



National Regulatory Authority for Communications
and Information Technology

Broad Romania in the European Union

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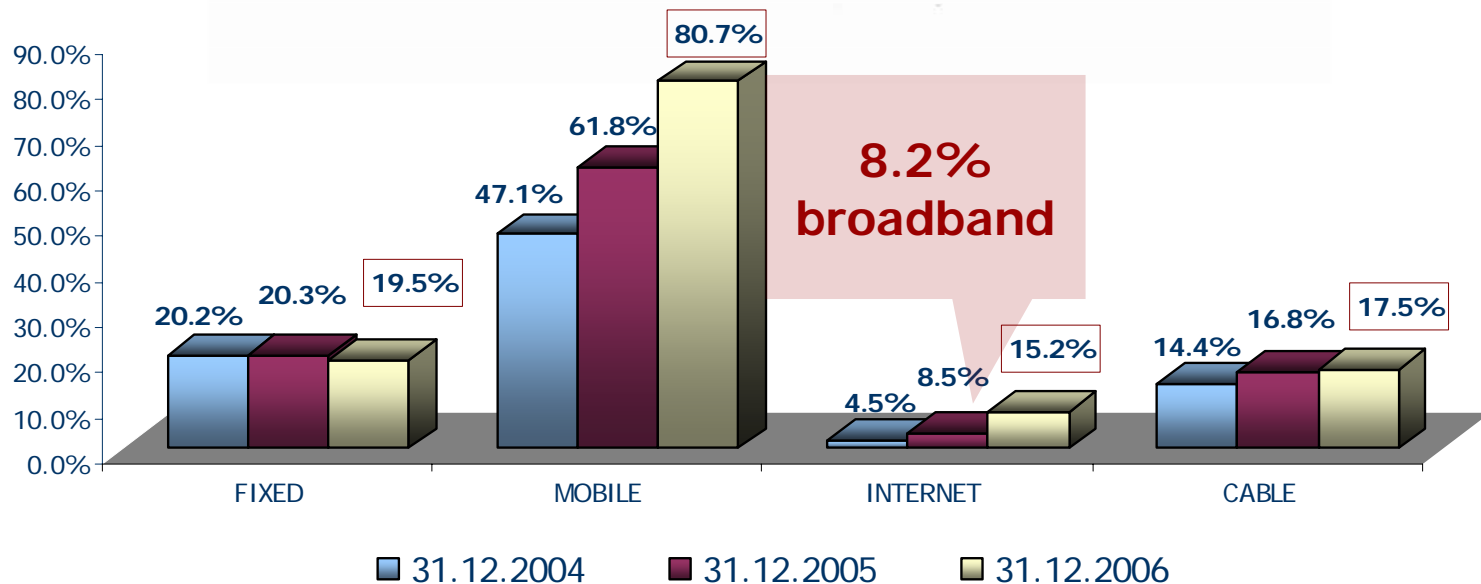
*Exploring the Global Dynamics of Broadband Internet
Athens, June 2nd, 2007*

The Romanian Electronic Communications Market in 2006

Penetration rates/100 inhabitants for the main electronic communications services and infrastructures

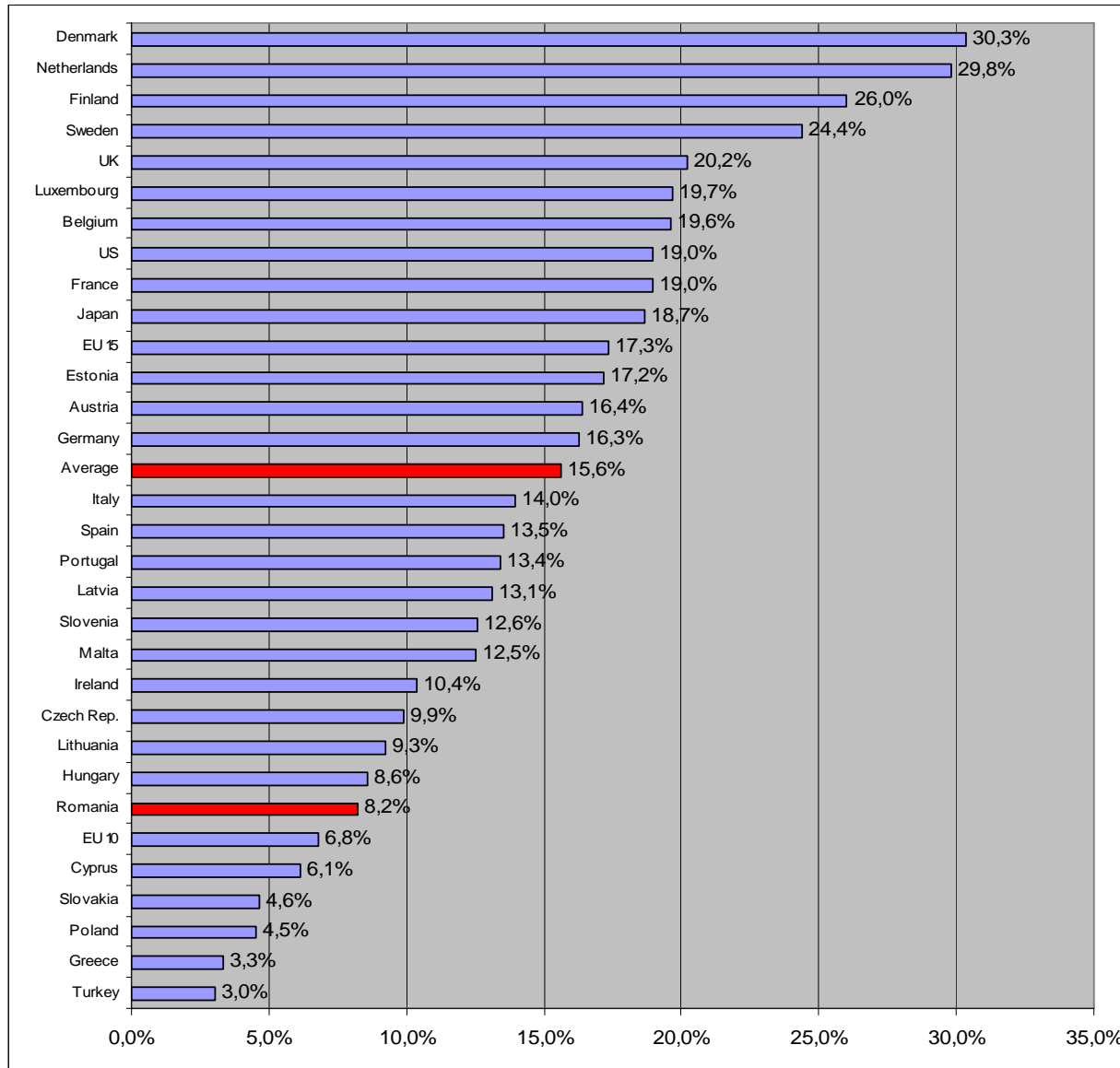
Estimated value of the market:
3.5 billion EUR

(2 bln 2003, 2.4 bln 2004, 3 bln 2005)



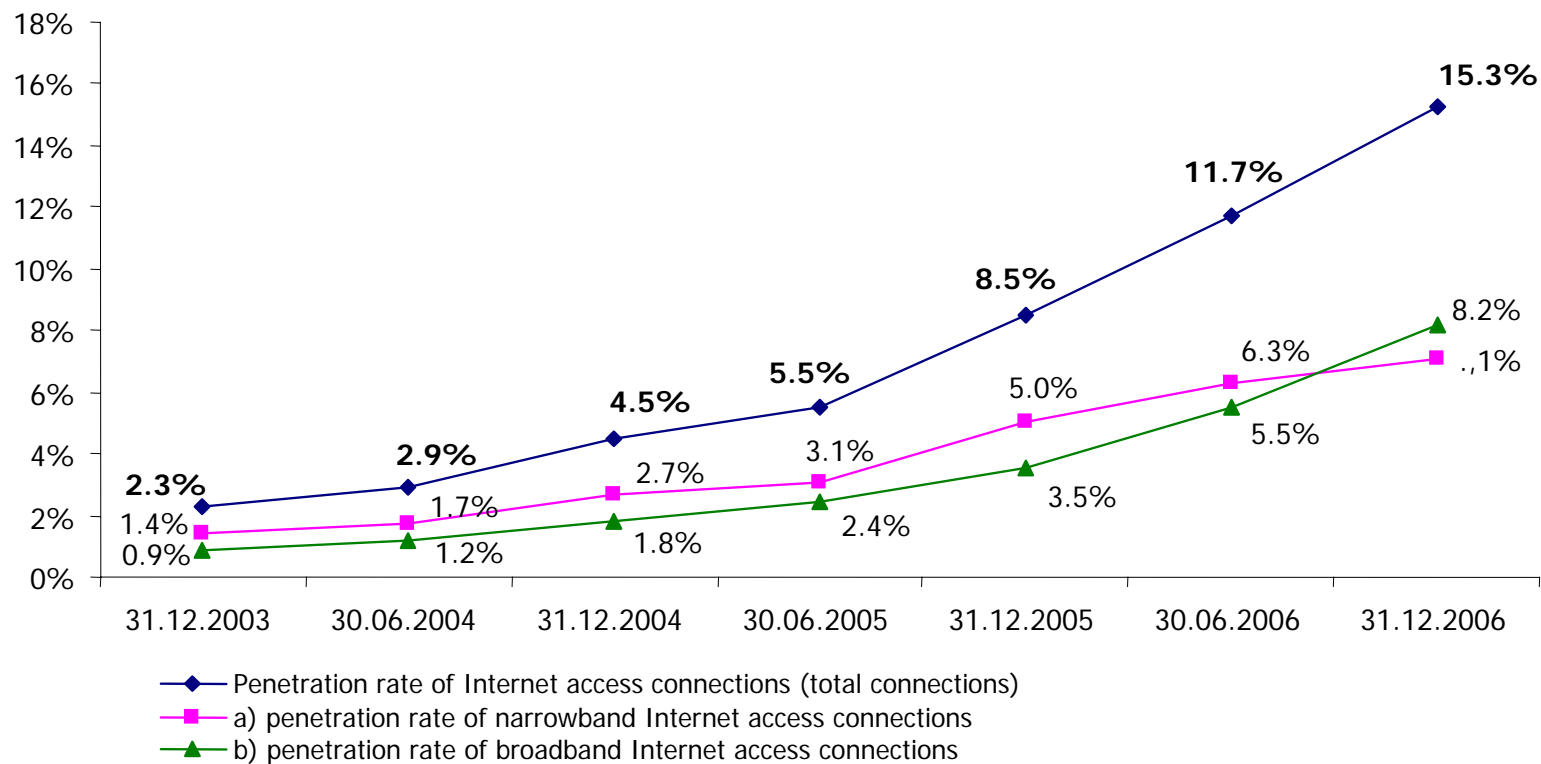
Broadband in Romania

Broadband Penetration in the European Countries – September 06



Source: www.ecta.com

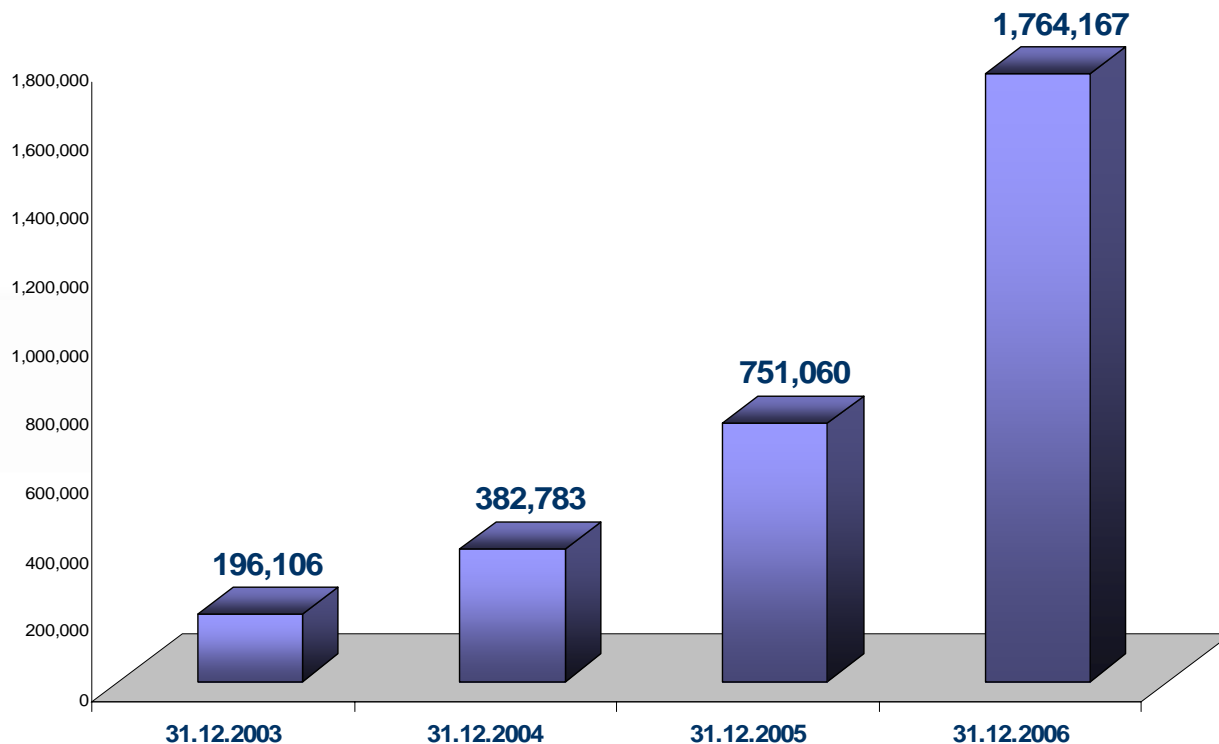
Internet Access Connections – Penetration Rate per 100 Inhabitants



Source: ANRCTI, according to the data reported by the providers of electronic communications networks and services; the penetration rate is calculated as a percentage of the total population

The Broadband Segment – Leader of the Market Growth

The penetration rate of broadband Internet access in ROMANIA has reached **8.2%**



Jan - Dec 2006: **136%** growth rate of broadband Internet connections

Source: ANRCTI, according to the data reported by the providers of electronic communications networks and services; the penetration rate is calculated as a percentage of the total population; broadband Internet access connections include the fixed and mobile access connections with a speed of at least 128 kbps

Broadband market at a glance

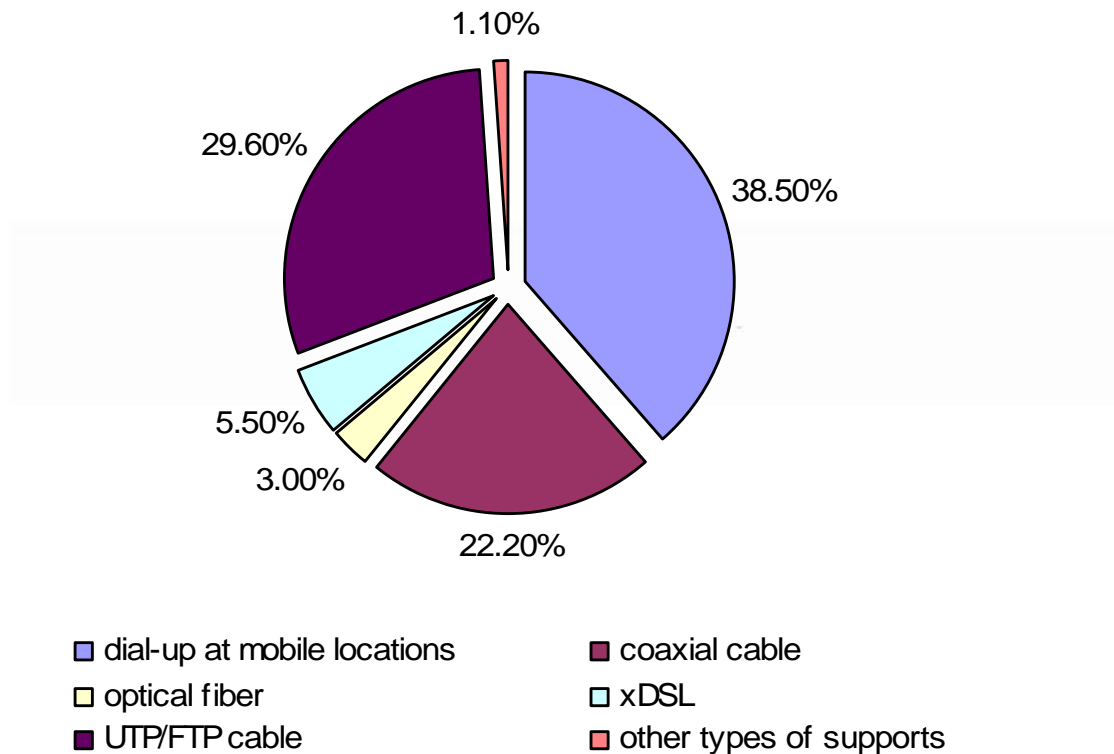
- **High market share of cable broadband and UTP/FTP (“neighbourhood networks”) compared to xDSL (relevant mostly for residential)**
 - The biggest constraint on Romanian customers is the lack of fixed broadband coverage
 - The main advantage of cable operators is stemming from their bundled offerings and price
 - Current differentiation between the offerings are mainly price and QoS

all tariffs are in Euro, VAT not included

	Romtelecom (DSL)	RCS&RDS (cable)	UPC (cable)	Neighborhood network
1 Mbps	14	6.62	13.49	~12

- **Mobile access (in particular CDMA/EVDO, less EDGE and 3G) market share is high and steadily increasing (relevant mostly for business)**
 - Extending the HSDPA/EVDO deployment will improve the competitive positioning of the mobile Broadband offering

Structure of the Total Number of Broadband Internet Access Connections - 31.12.2006



Source: ANRCTI, according to the data reported by the providers of electronic communications networks and services; the penetration rate is calculated as a percentage of the total population

The National Strategy for Broadband



Benefits of Broadband Electronic Communications' Development

- ✓ Education
- ✓ R&D
- ✓ Economy
- ✓ Public administration
- ✓ Private companies
- ✓ Communities
- ✓ Citizens



Objectives of the National Broadband Strategy

- ✓ Develop infrastructure in the disfavoured areas
- ✓ Extensive growth of services' availability and attractiveness
- ✓ Connect the public institutions
- ✓ Increase the use in the public space
- ✓ Connect and increase the use in case of SMEs
- ✓ Raise the availability of services
- ✓ Develop content and applications
- ✓ Educate consumers and include the groups of disfavoured users

SWOT Analysis of the Broadband Electronic Communications Market

STRONG POINTS

- accelerated dynamics of the number of broadband connections
- raising trend of competition in the main segments
- growing range of available technological solutions
- increased volume of investments

WEAK POINTS

- low Internet penetration and usage rates
- low coverage of the territory

- the period when narrowband connections are dominant may be significantly diminished
- consumers become open to innovative services; high digital school education
- increased availability of financing sources
- increased penetration encourages content development

- the high percentage of population located in rural areas limits the development of access
- existing digital gap – offers are mainly concentrated in urban areas
- significant difference still existing between Romania and the other EU member states

OPPORTUNITIES

THREATS

Next Generation Broadband

Regulatory objectives as per EU framework:

- Promote a diverse digital **content** market
- Promote increased use of broadband via **multi-platform** access
- Promote **NGN** networks
- Ensure a more efficient & flexible use of **spectrum**



- Next generation networks will deliver **significant public value**
 - But what is considered “in the public interest” has changed over the last decades
 - Liberalisation has had a major impact over ownership, structure & operation of infrastructures, telecoms included
 - Competing operators with competing infrastructures

NGA dilemmas

- the **NG Access** raises great critical uncertainties:
 - "*wireless...may not provide an adequate competitive alternative to wireline deployments of NGA networks **yet***" (ERG consultation document on RP of NGA)
 - Stakeholders are concerned about the **costs** of reconfiguring access networks for NGA purposes, and on the disruptions associated with **huge upfront investments**
 - Assumptions regarding the roll-out of NGA infrastructures:
 - Will the **private equity** will do the job / should the **public sector** take the lead ?
 - Relating to different perspectives on a number of issues:
 - Are the investment incentives for the private equity high enough to make them invest in the roll-out of NGA ?
 - Should governments help bridging the digital divide (e.g. fund localised provision of broadband), thus funding market failures ?
- Next generation is no longer hypothetical – when there is a business case (be it based on commercial opportunity or threat, or on regulatory or policy incentives), operators deploy NGN

“Last mile” to become the “first mile”

- Increased investments closer to the customer:
 - Incumbent’s aggressive plans for deployment of fibre (as part of its NGN plans) explained by the need to have one platform to serve future bundles services;
 - More services added to the bundle (RCS & RDS to offer 4-play), the incumbent expected to switch from satellite TV to IPTV
 - First mover advantage – gateway locks the customer in
- Wireless remains an option for an effective NGA deployment in Romania:
 - where fixed lines are non-existent, sparse or long reach, wireline NGA is prohibitively expensive and investment incentives are low
 - Wi-Fi and WiMax seem to be regarded as important elements of 4G and for the provision of higher bandwidths for mobile internet

The Strategy for Broadband Wireless Access



WiMAX Broadband Wireless Access

- ✓ The WiMAX type BWA represents a technology that allows rapid connection to the Internet on radio support, on wide areas – up to 50 de km
- ✓ Three initial spectrum bands have been selected for the authorised WiMAX type BWA equipments – 2.5 GHz, 3.5 GHz and 3.7 GHz, as well as spectrum in the 5 GHz band, which is exempted from licensing.

Objectives for the Implementation of BWA Systems

- ✓ Promote competition in the field of electronic communications
- ✓ Ensure access to the broadband electronic communications infrastructure to a number of users as large as possible
- ✓ Ensure convergence with respect to electronic communications technologies, networks and equipments
- ✓ Reduce the digital gap between the rural and the urban areas

Action Plan

- ✓ Review the BWA strategy paper as a result of the comments addressed during the public consultation;
- ✓ After the approval at governmental level, ANRCTI will launch a tender for 2 WiMAX licenses in the 3.7 GHz band, not later than September 2007;
- ✓ Consult the operators related to the release of the 3.5 GHz band;
- ✓ As regards the 3.5 GHz band, 4 regional licenses will be submitted to tender – the granting duration will not exceed the 30th of September, 2013.

Long Term Directions of the Strategy

- ✓ Until the 30th of September, 2013 – consultations with respect to licenses and the licensing procedure for the 3.5 GHz band;
- ✓ After 2013, there will only be 3 or 4 national licenses in the 3.5 GHz band;
- ✓ After 2013, no license holder may hold a cumulated radio spectrum exceeding 2x28 MHz in the 3.5 GHz and 3.7 GHz bands;
- ✓ After 2013, no holder of licenses in these bands may simultaneously hold local and national licenses, cummulatively in the 3.5 GHz and 3.7 GHz bands.

Thank you for your time and attention!

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