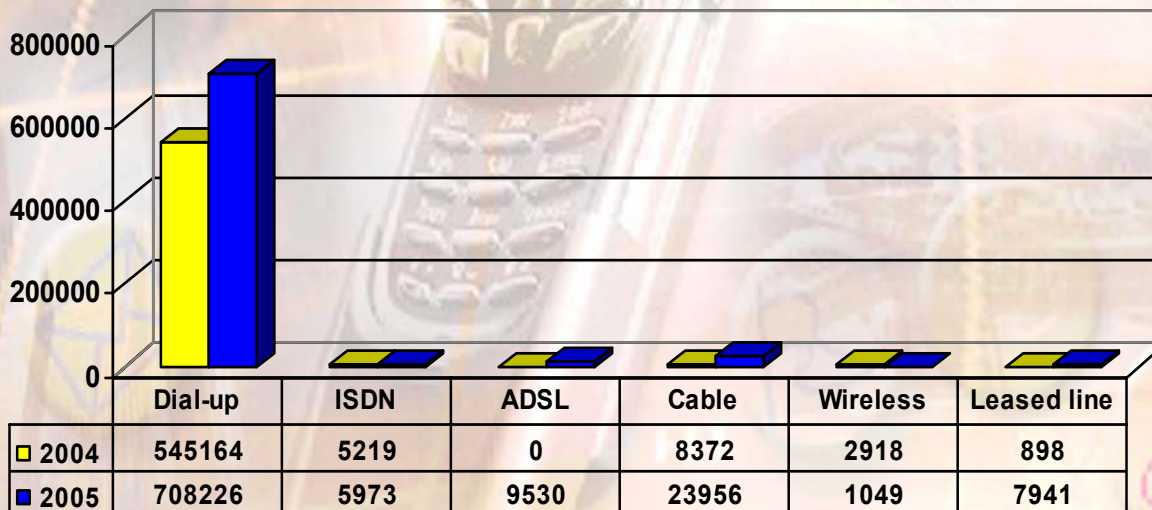
Internet

Indicator	
Number of ISPs	66
Number of subscribers using dial-up access	708,226
Number of subscribers using ADSL	9,530
Number of subscribers using wireless access	1,049
Capacity of international Internet links	1,719 Mb/s
Income from Internet service	19.3 million euros

Source: RATEL
on 31.12.2005



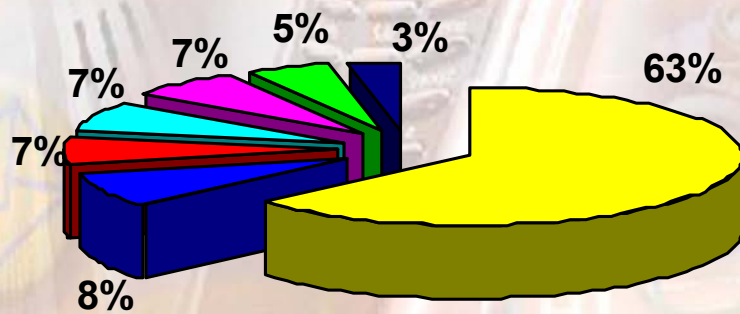
Distribution of number of users by technologies



Source: RATEL
 on 31.12.2005



Geographic distribution



Source: RATEL
on 31.12.2005



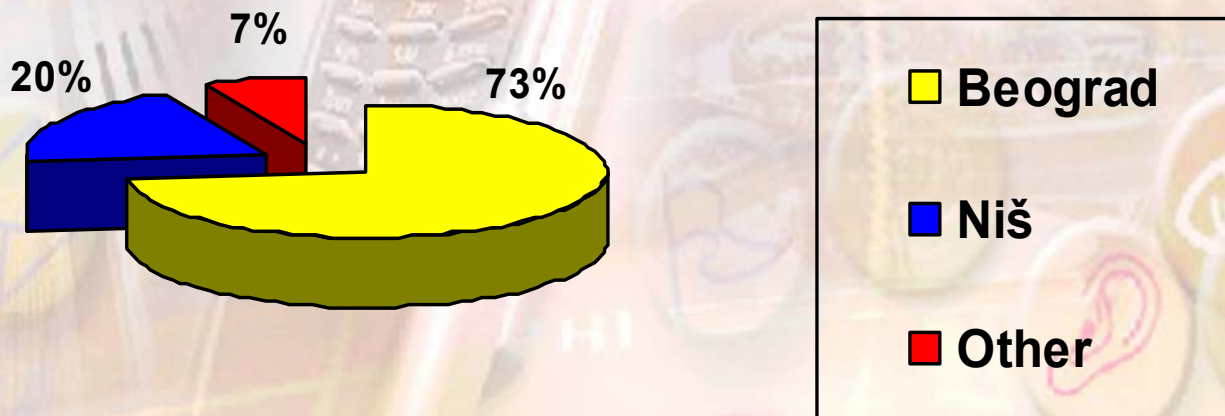
Cable systems

Indicator	
Number of cable systems operators	36
Number of cable systems users	540,059
Percentage of connections using coaxial cables	80%
Income from cable services	21.4 million euros
Estimated number of cable systems users in 2010	2 million

**Source: RATEL
on 31.12.2005**



Geographic distribution of cable operators



Source: RATEL
on 31.12.2005



RATEL's activities in the following period

- Pursuant to the Telecommunications Law, Art. 7, in performing the activities under this Law, RATEL is required to provide for the application of the Strategy, which has been adopted by the Government, and which defines general social interest.
- In accordance with the Conclusion on the current state of the telecommunications development in Serbia, the STRATEGY states:
- “In terms of regulations governing the telecommunications sector, formal conditions have been created for de facto elimination of monopoly in telecommunications, liberalization and establishing a competitive market.”
- “The development and regulation of the telecommunications infrastructure and services market are in the authority of RATEL.”



RATEL's activities defined under the Strategy 1/3

1. RATIONAL USAGE OF THE FREQUENCY SPECTRUM

- “Developing a market-based spectrum management... also, frequency bands for flexible allocation and frequency bands for harmonized allocation need to be defined”
- “In 2002 EU adopted directives, which require Member States to ensure efficient frequency management through an impartial, transparent, non-discriminatory and proportional frequency allocation and assignment...”
- “In order to stimulate competition, fulfill universal service obligation and apply technologies enabling fast building of access networks, the Ministry of Capital Investments will adopt allotment plans for fixed wireless access.”
- “For this purpose, in accordance with the Basis for Developing the Strategy for the Telecommunications Sector, RATEL will divide the territory of the Republic of Serbia into areas. Assignment of radio-frequency bands will be carried out in accordance with the Law, through a public tender procedure.”
- “One of the prerequisites for the development of satellite communications is adoption of adequate by-laws...”



RATEL's activities defined under the Strategy 2/3

2. UNIVERSAL SERVICE FUND

- “Establishing of the fund for universal service and ensuring availability of the universal service”

3. INTERCONNECTION

- “Issues of international interconnection, leased lines and ducts”.

4. METHODS AND MODELS FOR INTRODUCTION OF COST-BASED PRINCIPLES

- “Further development of tariff policy and establishing tariffs based on cost-oriented method.”

5. DEFINITION OF TECHNICAL REQUIREMENTS AND STRANDARDIZATION OF REQUIREMENTS FOR NETWORK BUILDING AND OPERATION

- “Uniform development of telecommunications infrastructure and gradual migration from the circuit switched networks for voice transfer to packet switched networks. Development of advanced third generation mobile networks and broadband fixed and wireless Internet access”



RATEL's activities defined under the Strategy 3/3

6. HARMONIZATION AND MODERNIZATION OF REGULATIONS

- “Harmonization of legal and regulatory framework with the EU regulatory framework. Implementation of fully transparent and non-discriminatory regulatory framework with clear provisions in regard to license issuance to operators, network interconnection and tariff policy.”



RATEL's future work and collaboration

- RATEL will continue to perform the activities in a lawful, competent, objective and transparent manner.
- In decision-making, RATEL will utilize the opinions and recommendations of the RATEL's Advisory Council, views expressed in public consultations and suggestions received in consultations with all participants in telecom sector: operators, providers, industry and end users.



Telephone: 011/32 42 673 Fax: 011/ 3232 537

ratel@ratel.org.yu www.ratel.org.yu