

VoIP in South and Eastern Europe: *Strategy and Policy Considerations*

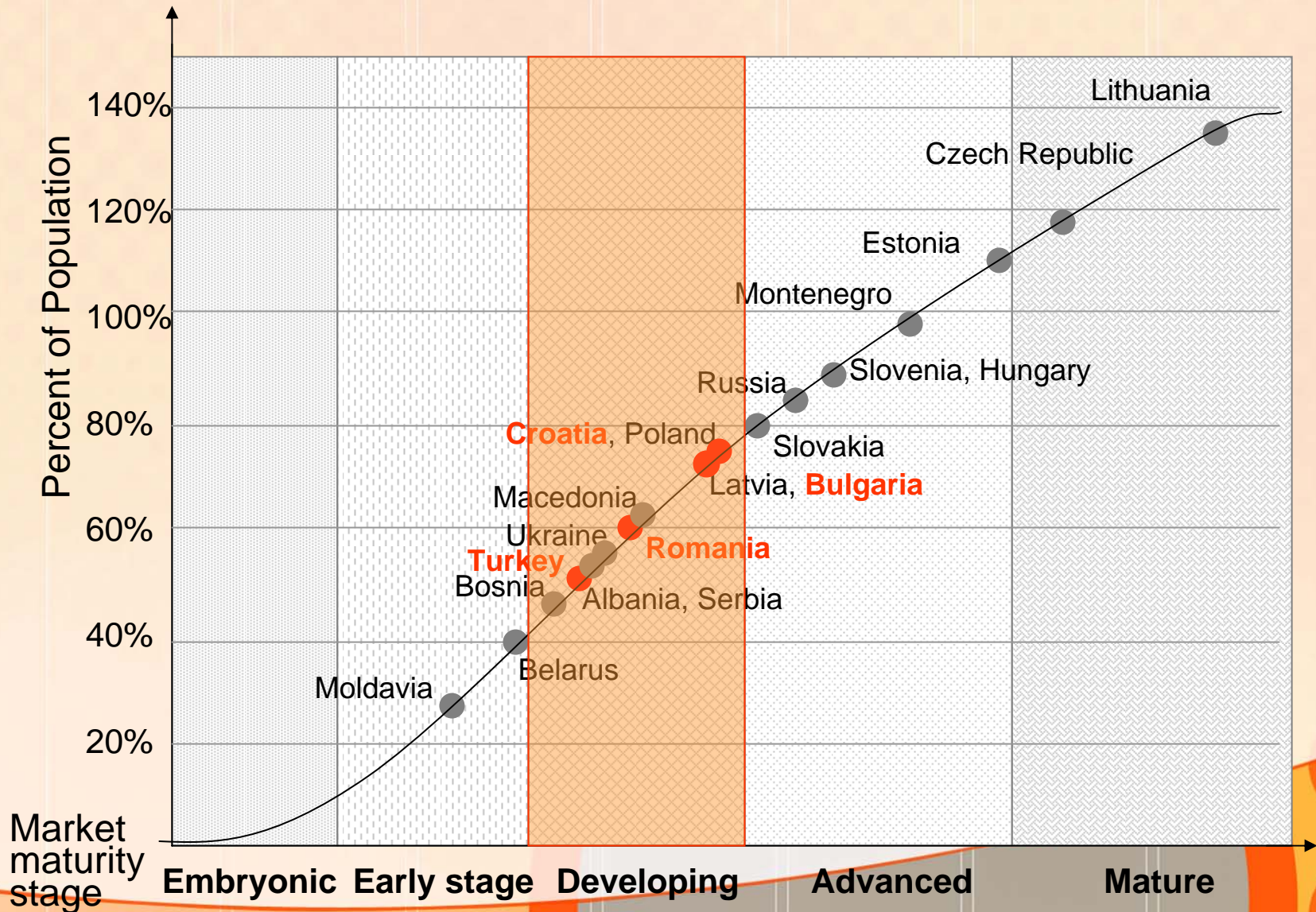
Anna Riedel

The views expressed in this presentation are those of the author and do not necessarily reflect the opinions of the ITU. Anna Riedel can be contacted at Anna.Riedel@itu.int or AnnaRiedel@hotmail.com.

Market Overview SEE

- Between 2003-2005 telco markets grew by ~ 11% (EU 15 3.4%)
- Strongest growth seen in Bulgaria (16.4% p.a.) and Romania (15.9% p.a.)
- Nevertheless total market value remains behind that in Western Europe

Mobile Markets in Eastern Europe



Source: A. D. Little

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Romania in 2005

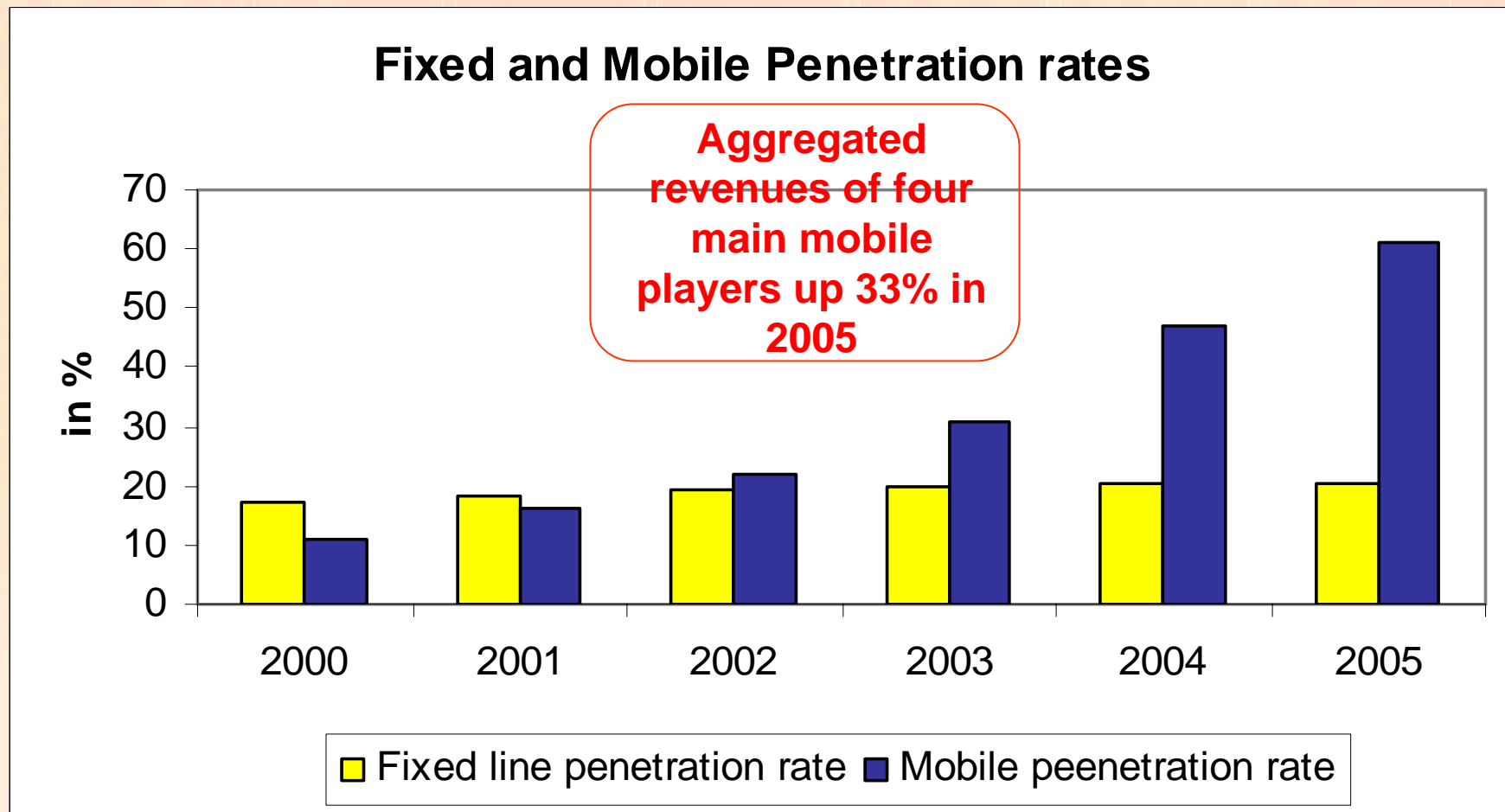


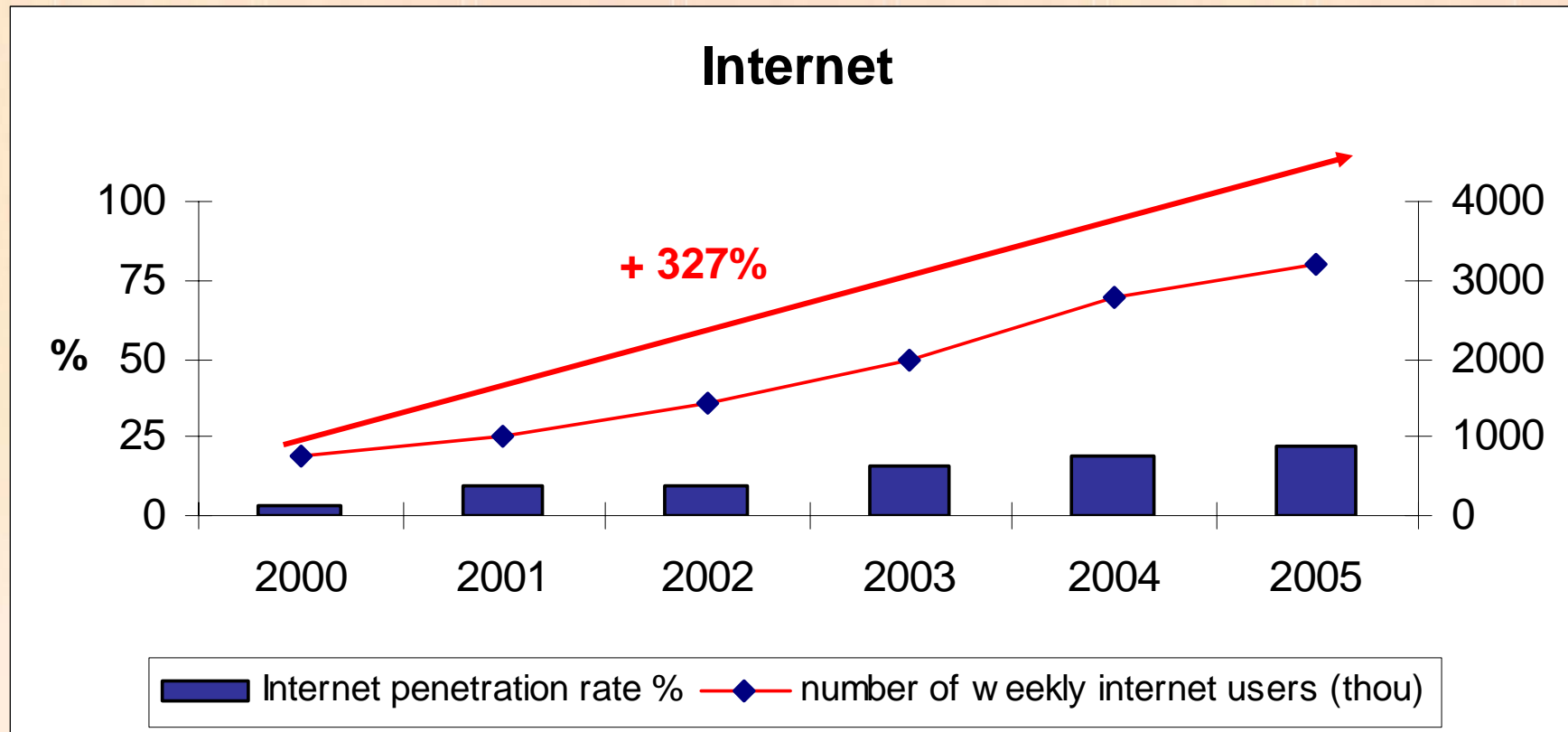
Population:
22,329,977

Telecom service market:
€2.71 bn
(23.3% yoy growth)

GDP:
Total: €77.6 bn
€3,589 per capita
(4.1 % yoy growth)

Market data (mobile & fixed)

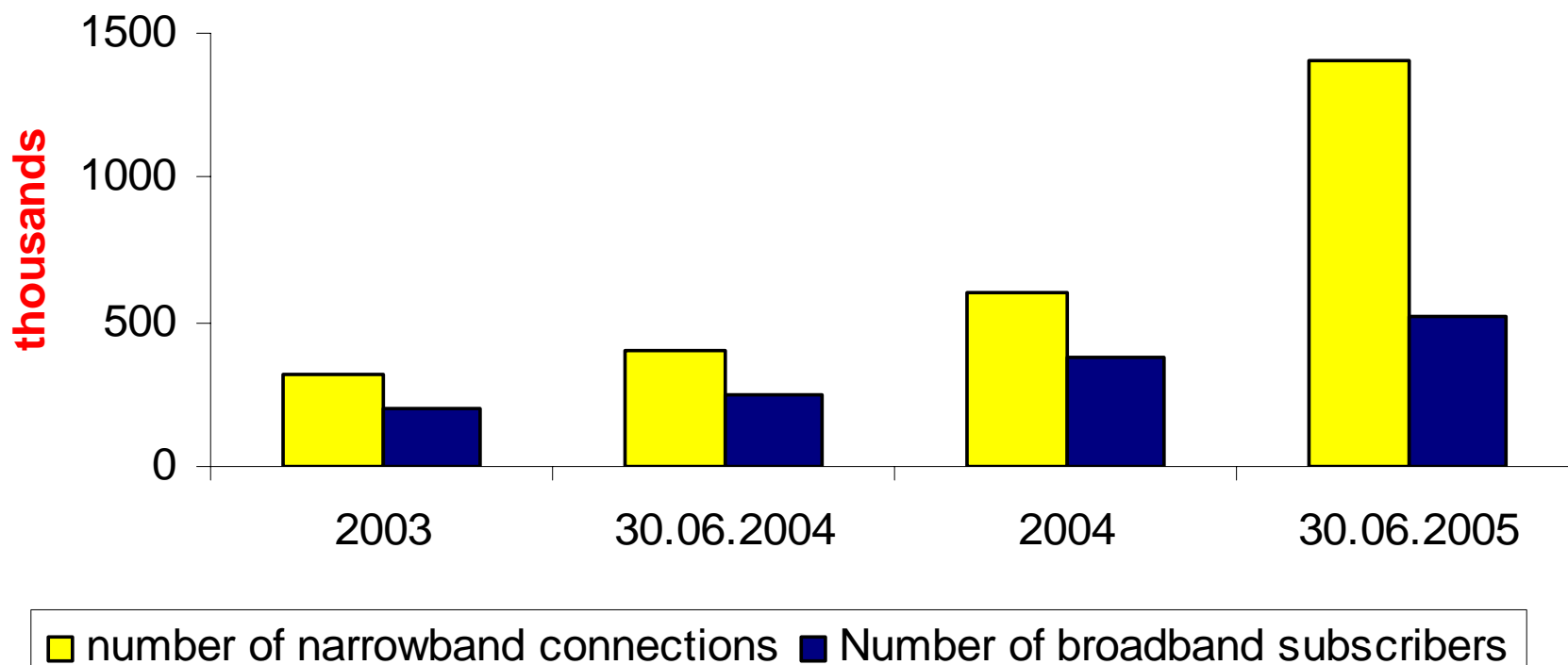




Source: <http://rbd.doingbusiness.ro/>



Narrow- vs. Broadband



Regulatory Overview

- 1st of January 2003 fixed-line telephony market was liberalized and opened to private competition (all platforms)
- Has implemented the authorization directive given by the EU 2003 package
- no legal entry barriers (no charge for entry license, numbering, etc.)
- 3 GSM providers and one CDMA 2000 operator (450 MHz); two 3G licenses and two more to come
- National Regulatory Authority for Communications (ANRC) has authorized more than 2,600 companies to offer electronic communications services in 2005



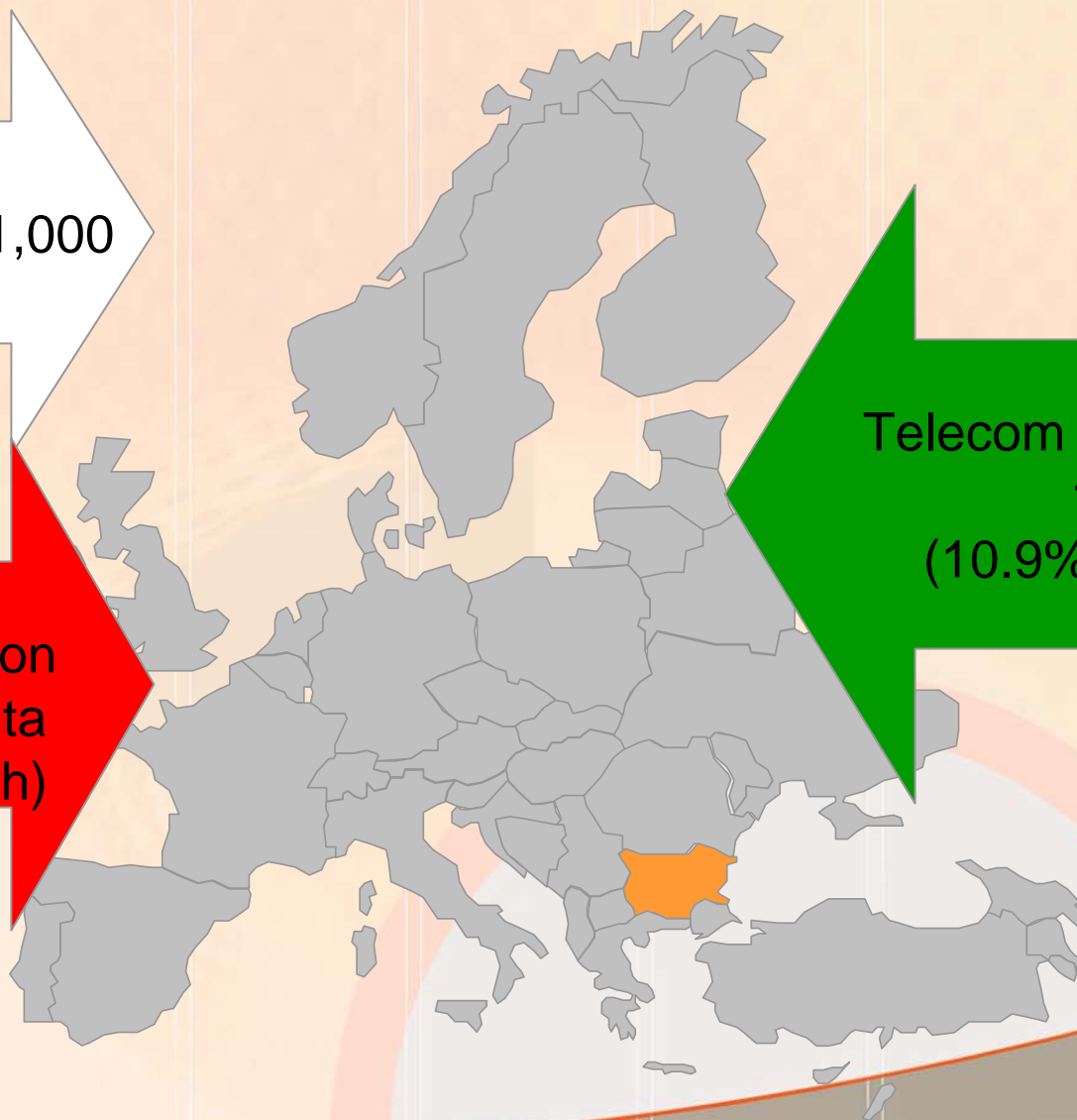
<i>Official position on VoIP</i>	<i>Date of liberalization</i>	<i>Licensing requirements</i>
<ul style="list-style-type: none"> • the principle of technological neutrality • considered telephony services if they fall within the scope of the definition of the publicly available telephony services • ANRC is currently reviewing its position on other types of VoIP services 	<ul style="list-style-type: none"> • Jan. 1, 2003 • Article 2, par (1) (c) of Law No. 304/2003 on the universal service and users' rights relating to electronic communications networks and services 	<ul style="list-style-type: none"> • General authorization with notification • Max. 0.5% of annual revenue

Recent Developments

1. Atlas Telecom will deliver residential VoIP over a fixed-wireless network using DECT* cordless technology
 - Is uses the SIP-based BroadWorks VoIP application platform in tandem with DECT wireless nodes and cordless phones
 - The bases will be posted on lamp posts with 200m signal each (4thou per city)
2. Combridge SRL launched a new telecom brand: Eufonika
 - It uses the RomTelecom network and customers have to access a free number in order to get connected to the VoIP offer
3. Orange launches first 3G offer in Bucharest

* Digital Enhanced Cordless Telecommunications

Bulgaria in 2005

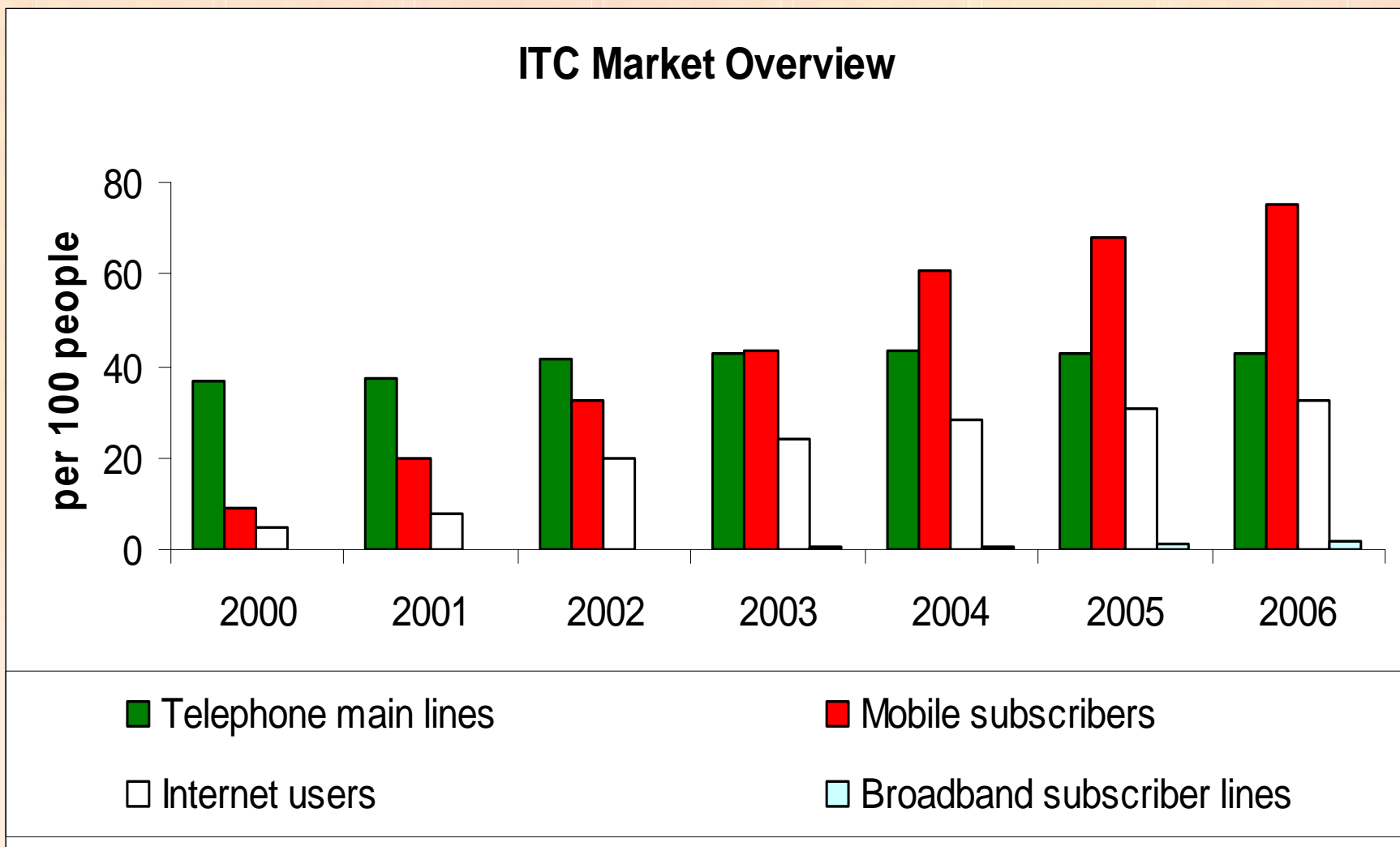


Population: 7,761,000

GDP:

Total: € 21.4 billion
€ 2,779 per capita
(5.2% yoy growth)

Telecom service market:
1.2 bn
(10.9% yoy growth)



Regulatory Overview

- Has completely privatized the incumbent operator (except golden share) by June 2004
- BTC still holds 97% market share
- Individual licenses for fixed telephony needed (network or carrier)
- Communications Regulations Commission (CRC) has licensed 3 2G and one analogue (RTC) and 658 local cable operator

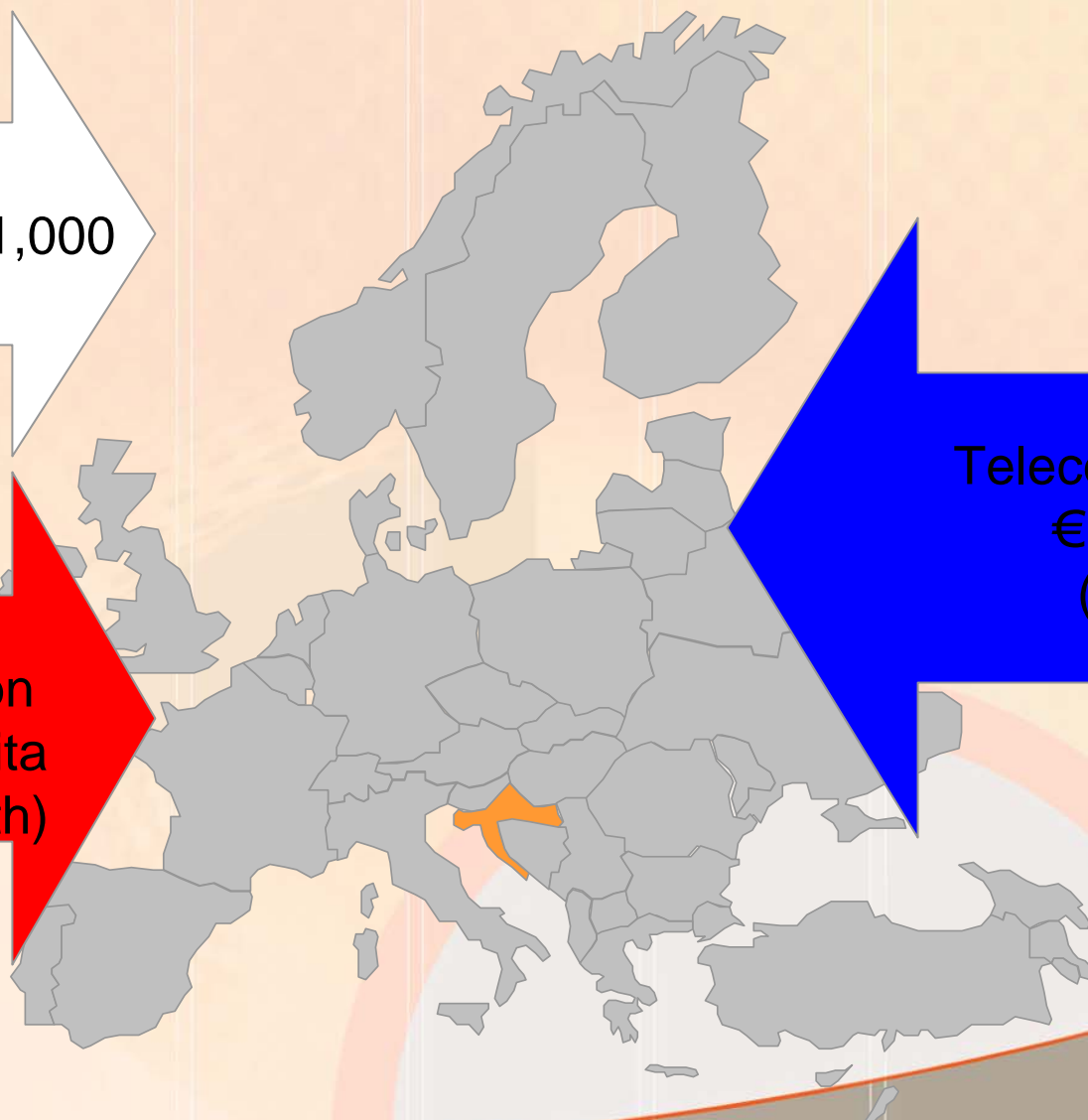


<i>Official position on VoIP</i>	<i>Date of liberalization</i>	<i>Licensing requirements</i>
<ul style="list-style-type: none"> • No official position, if VoIP services do not meet the QoS parameters for fixed voice telephony service • they are not allowed to apply for a voice license with rights to interconnect under reference connection offer (RIO) 	<ul style="list-style-type: none"> • not regulated • (Art. 3, all. 2 of Regulation No. 12 of May 5, 2004 for fixed voice telephony) 	<ul style="list-style-type: none"> • No licensing/ authorization regime for VoIP as long as minimum QoS requirements for voice telephony are not met • otherwise a fixed voice telephony license is required

Recent Developments

1. *Bulgarian triple play provider CableTel agreed to buy majority stake in Evrotur Sat TV (local key competitor)*
2. *Internet telephony provider Ekstel received license to provide street phone services*
3. *VoIP connecting Bulgarian Sea central administration of Port Infrastructure State Enterprise through a VoIP information technology system*

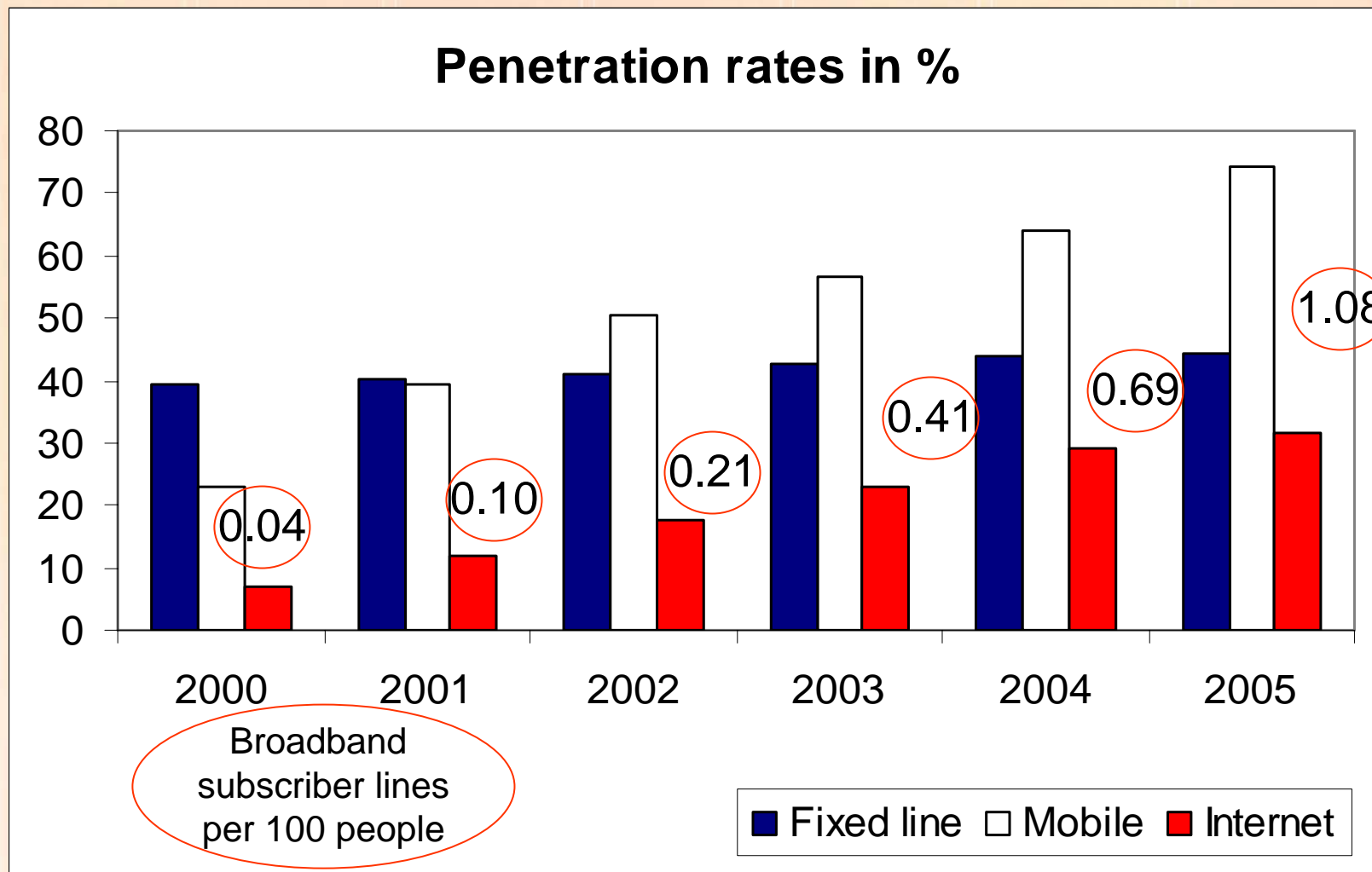
Croatia in 2005



Population: 4,551,000

GDP:
Total: €28.07 bn
€6,079 per capita
(4.3% yoy growth)

Telecom service
€1.5 bn
(2004)



- Liberalized from Jan 2003
- Incumbent is held by Deutsche Telekom (51%)
- Various cable operators licensed and 3 2G operators (active)

<i>Official position on VoIP</i>	<i>Date of liberalization</i>	<i>Licensing requirements</i>
<ul style="list-style-type: none"> The right to provide VoIP telecommunications services is acquired by a legal or natural person by submitting a written notification to the Agency 	<ul style="list-style-type: none"> June 30, 1999 	<ul style="list-style-type: none"> General authorization with notification € 670 one-off fee plus 0.1% of annual revenue

1. Slovenia's national telco Telekom Slovenije wants to acquire one of the largest Internet service providers Vodatel while T-Hrvatski Telekom (incumbent) is in talks on acquiring Iskon Internet
2. Italy-based systems integrator Essentia will distribute broadband solutions (G6), including VoIP in Croatia
3. WiMAX Telecom Group's bid for Zagreb region got accepted (will start wireless broadband incl. VoIP this year)

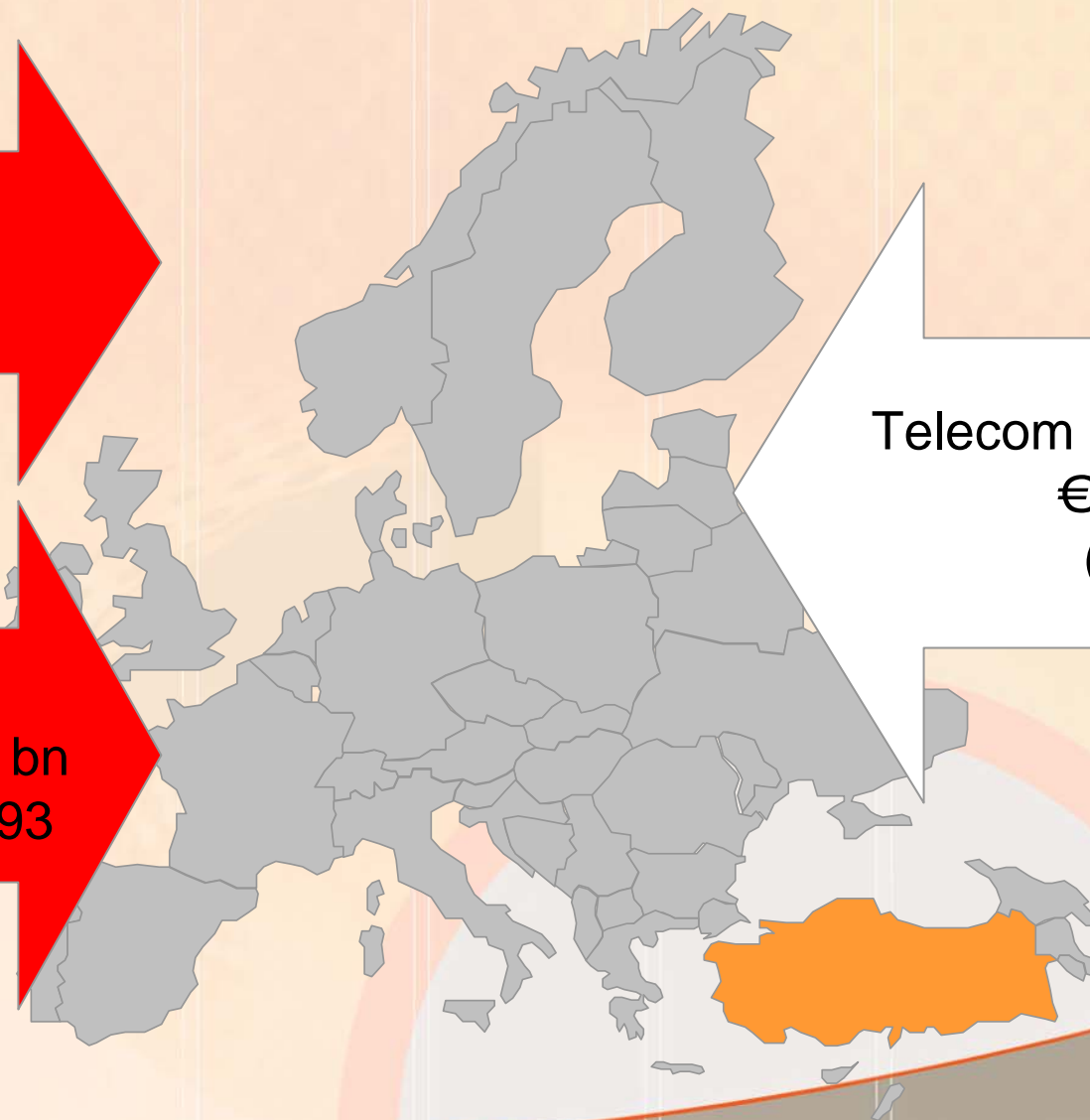
Turkey

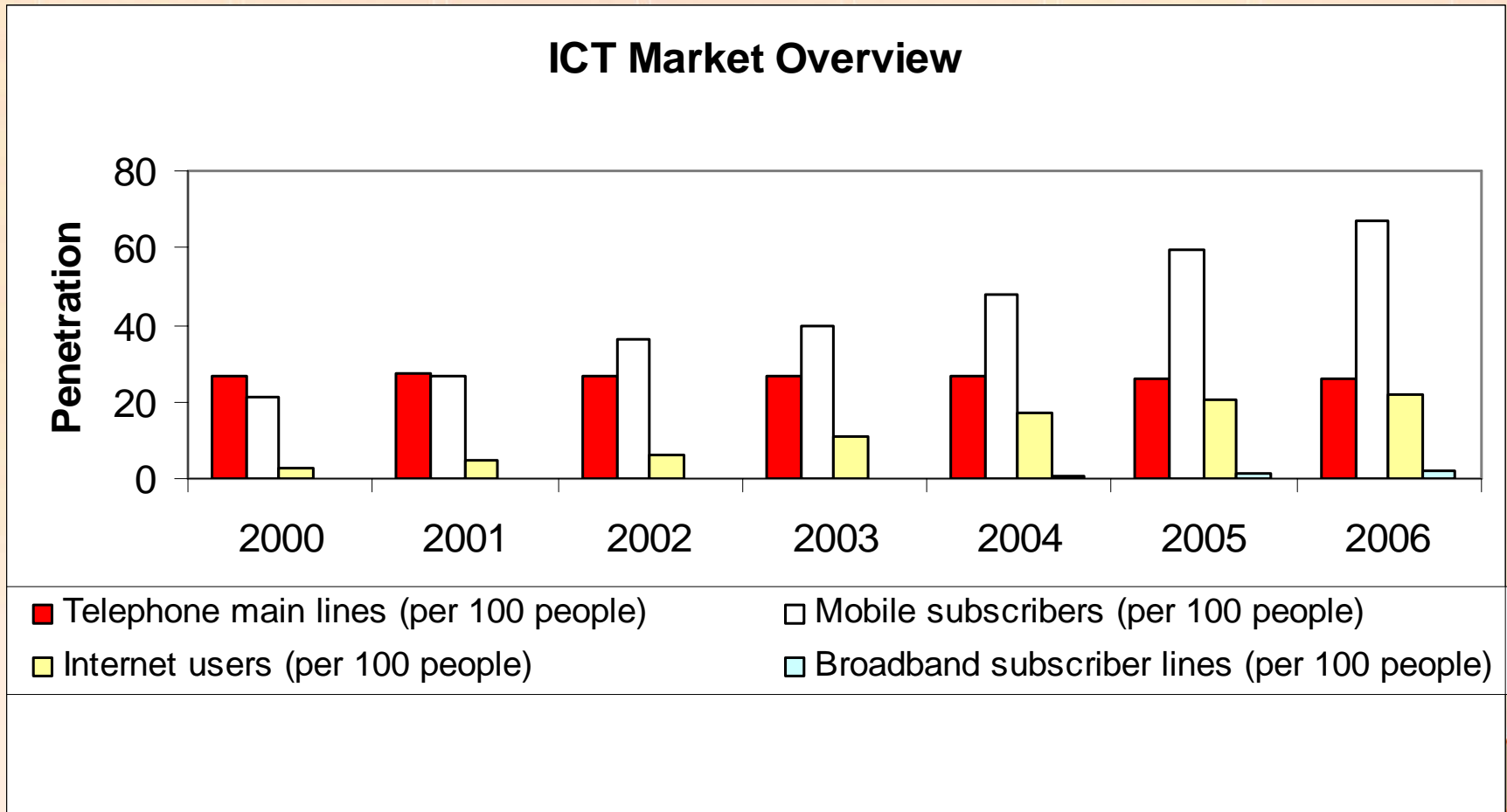


Population:
70,413,958

Telecom service market:
€ 8.4 bn
(2004)

GDP (2004):
Total: € 242.598 bn
per capita € 3,393





Source: ITU/ 2005 EIU est./ 2006 forecast

- the Ministry of Transportation is responsible for operational activities of Turk Telekom (45% state owned)
- Independent NRA: Telecommunications Authority
- Fixed wholly liberalized in July 2005
- Neither call termination nor call origination model is used for interconnection agreement between ISP and incumbent

<i>Official position on VoIP</i>	<i>Date of liberalization</i>	<i>Licensing requirements</i>
<ul style="list-style-type: none"> • No specific position on VoIP • VoIP requires a long distance telephony service license 	<ul style="list-style-type: none"> • Jan. 1, 2004 	<ul style="list-style-type: none"> • Individual license • fee: same as long distance tel. plus 0.5% of net annual sales

1. French B3G Telecom offers white label Broadband Telephony Services in Turkey
2. Damaka announced operator launch with Mortel Telecom
3. Teletek Telekom, Turkey's leading IP carrier, integrates next gen SIP service architecture

Obligations



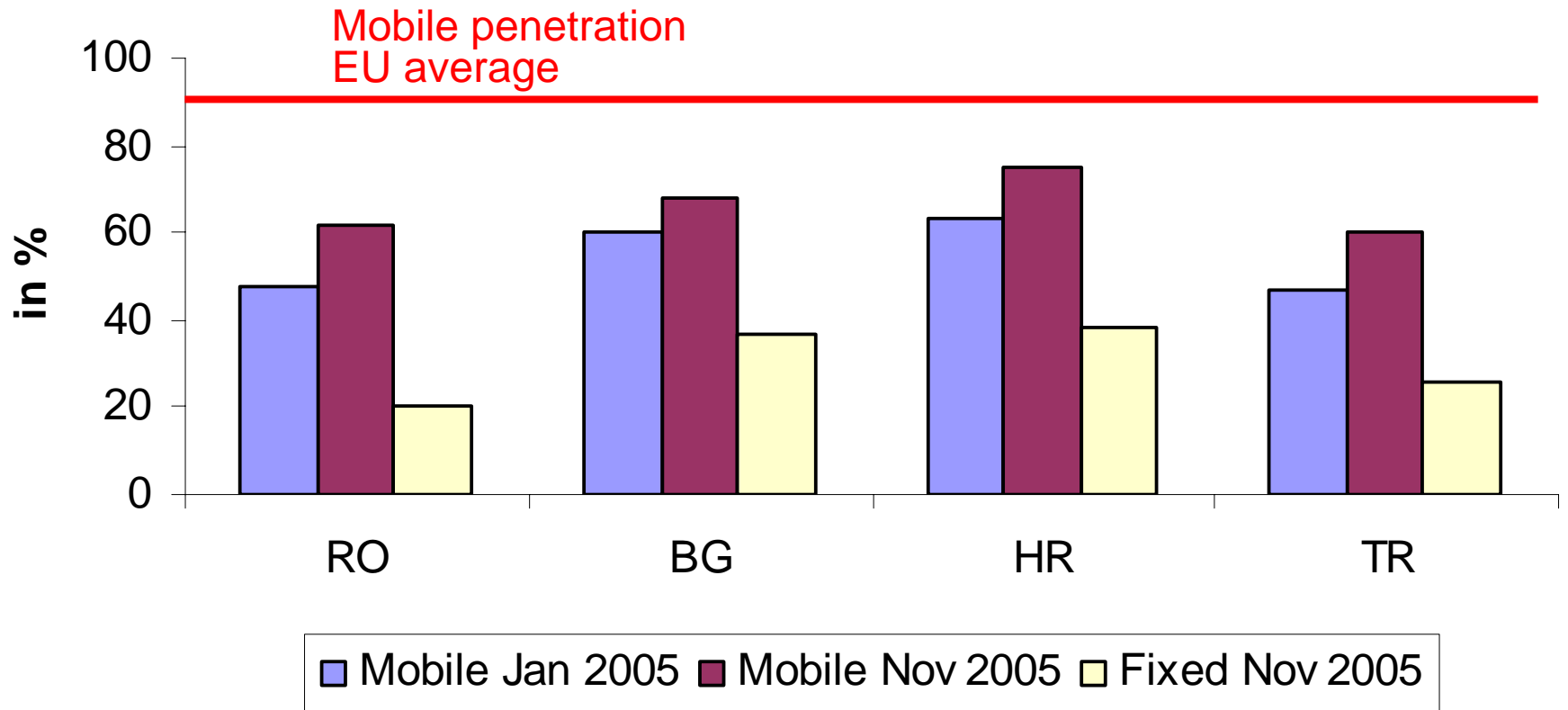
Univ. Services	USO cost compens.	USO elig. for mob. operators	QoS measure
Yes	Yes	Yes	Yes**
Yes	Yes	No	Yes
Yes	Yes*	Yes	Yes**
Yes (No: NA, DIS)	Yes*	No	Yes**

NA: Network Access DIS: Directory Inquiry Service

* Not in practice ** not yet published

Considerations

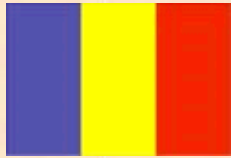
Mobile vs. Fixed



Considerations

What is the future of voice in SEE?

- Difficult to foresee
- Depends also on EU accessions
- Very tight regulation with VoIP seen as substitution for fixed => many obligations, higher market barriers to entry, less competition
- Or: laissez-faire => QoS, interconnection, USOs, numbering?
- Esp. in SEE: low broadband penetration => mobile VoIP (3G or WiMAX)
- NRAs have to focus on universal access



Considerations



1. Universal access approach
2. Regulatory holidays in order to give incumbent the chance to deploy the infrastructure, therefore broadband and possibility for VoIP

Thank you very much for your attention.

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