Republic of Serbia
RATEL
Republic
Telecommunication
Agency

TELECOM MARKET REGULATION IN THE REPUBLIC OF SERBIA

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Republic Telecommunication Agency - RATEL

CONTENTS

INTRODUCTION

RATEL's principal task:

- Create conditions for an open market
- Ensure equal treatment for all market players

RATEL's goal:

- Provide conditions for further development of telecom sector and fulfilment of public interest

Key activities:

- Market regulation based on recognized economic principles
- Promotion of competition, introduction of new operators and new services
- Constant enhancement of the quality of existing services
- User protection

RATEL ACTIVITIES IN 2006

For the purpose of telecom sector regulation, RATEL adopted a great number of bylaws, regulating:

- **Spectrum management, planning, usage and control**
- **Technical inspection procedures, standard and normative provision compliance control for telecom systems, technical permits – certificates issuance**
- **Issuance of authorizations for telecom service provision (Internet, cable, etc.)**

Also, a series of bylaws regulating numbering, telecom networks, interconnection and universal service were adopted or drafted.

- **Frequency Allotment Plan for analogue FM and TV stations was proposed and adopted.**
- **Numbering Plan for telecommunications networks was proposed and adopted.**
- **License for mobile network and services issued to Telekom Srbija a.d. was replaced.**
- **Successful public bidding procedure for mobile network and services license issuance, in collaboration with the Privatization Agency, which carried out the sale of the company Mobi 63.**
- **License for mobile network and services was issued to Telenor ASA, Norway.**

- **Successful public bidding procedure for the issuance of the License to the third mobile operator.**
- **License for mobile network and services was issued to mobilkom austia, Austria, registered as Top Net in Serbia.**
- **Licenses were issued to 5 TV and 5 radio stations with national coverage, based upon the RBA tender.**
- **Licenses were issued to 6 TV and 14 radio stations for the area of the city of Belgrade, based upon the RBA tender.**

- **150 Internet providers were registered and 39 of them were granted work authorization.**
- **58 cable systems operators were registered and 61 of them were granted work authorization.**
- **More than 6 000 radio station licenses were issued.**
- **More than 600 technical permits – certificates were issued.**
- **More than 860 technical inspections were performed.**
- **More than 800 approvals for import of goods were issued.**

- A new plan for digital broadcasting was co-ordinated, enabling the coverage of the territory of Serbia with between 32 and 48 different TV programs, and between 12 and 16 radio programs. (RRC-06 Conference in Geneva)
- Participation and work in a number of bilateral and multilateral meetings concerning international coordination for analogue and digital broadcasting.
- Contacts with other regulatory agencies from all countries in the region were established, as well as with the relevant national and international institutions.
- 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.
- Collaboration with over 1 000 business partners.

BASIC FEATURES OF TELECOM MARKET

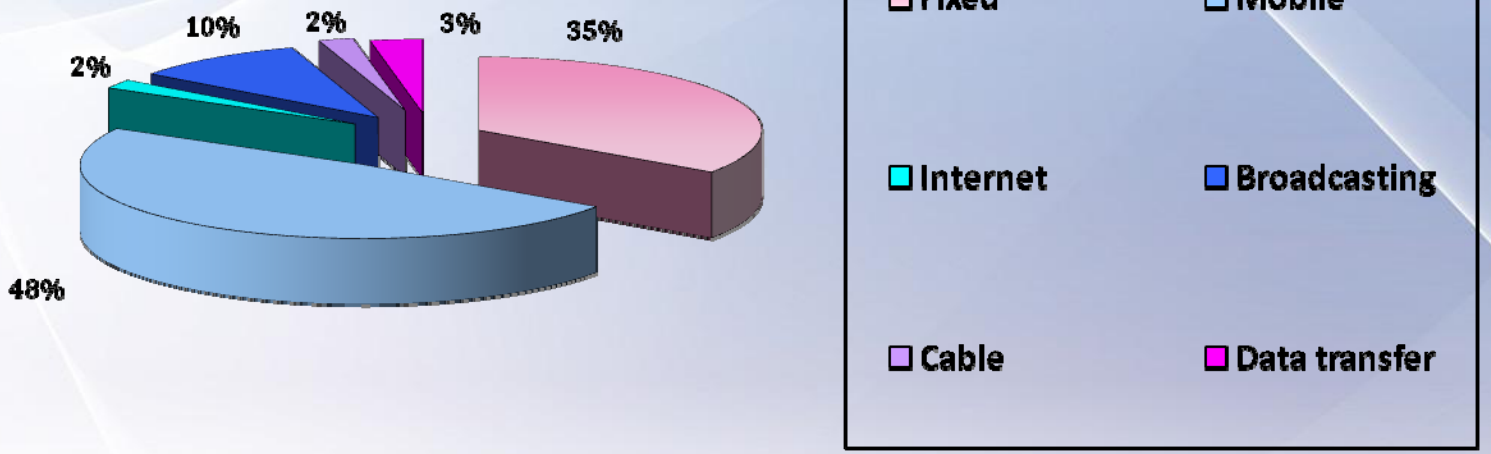
According to data from the Statistical Office of the Republic of Serbia, the most dynamic growth in real sector in 2006 was that of telecommunications and postal services sector, amounting to approximately 74%

Economic activity in 2006 (%)

	%
Industrial production, physical scope	4.7
Construction, value of works	31.0
Traffic, scope of services	10.0
Telecommunications and postal services, scope of services	**74.1**
Retail trade, real growth	7.7
Tourism, overnights by tourists	1.0

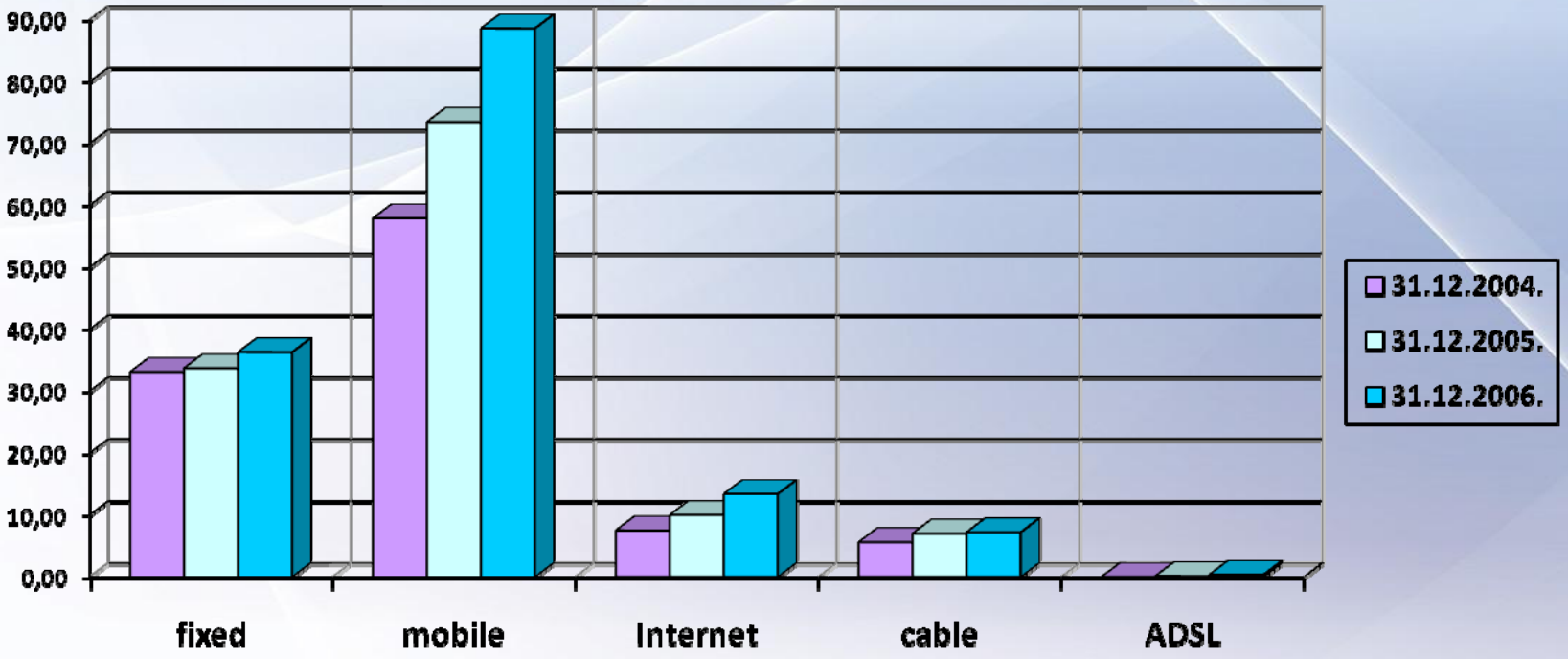
Source: Statistical Office of the Republic of Serbia

- **According to the Republic Telecommunication Agency data, the revenue from telecom services in 2006 amounted to EUR 1.3 billion, this being an increase of 40% compared with 2005.**
- **The share in GDP was approximately 5.6%, which is a rather significant percentage compared with 2005 (when it amounted to 4.6%).**
- **Total investments in telecom sector in 2006. amounted to ca. EUR 190 million. Total investments in telecom sector in past five years exceeded EUR 1.5 billion.**



- **Allocation of revenue according to service in 2006**

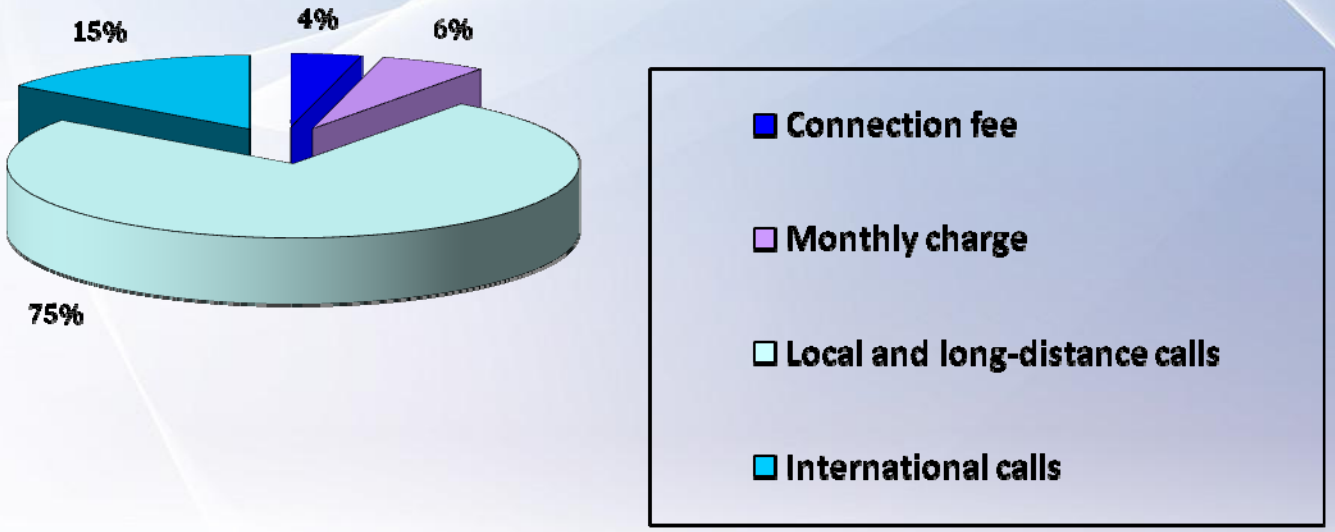
  Source RATEL



- **Penetration**

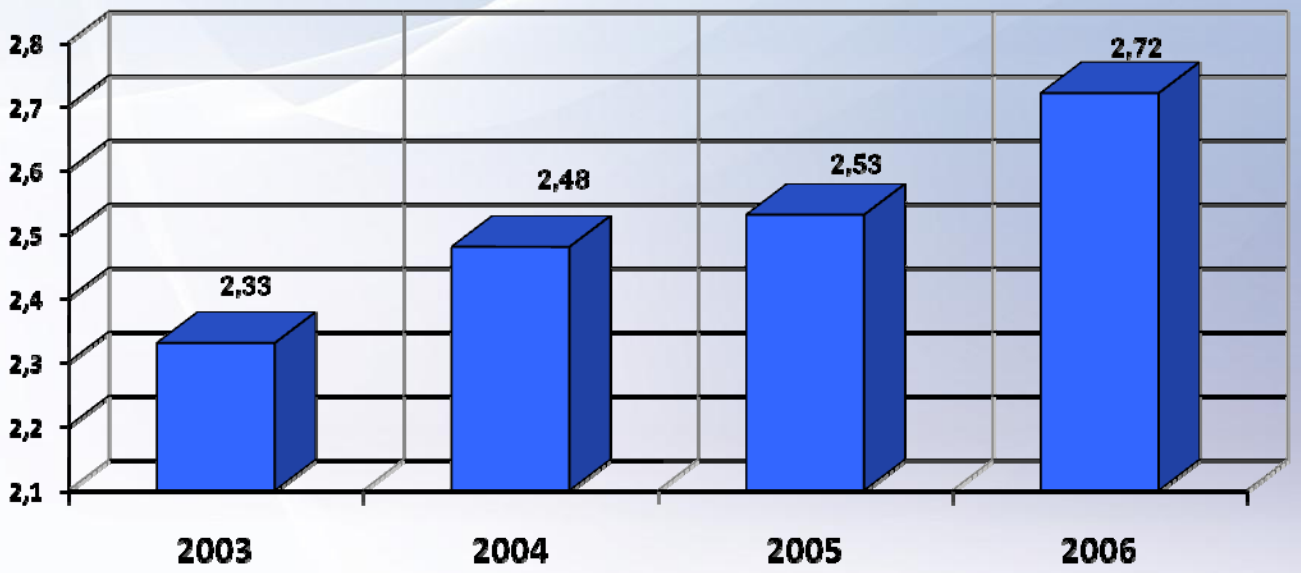
PUBLIC FIXED TELECOMMUNICATIONS NETWORKS

- **Revenue from fixed telephone service in 2006 amounted to EUR 426 million which is an increase of 13.6% compared with 2005.**
- **Annual average revenue per user was RSD 13,193.**
- **Potential fixed telephony market involves over 3.2 million users. The planned annual investments in this area amount to EUR 350 million.**



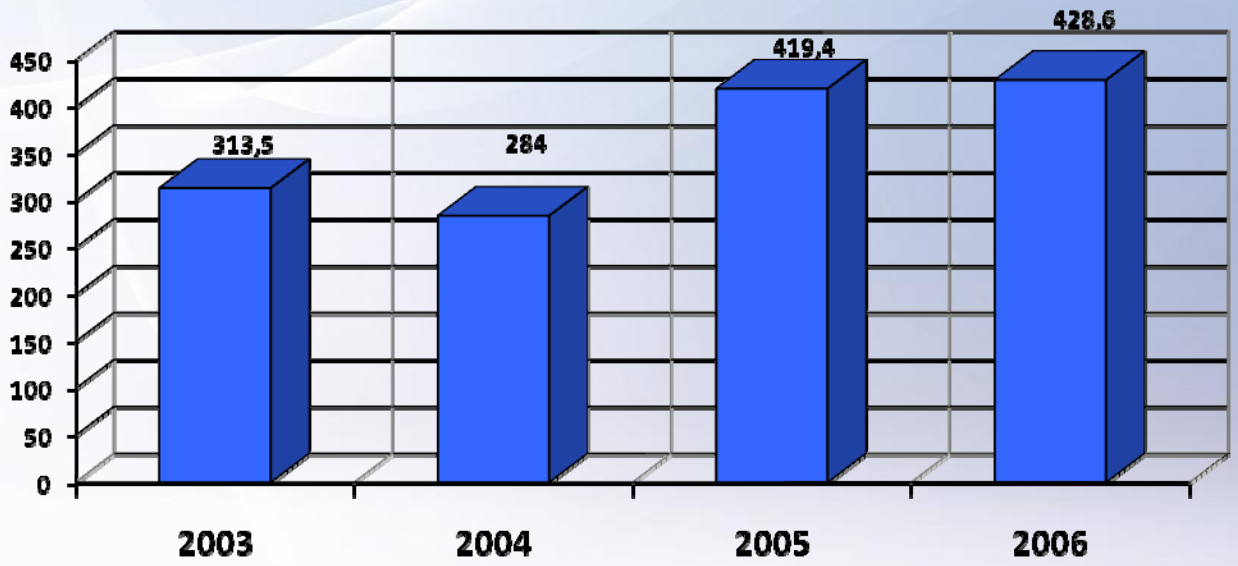
- **Distribution of revenue from fixed telephone services in 2006**

  source RATEL



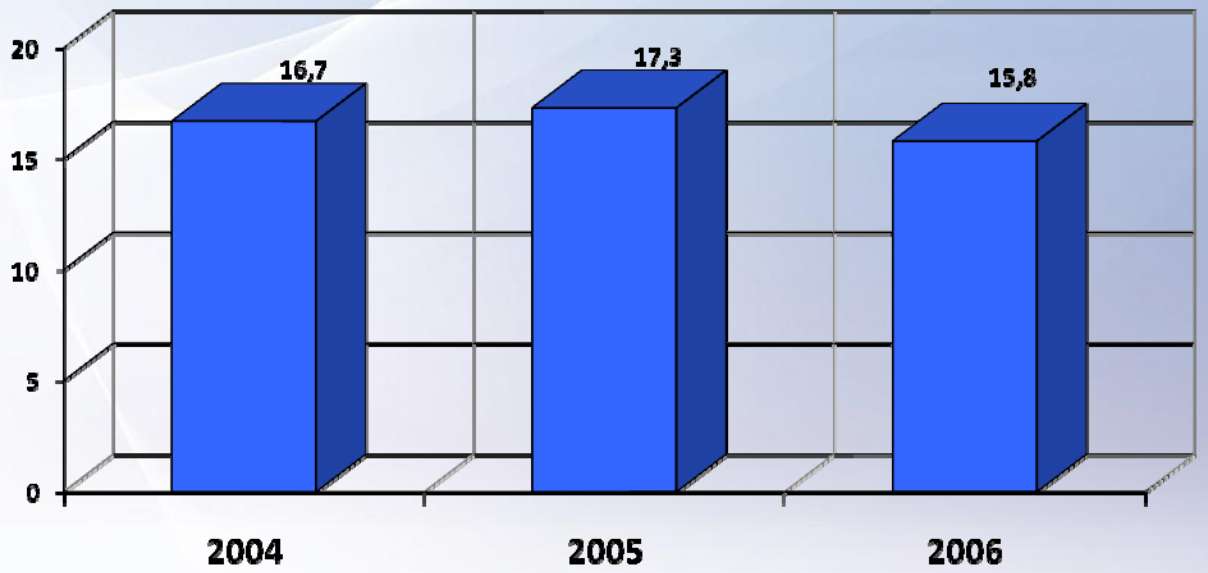
- **Number of fixed subscribers (mil.)**

  source RATEL



- **Number of requests for new telephone connections (thousands)**

  source RATEL



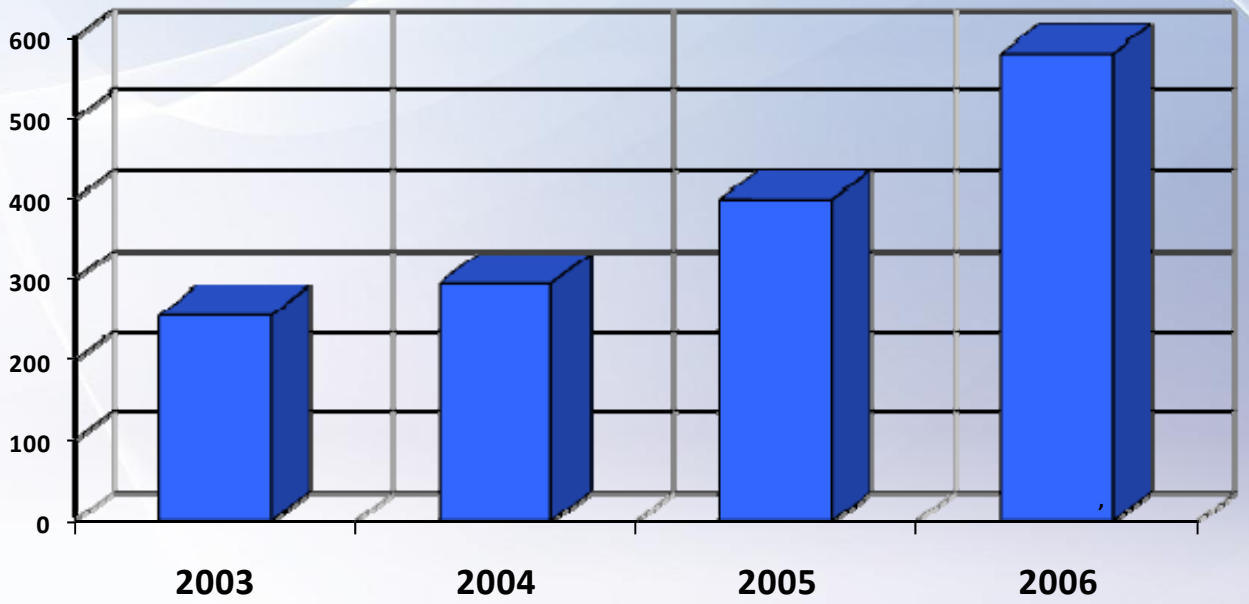
- **Total traffic in fixed network (bn. minutes)**

  source RATEL

PUBLIC MOBILE TELECOMMUNICATIONS AND SERVICES

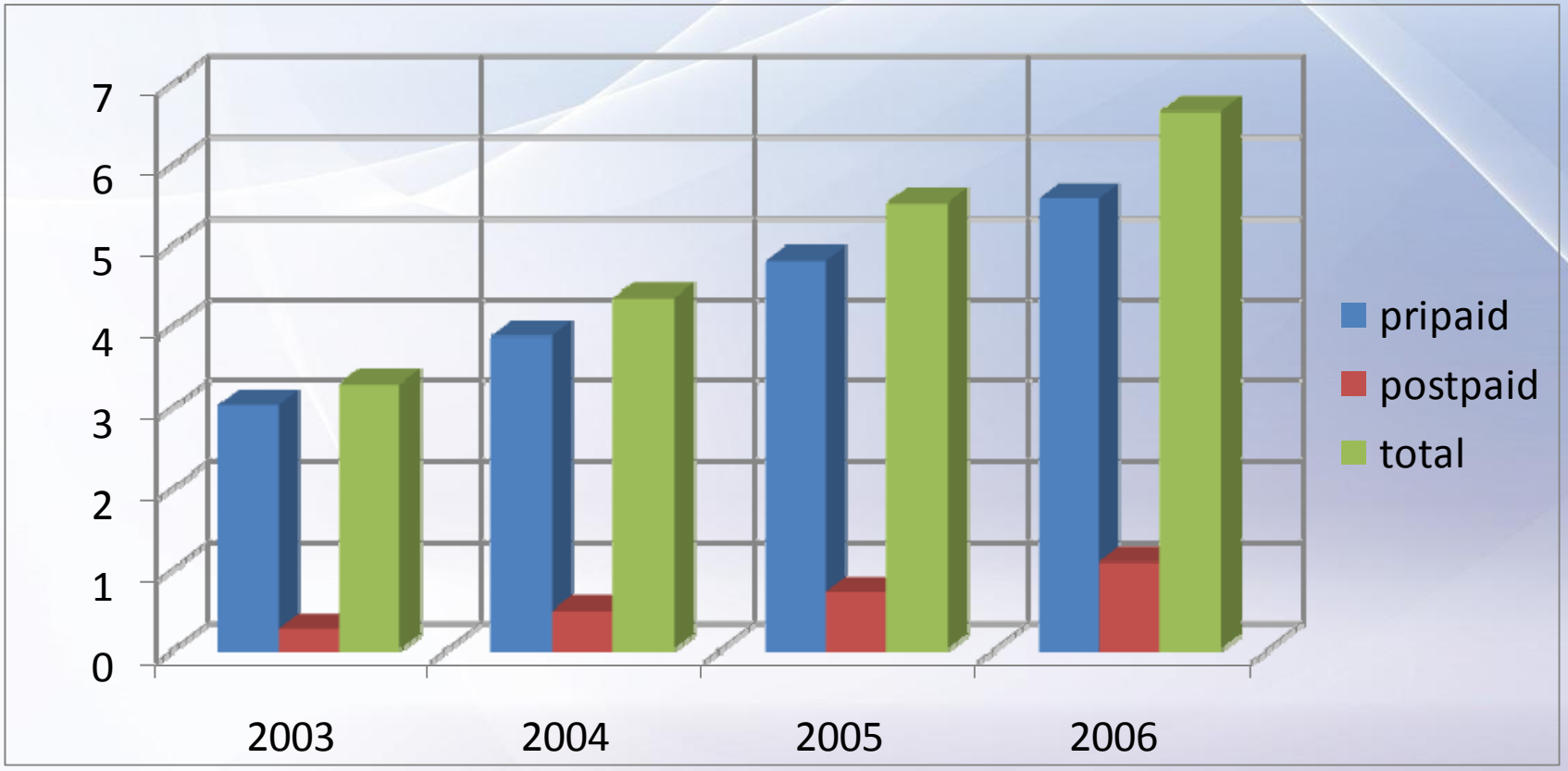
- **Mobilna telefonija Srbije MTS, owned by Public company for PTT traffic Srbija (80%) and OTE, Greece (20%) (license replaced on 01.08.2006)**
- **Telenor d.o.o. Belgrade, 100% owned by Sonofon, Denmark (license issued on 01.09.2006)**
- **Mobilkom Austria, owned by Telekom Austria group, Austria (license issued on 01.12.2006)**

- **All three operators were granted a license for public mobile telecommunications network and public mobile telecommunications network services in accordance with GSM/GSM1800 and UMTS/IMT-2000 standards, issued by the Republic Telecommunication Agency.**



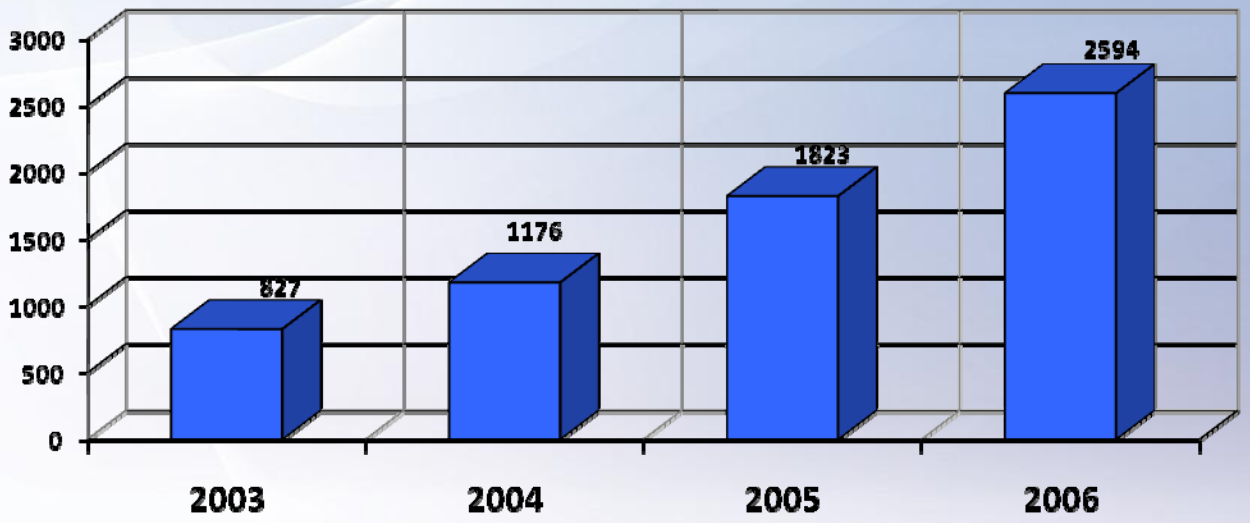
- **Increase in total revenue form mobile telephony (EUR mil.)**

  source RATEL



- **Total number of mobile users in millions**

source RATEL



- **Total outgoing traffic in mobile network (mil. minutes)**

  source RATEL

- **Distribution of prepaid/postpaid users with mobile operators**

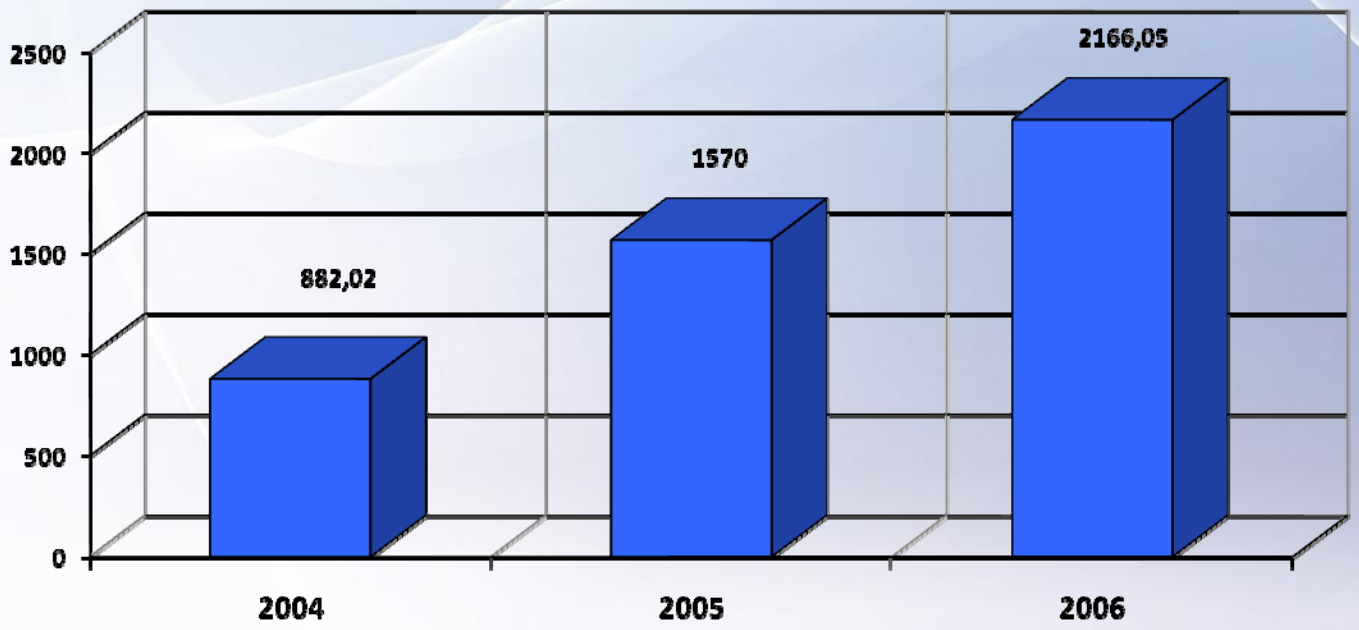
  source RATEL

INTERNET SERVICES

Number of providers according to access	2004	2005	2006
Dial - up	30	34	51
Coaxial cable	3	5	9
Optical cable	0	0	0
Radio access (wireless access)	27	38	75
x - DSL	0	12	16
Other (leased line + ISDN)	27+16	28+18	28+15
Total	61	66	150

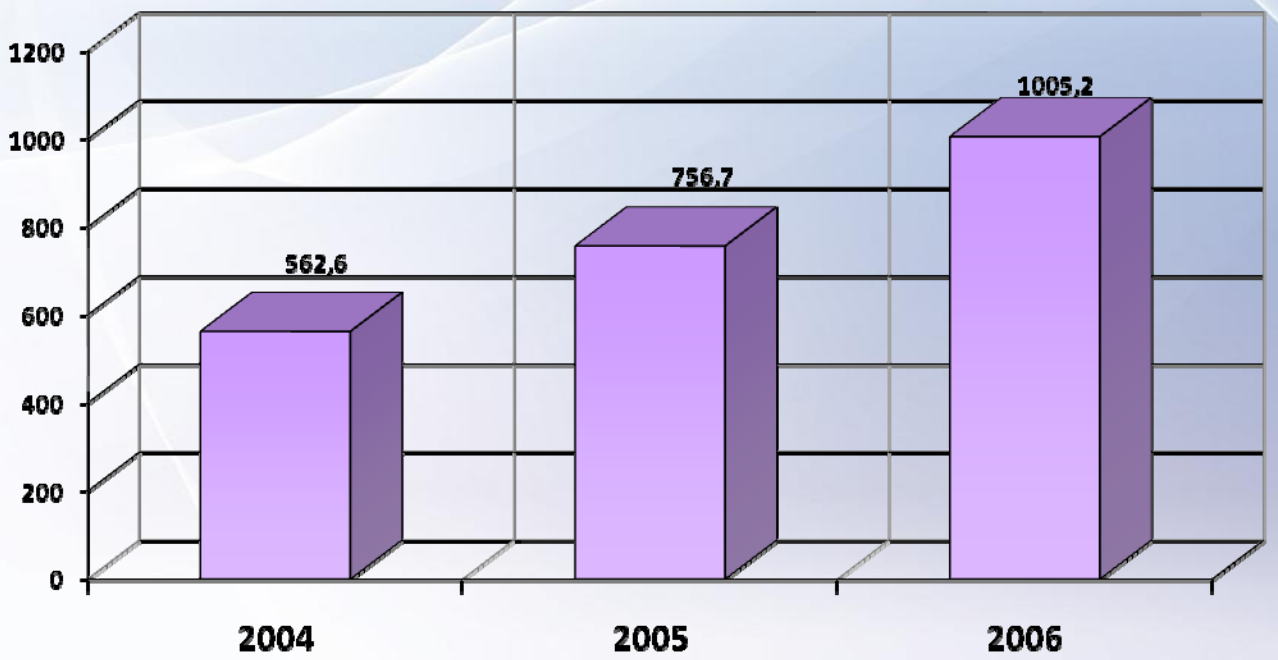
- **Number of providers according to access**

  Source RATEL



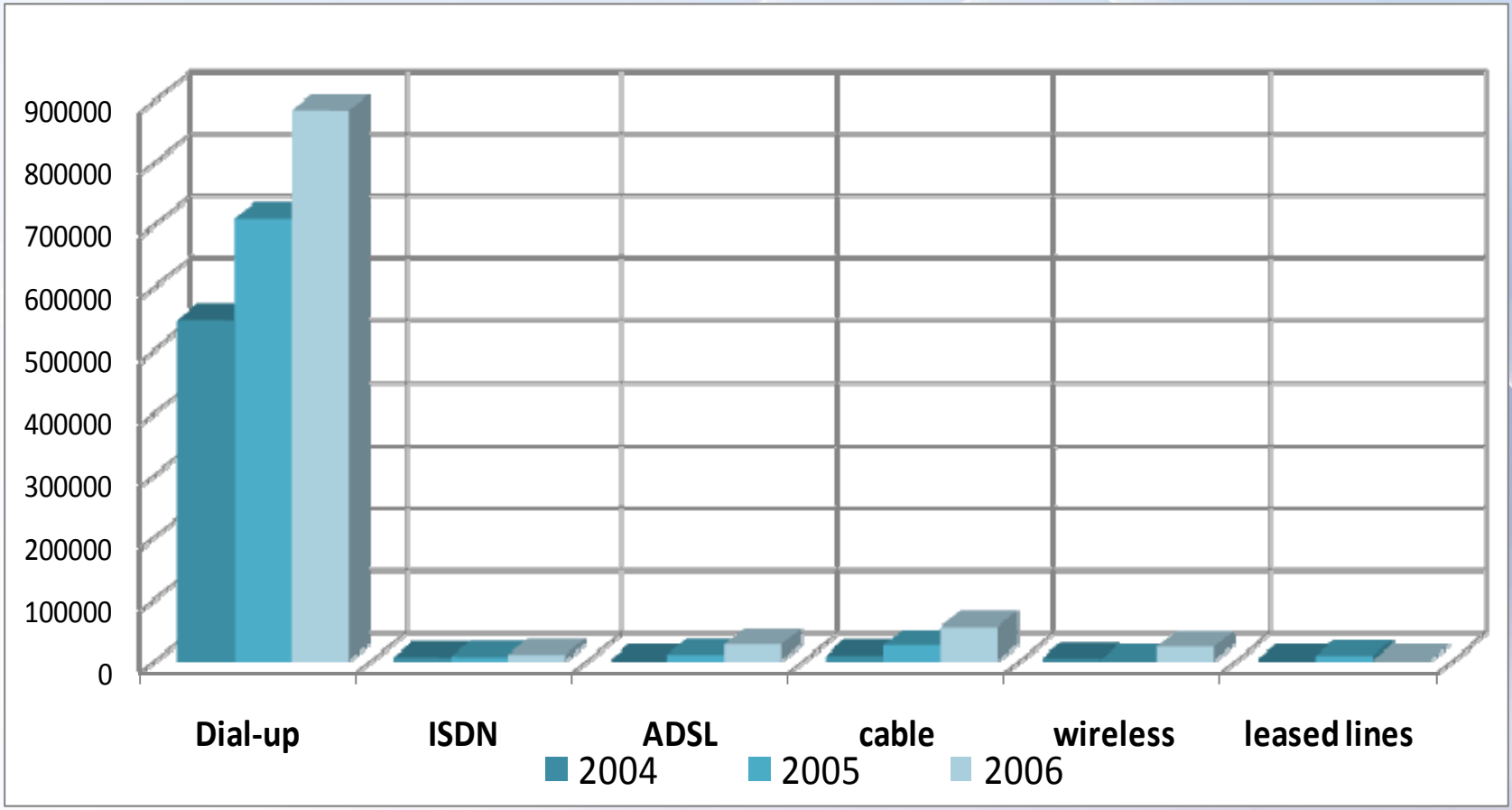
- **Revenue from Internet services in RSD millions**

  Source RATEL

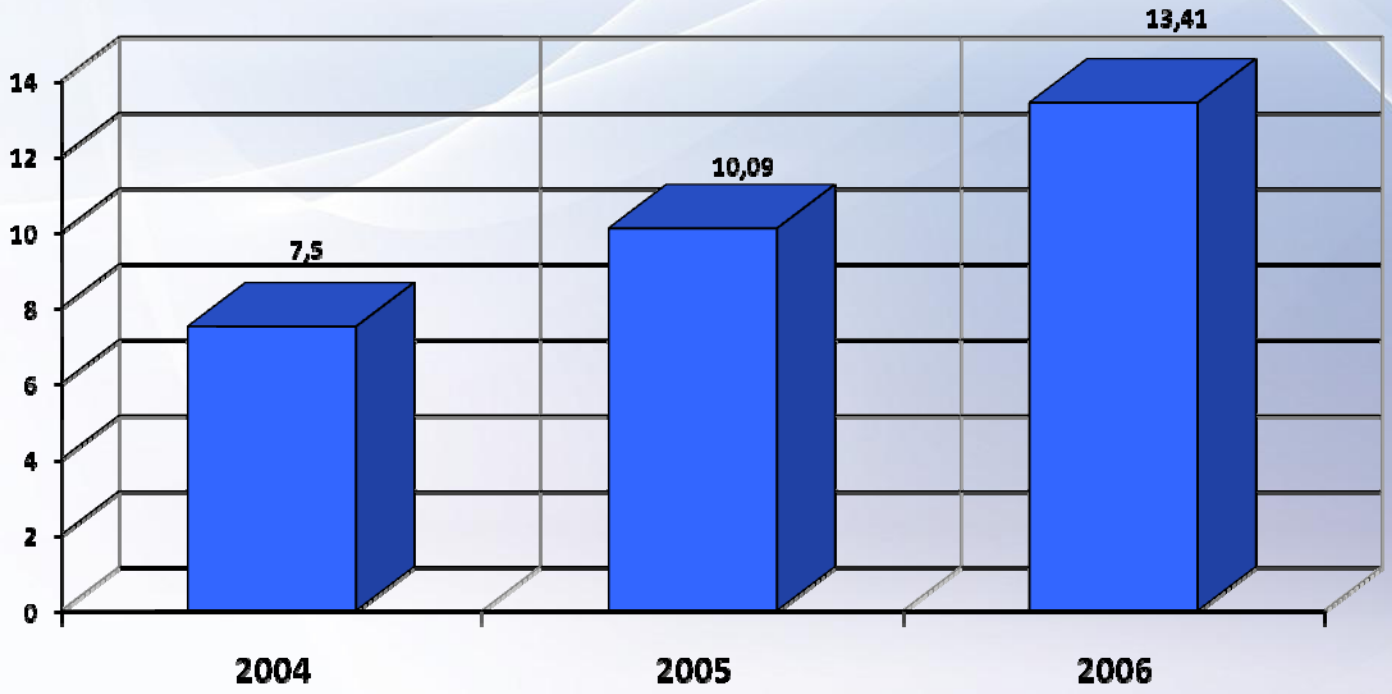


- **Number of Internet subscribers in thousands**

  Source RATEL



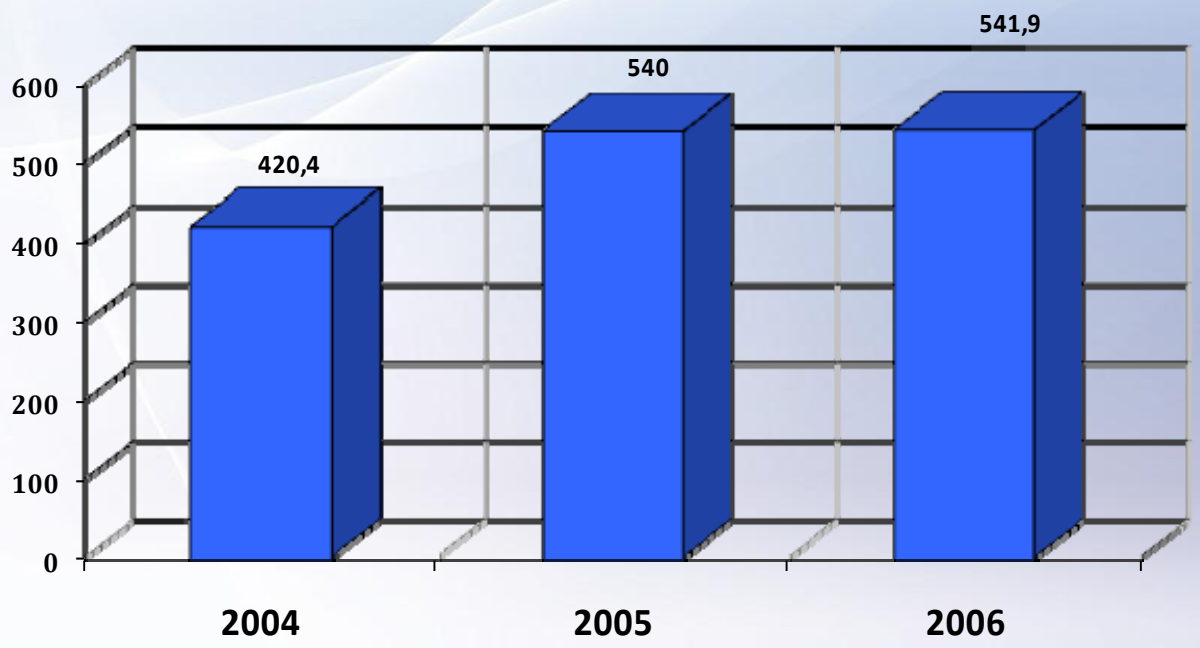
- **Distribution of number of users according to access**
  Source RATEL



- **Internet penetration**

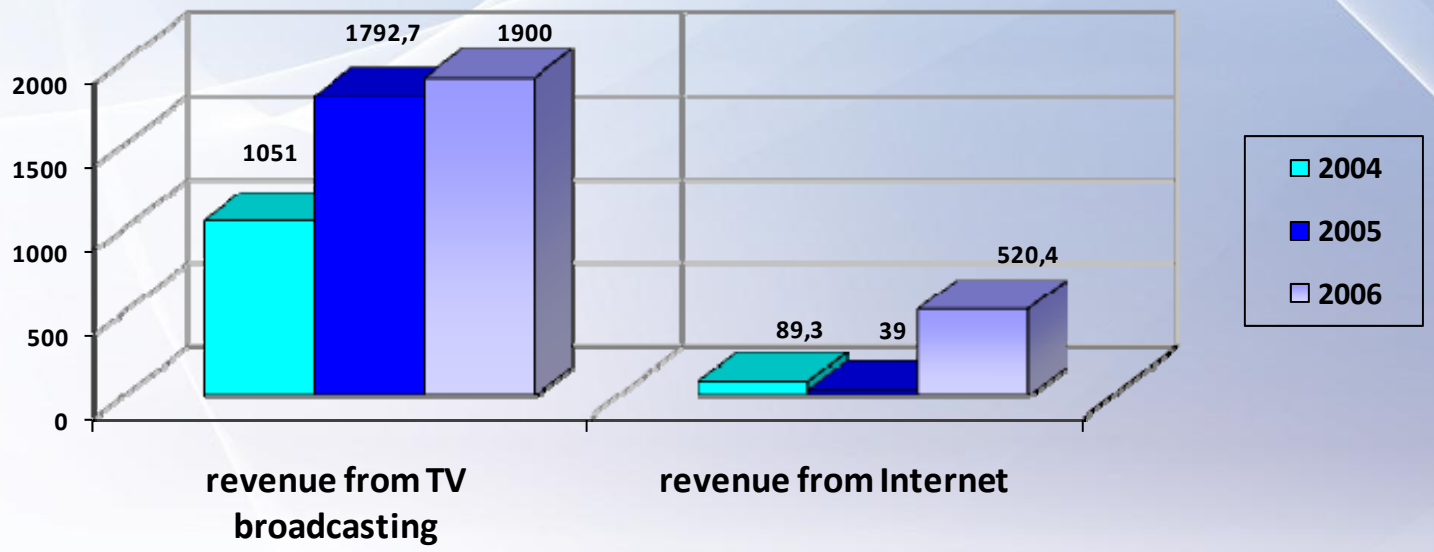
  Source RATEL

CABLE SYSTEMS



- **Total number of users (thousands)**

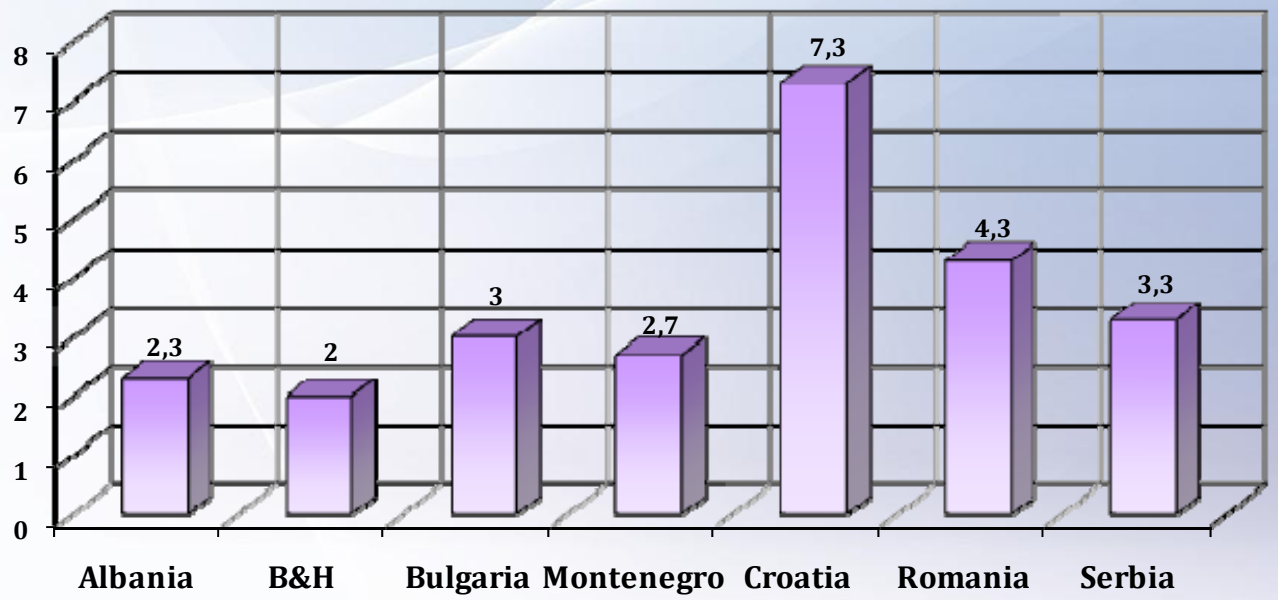
  Source RATEL



- **Cable operators' revenue growth (RSD millions)**

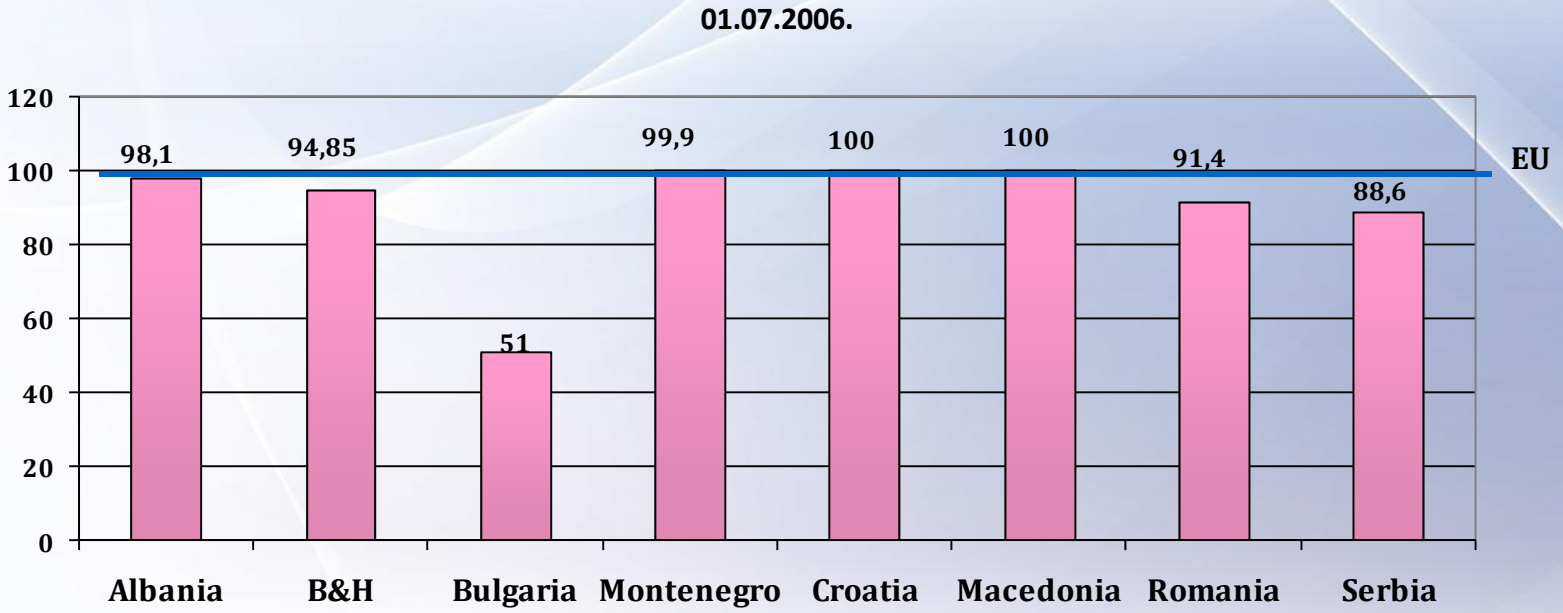
  Source RATEL

COMPARATIVE ANALISYS WITH SEE COUNTRIES



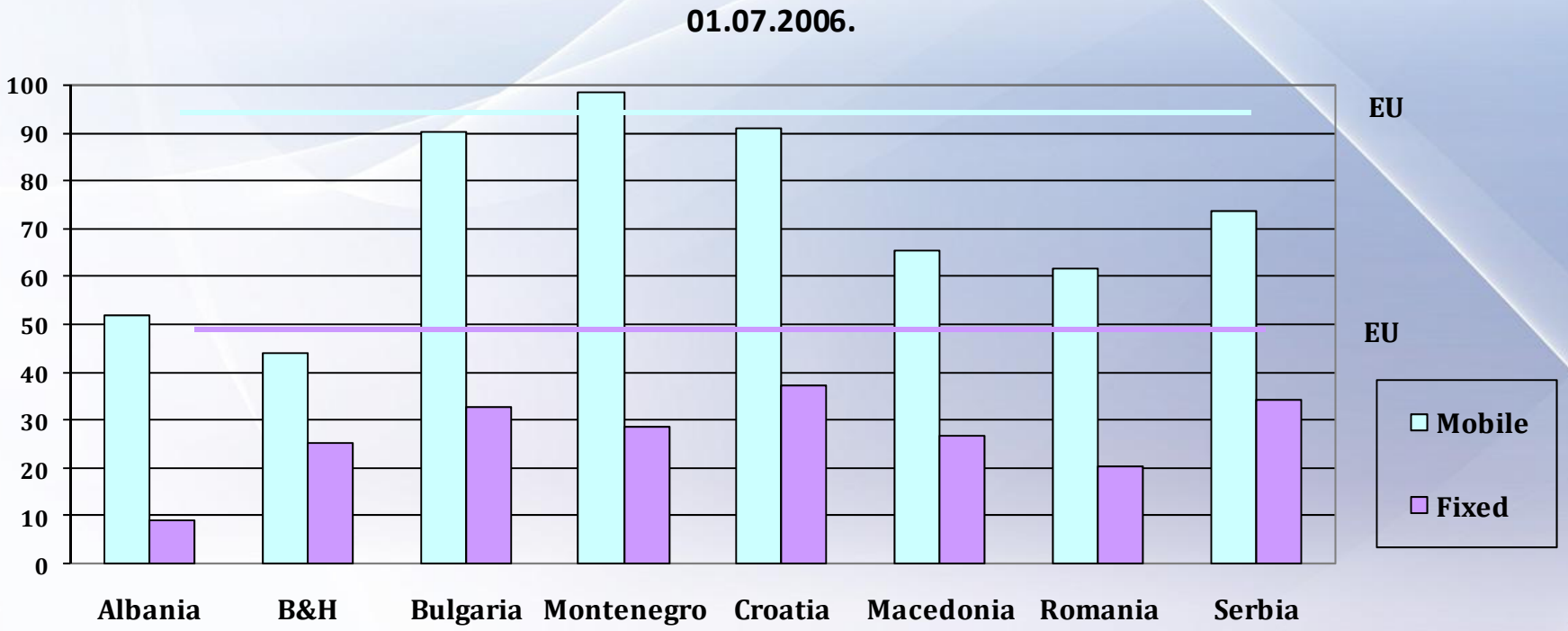
- **GDP per capita (EUR thousands)**

Source: Country Comparative Report 3 (Cullen International) / Ministry of Finance (estimate)



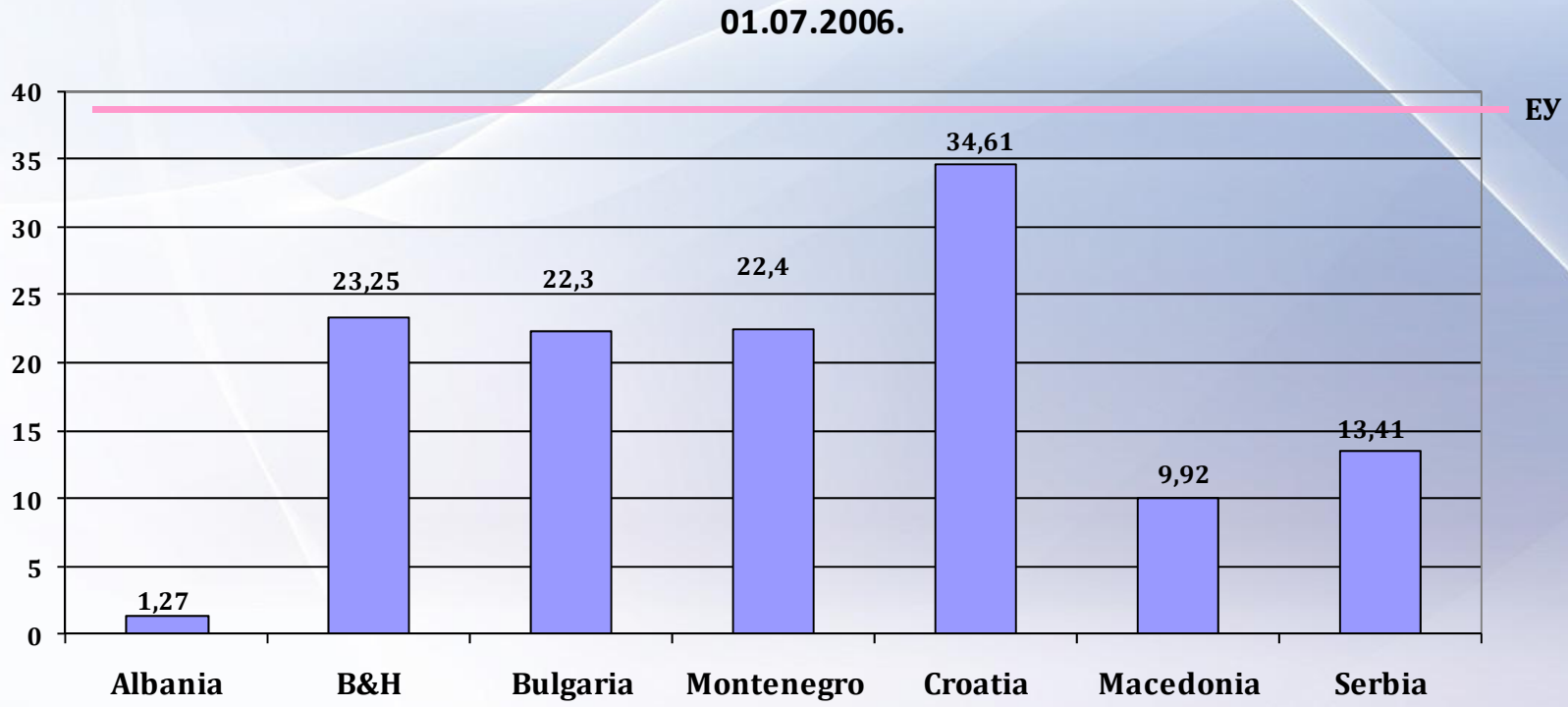
- **Level of digitalization in fixed telephony (%)**

  Source: Country Comparative Report 3 (Cullen International)



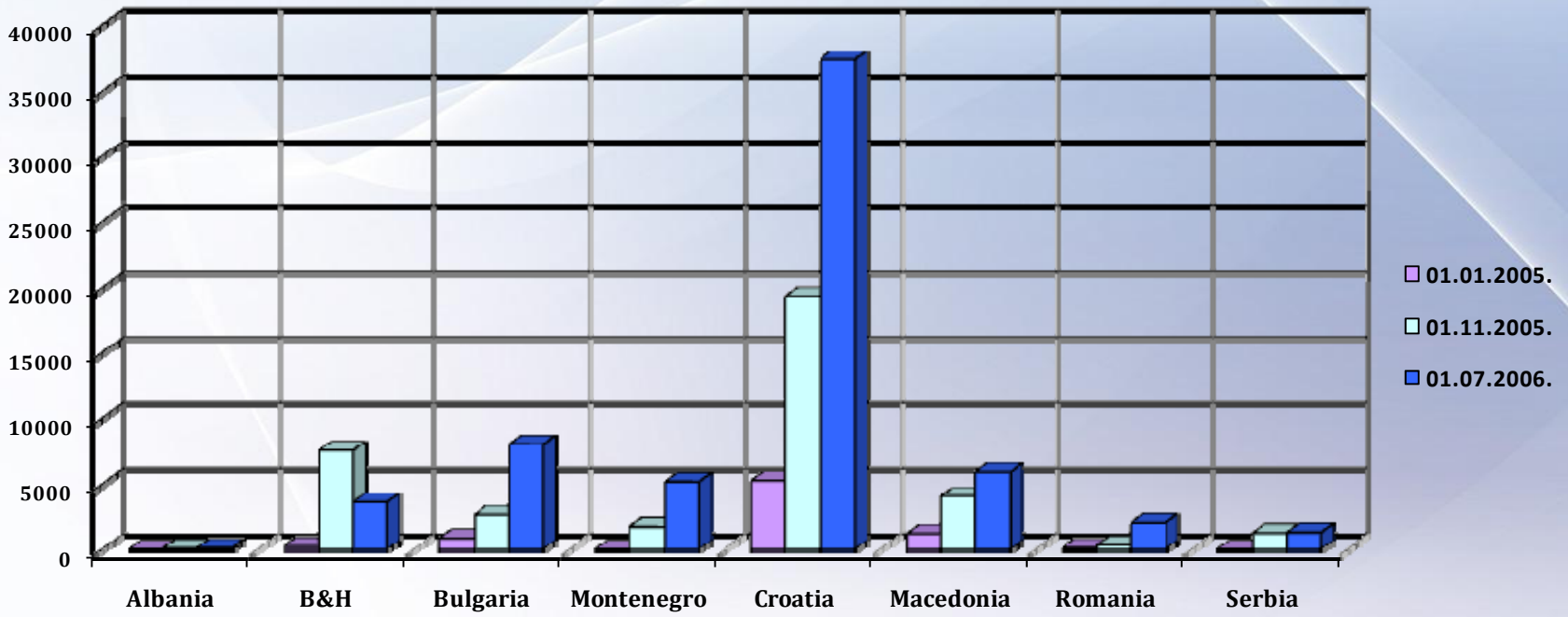
- **Mobile and fixed penetration**

Source: Country Comparative Report 3 (Cullen International)



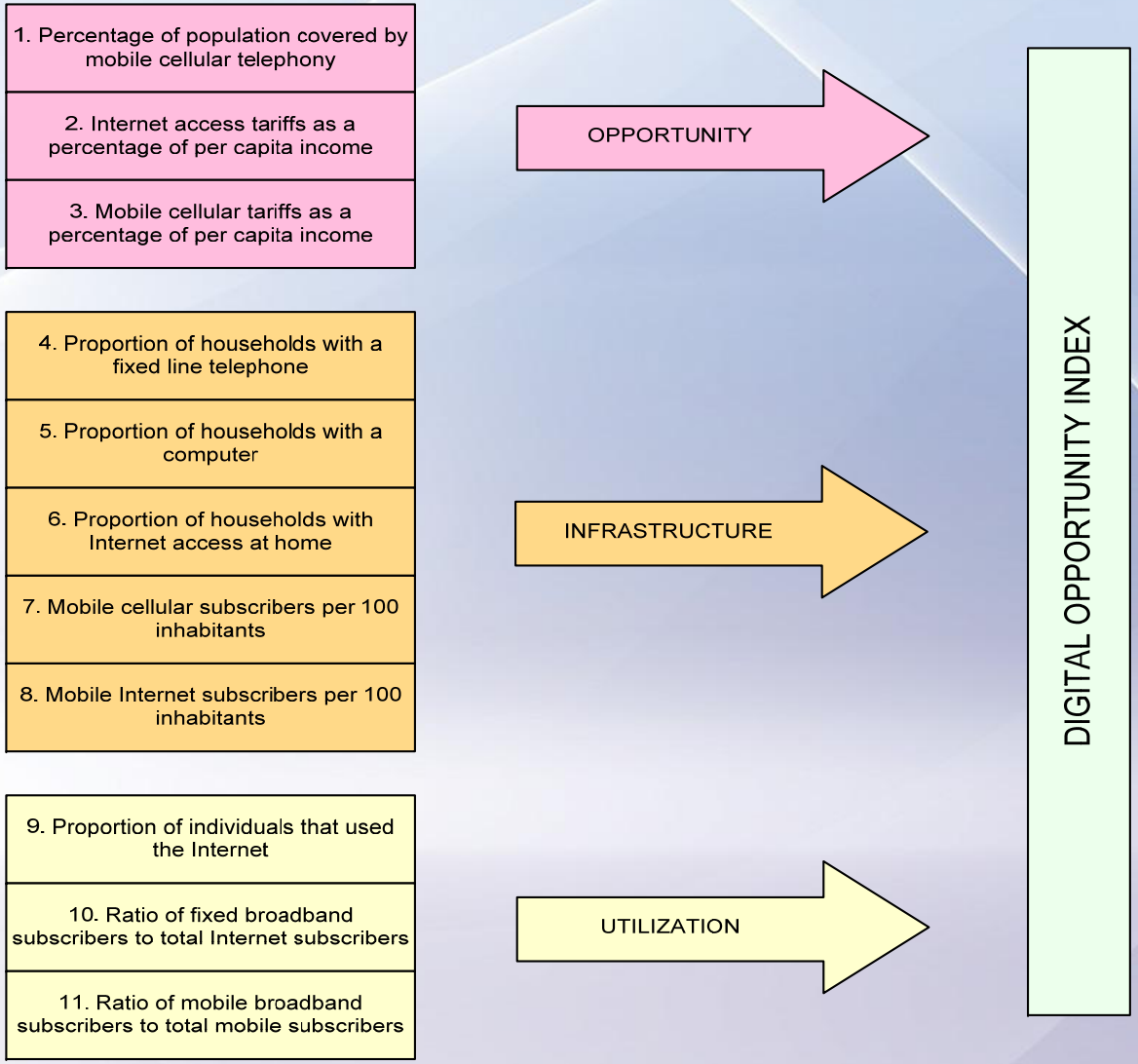
- **Internet penetration**

Source : Country Comparative Report 3 (Cullen International)



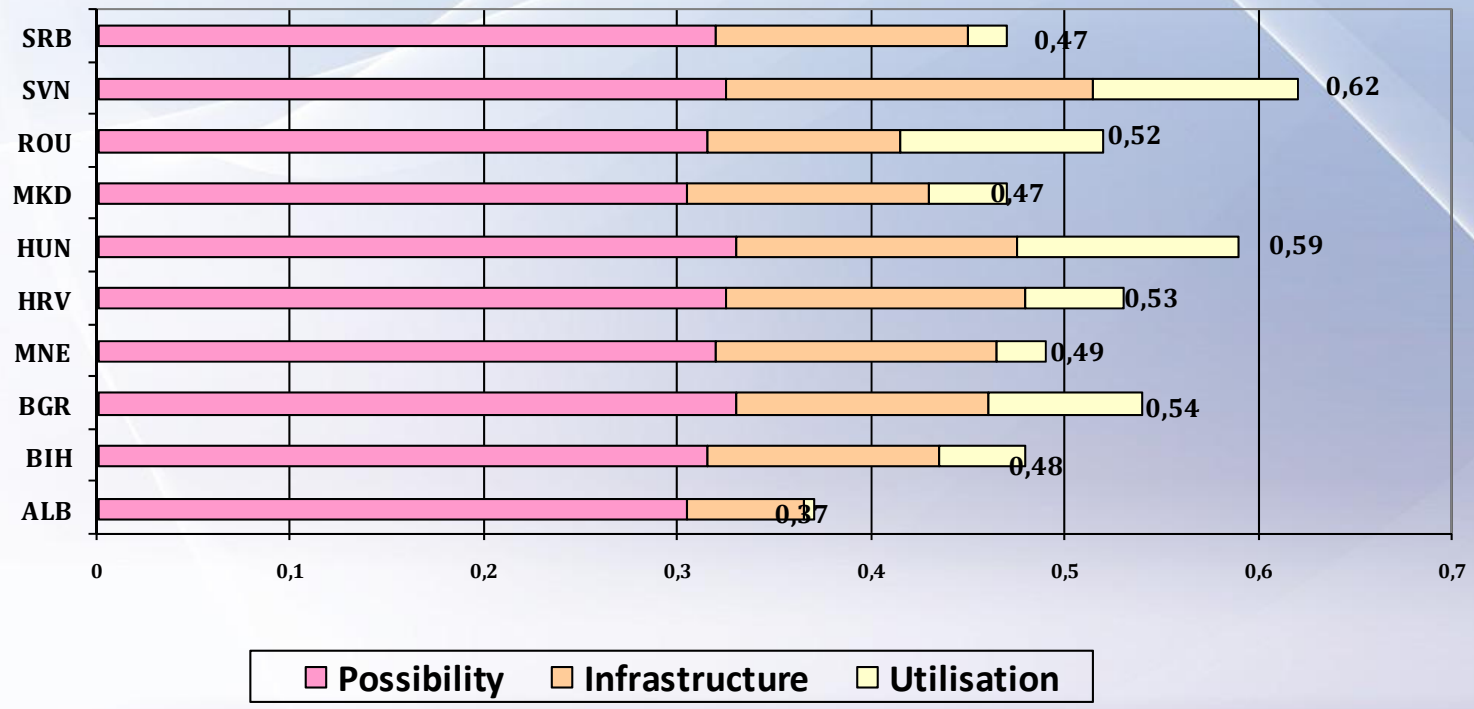
- **xDSL penetration**

Source: Country Comparative Report 3 (Cullen International)



Source: World Information Society Report 2006 - ITU

Digital opportunity index



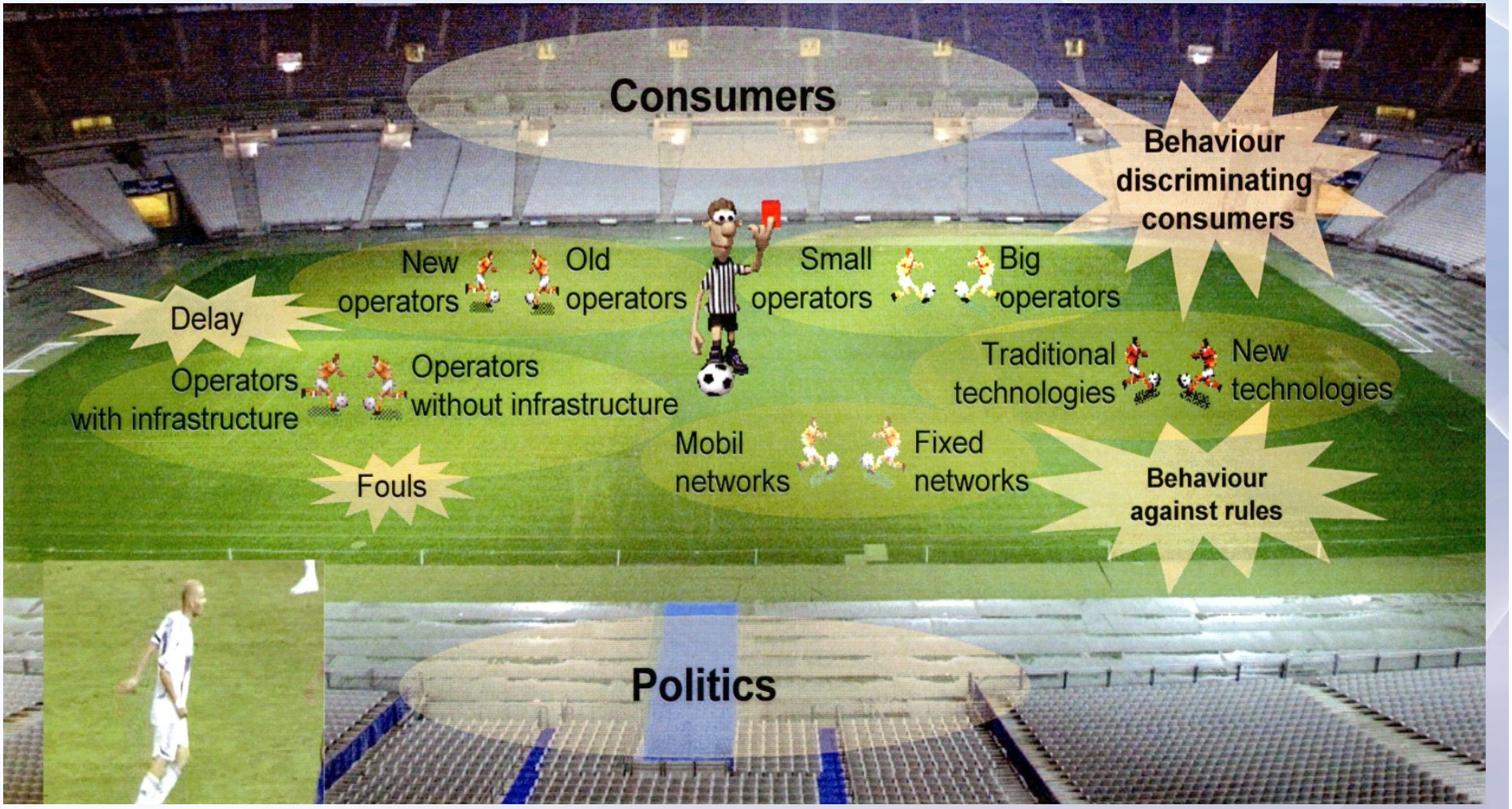
Source: World Information Society Report 2006 - ITU

RATEL ACTIVITIES IN THE FOLLOWING PERIOD

Basis for development of RATEL's 2007 Business Plan:

- **The provisions of the Telecommunications Law of the Republic of Serbia**
- **The conclusions of the Strategy for Telecommunications of the Republic of Serbia**
- **The Strategy for the Development of the Information Society in the Republic of Serbia**
- **The National Strategy for Economic Development of the Republic of Serbia 2006-2012**

According to these documents the telecom sector is the basis for the development of other economic sectors and should directly provide for the development of the information society pursuant to the adopted EU standards.



Source: Austrian Regulatory Authority - RTR

RATEL's 2007 FRAMEWORK BUSINESS PLAN

ACTIVITIES REALTED TO ENHANCEMENT OF TELECOM SECTOR

Objectives

1. Rational use of the frequency spectrum:

- Prepare by-laws defining unregulated bands:

  2.4 and 5.5 GHz for the provision of a non-guaranteed quality of service

  Completed and published
- Prepare regulations and launch a public call for registration of persons interested in providing a guaranteed quality of service, for application of BWA - FWA in the band: 3.4-3.8 GHz

  Frequency Allotment Plan for this band was adopted and submitted to the Ministry

  Preparation of the public call for registration of interested persons is underway

- Prepare regulations for the usage of CDMA systems (410-470 MHz)

  Development of Allocation Plan and Allotment Plan for this band is underway
- Prepare regulations and launch a public call for the application of satellite communications in cable and Internet services provision

  Registration of interested parties completed

  Request to launch a public call for DTH and MMDS services submitted to the Ministry

2. Use of advanced technologies in fixed networks:

- **Promote a speedy digitalization**

  Numbering Plan and Rules on Managing the Numbering Plan completed and published

- Promote broadband usage
- Provide for an efficient development of the regulatory framework for the application of the latest technological solutions and make available all the advantages offered by these solutions to the service users

Broadband Development Strategy necessary

RATEL took up the initiative for its prompt drafting

3. Application of new services:

- Support the application of: VoIP, 3Play, IPTV, DTV,...

Rules on international interconnection

Adoption Rules of VoIP in final phase

MTS and Telenor started with 3G services

Necessary activities for the introduction of digital TV initiated Initiative for drafting the DVT Development Strategy in place

TELECOM MARKET
ANALISYS, DEVELOPMENT AND CONTROL

Objectives

1. Telecom market analysis

   Previously presented elements of analysis apply to 2006

2. Development of a tariff policy along with the introduction of cost- based tariffs

   Platform for drawing up the Rules on the application of the cost-accounting principle adopted and published

3. Introduction of the universal service (US)

Project for definition of US set of services underway

4. Interconnection – relations between the market players

Rules adopted and submitted to the Ministry to confirm compliance with the Law and Serbian Constitution

5. User protection

Clear user protection – related procedure established within RATEL – over 350 processed cases* on 19.11.2007

At market players' suggestion, the Agency adopted and published the Instructions on public consultations procedures

RATEL's principal task is to provide conditions for further development of telecom sector and fulfilment of public interests

This is achieved through market regulation based on known economic principles:

- Promotion of competition (see RATEL's activities in 2007)
- Regulation of market segment with limited competition (once again, aiming at promotion of competition).

Telecom service market in Serbia divided in:

- **Free competition market**
- **Limited competition market, market with an SMP operator**

Prices in free competition markets are under market control, where cost administering or application of cost-based principle is carried out by operator's management in order to optimize its business performance

Prices of services in the markets with limited competition are under the control of the regulatory agency. The prices of such services are formed:

- **Mainly by application of cost-based principle**
- **Together benchmarking in regard to countries in the region**

With multi-service operators, where some services are in a free market and other a free competition market, application of integral principle is evident, but transparency, reliability and verifiability of cost accounting for both markets needs to be provided.

Examples of free and limited markets

- Mobile telephony market is a typical segment which proves the famous principle: regulation leads to competition, which fosters investments, resulting in penetration growth.
- During 2006, three licenses were issued (one was replaced) and a full competition was created.
- This resulted in new services, new tariff packages, and lower prices.
- The end result was an increase of mobile users in Serbia in 2006 to over 1 million.

Comparative analysis 2005/2006

	2005		2006			
	Number of users (thousands)	Penetration (%)	Number of users (thousands)	Penetration (%)	Proportional increase in the number of users (%)	Absolute increase in the number of users (thousands)
Fixed	2,527.30	33.70	2,719.40	36.30	7.60	192.10
Mobile	5,510.70	73.50	6,643.70	88.60	20.60	1,133.00
Internet	756.70	10.00	1,005.00	13.40	32.80	248.30
Cable	530.50	7.00	541.90	7.20	2.15	11.40
Broadband	40.50	0.54	121.60	1.62	200.20	81.10

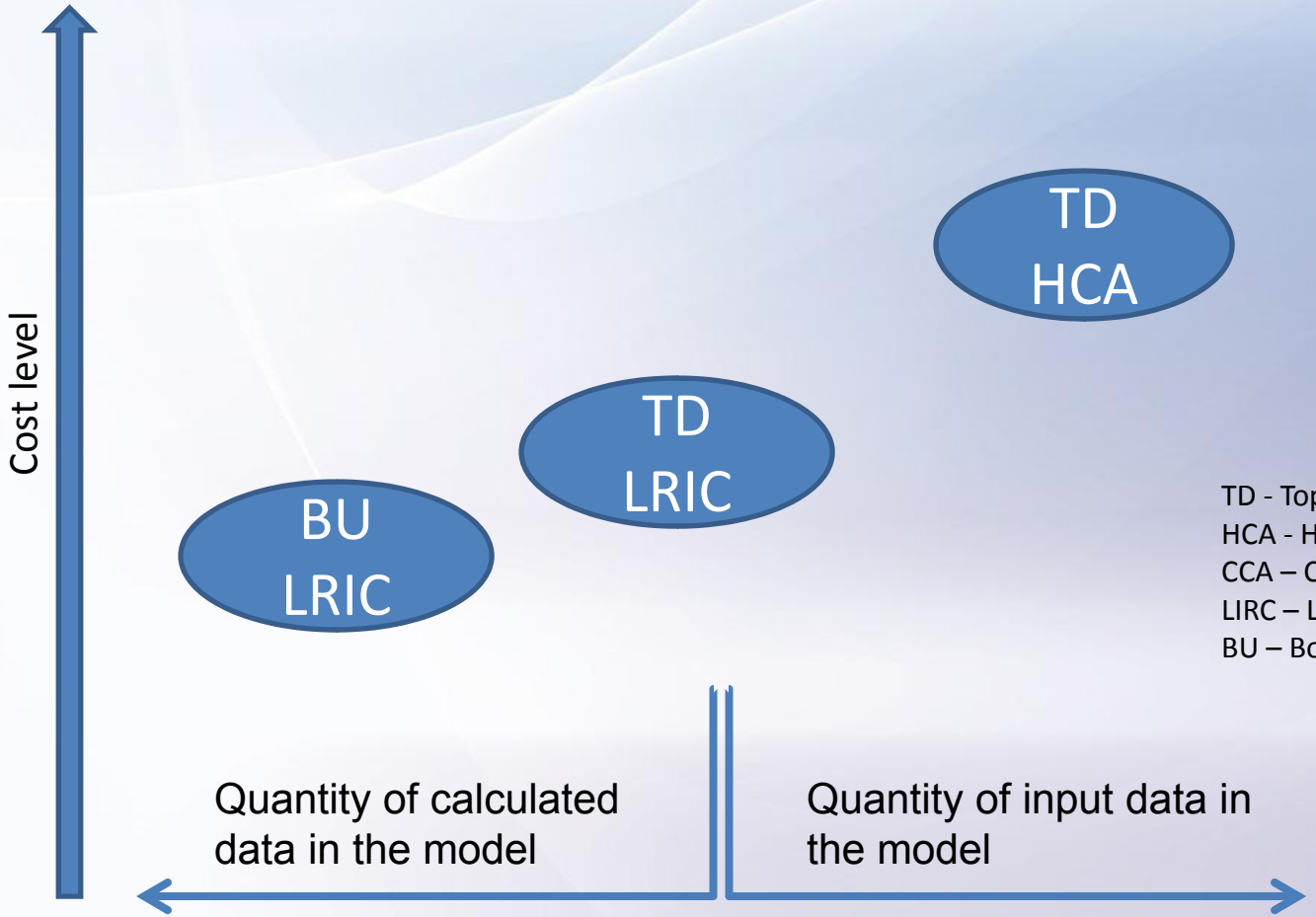
Comparative table of number of users and penetration in 2005 and 2006 (Source: RATEL)

PHASES OF APPLICATION OF COST-BASED PRINCIPLE AND COST ACCOUNTING MODEL

Usual phases of application of cost-based principle:

1. Historical Cost Accounting – HCA, includes all costs for the previous business period of a company. It does not include current nor future investments.
2. Current Cost Accounting – CCA provides a possibility to consider current state of equipment, instead of the old one, and hence provides a more realistic estimate of costs for advanced systems and services.
3. Long Run Incremental Cost – LRIC **includes not only past and present, but also the future incremental costs.**
4. Cost accounting methods:
    1. *Top-down* – includes cost accounting per type for a company as a whole.
    2. *Bottom-up* – eliminates the problem of cost inefficiency.

Methods of cost-based principle



TD - Top Down
HCA - Historical Cost Accounting
CCA – Current Cost Accounting
LIRC – Long Run Incremental Cost
BU – Bottom Up

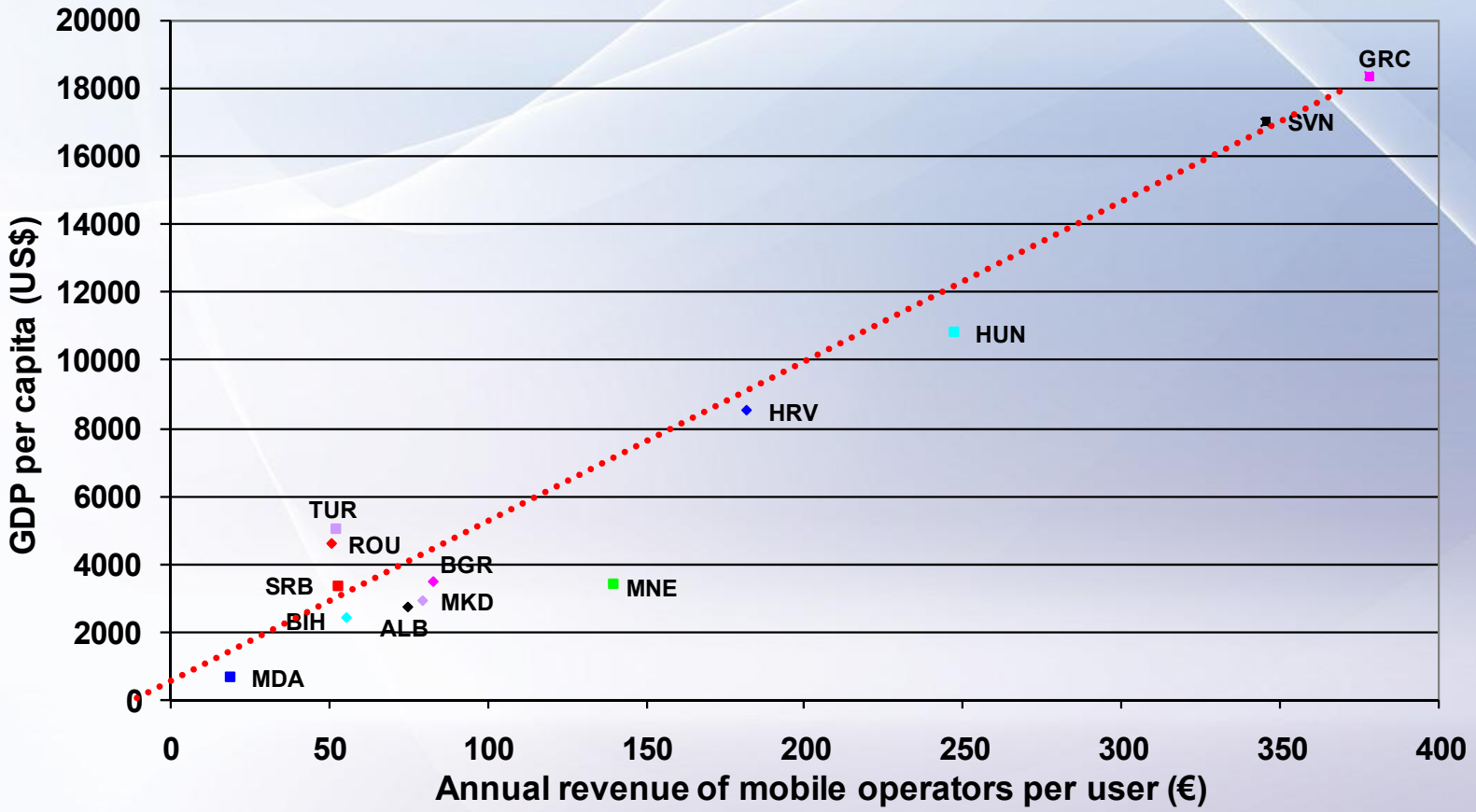
MODEL SELECTION AND BEGINNING OF APPLICATION

- **When selecting and planning the application and development of a cost-accounting principle, it is necessary to start from the experience and the capacity of an operator in cost accounting. The actual cost-accounting position, applied to an operator with significant market power, is, as a rule, characterized only by the following:**
  - **accounting of historical (actual) costs by nature, for the company as a whole, and**
  - **readiness to associate only direct costs per organizational unit, usually only the ones of the first level of the organizational chart of the company.**

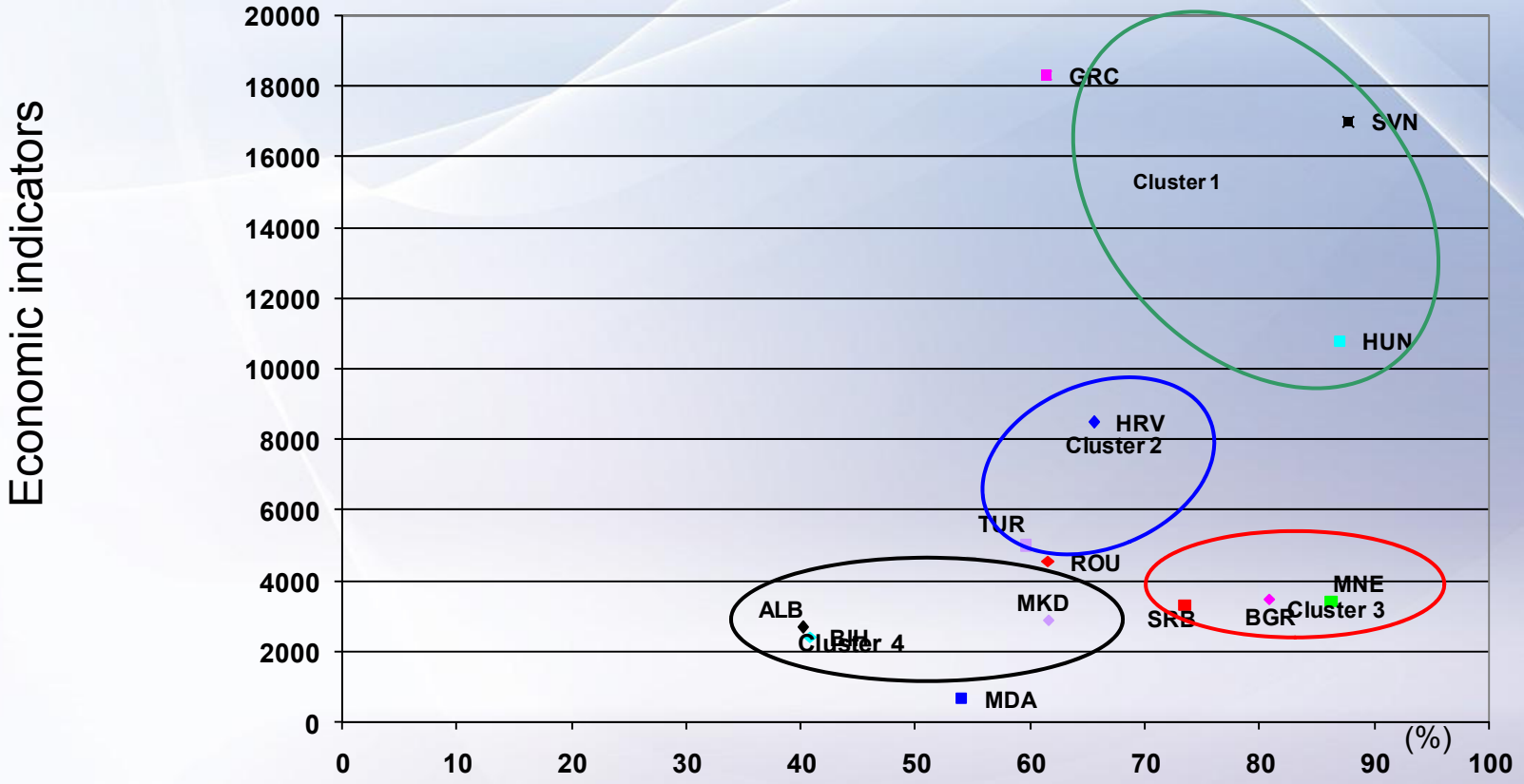
- **The current traditional accounting described, together with the experience of other countries regarding the first-time adoption of the cost-accounting principle for regulatory purposes, suggest that the historical cost accounting should be selected as a start-up cost-accounting model.**
- **The commencement date of the application of the historical cost accounting, as the first phase in introducing the cost-accounting principle, may be scheduled for July 1st, 2008, provided that the related activities applied to the operator are significantly intensified during the second six-month period of 2007. The application of the historical cost accounting should be limited to the period 2008-2009, during which the transition to the Current cost accounting should be prepared.**

INSTEAD OF A CONCLUSION

- **ICT are basic technologies for the development of new forms of social organization and functioning.**
- **Economic, social and political changes occur aiming at creation of a new, modern and developed society – information society.**
- **Implementation of ICT is related to economic, social and political situation of a society, and VICE VERSA.**
  - **Examples of developed countries and developing countries – digital divide.**
  - **Examples of countries which suddenly developed thanks to the application of ICT.**
- **The experience shows that the investment in ICT has an impact on the growth of GDP with factor 1.4 (compared to power supply 1.2) which is indicative of price of information.**



Source: ***Comparative analysis of mobile telecommunication market: Serbia and surrounding countries***



Source: ***Comparative analysis of mobile telecommunication market: Serbia and surrounding countries***

INFORMATION SOCIETY

In view of importance and capacities, the Internet imposed itself globally as main indicator of ICT application and the development of information society

Social factors influencing the degree of Internet implementation:

- **Economic: stability of financial system, market openness, developed infrastructure, buying power.**
- **Social: education, information, advantages of usage…**
- **Political: legal framework, application of provisions in accordance with future social changes…**

Technical conditions:

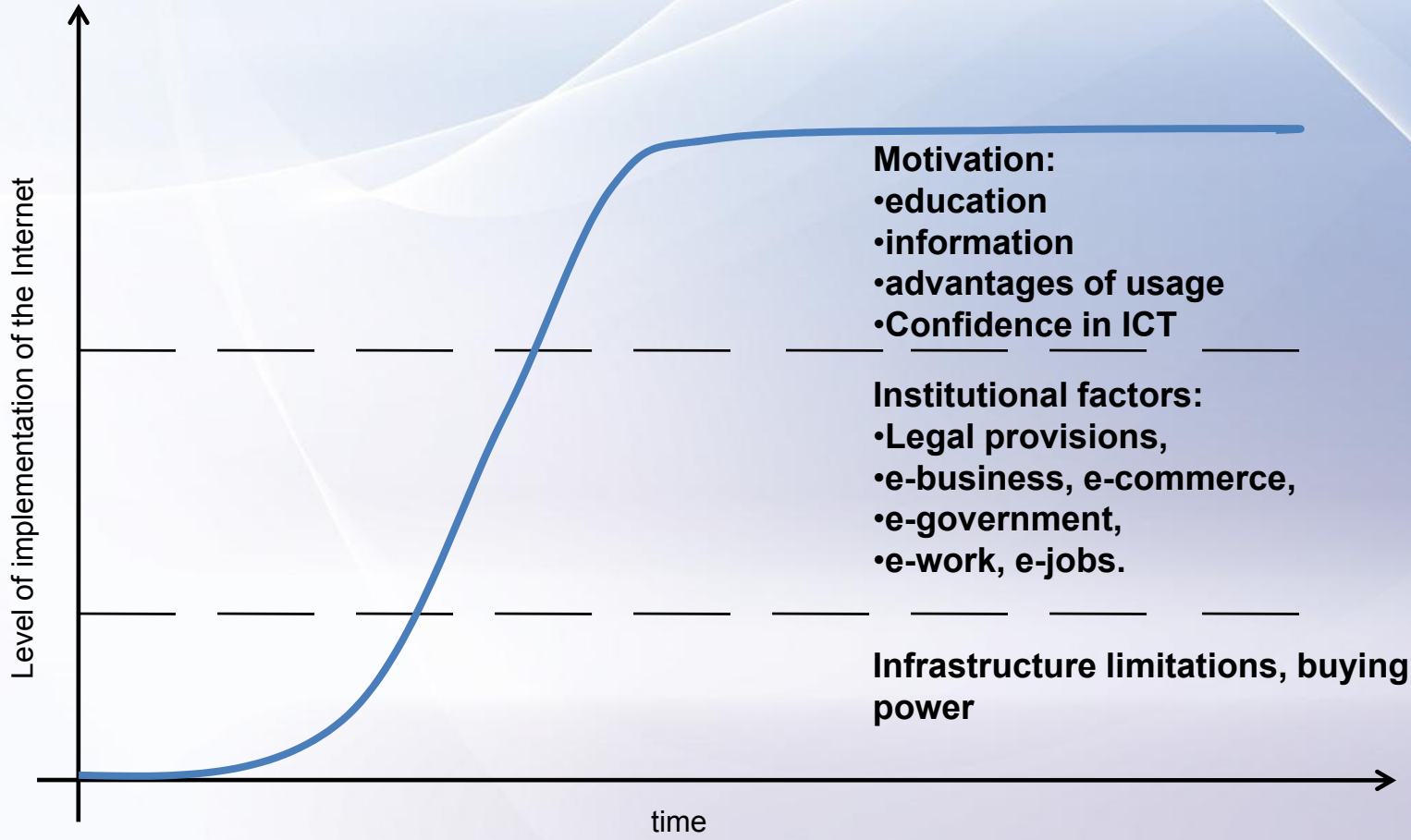
- Internet penetration in the Republic of Serbia: 13.4%
- 85% connections with dial-up access
- ISP share in total telecom market revenue: only 2%
- 34% of households own a computer.
- 90% of companies have an Internet connection.

Source: RATEL

Level of information and education:

- 57% of persons have NEVER used a computer.
- 70% of persons have NEVER used the Internet.
- 70% of persons are using the Internet solely for e-mailing.
- 43% of persons are NOT INTERESTED in using e-government services instead of going to public institutions.
- 90% of persons have never purchased goods or services through the Internet.

Data: Statistical Office of the Republic of Serbia.



Level of implementation of the Internet – Level of development of information society

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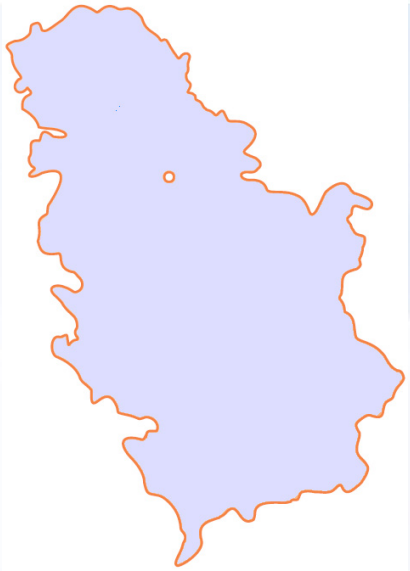

THANK YOU FOR YOUR ATTENTION

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