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# CIS Wireless Markets: Main Trends and Outlook

Michael Alexeyev  
Managing Partner  
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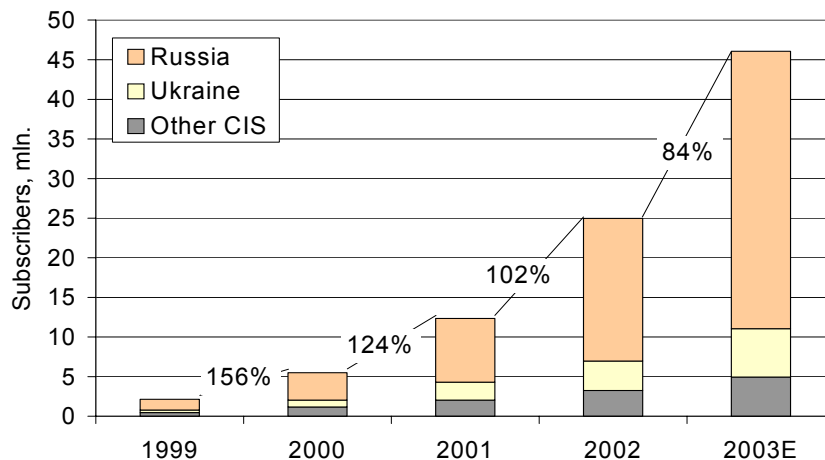
*Advanced Communications & Media*

- **Russian and CIS markets at a glance**
  - *Historic trends*
  - *Largest geographical markets and operators*
  
- Mobile service boom
  - *Key drivers behind growth*
  - *Subscriber projections*
  - *Specific enablers*
  
- Consolidation within mobile segment
  - *Geographic markets and consolidation centers*
  - *What's around the corner?*
  
- New Services – wishful thinking or real revenue contributor?
  - *Customer preferences and uptake of non-voice services*
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# Wireless Market at a Glance

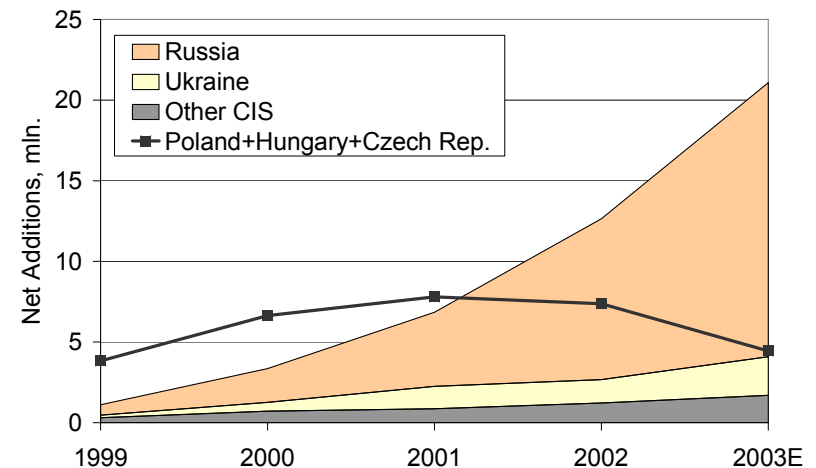
Most of the EMEA markets have already passed over the peak in new additions and entered the preliminary saturation phase. It is not the case in Russia and CIS where cellular boom is in full swing and likely to continue for at least two-three years.

## Subscribers



Source: AC&M research

## Net Additions



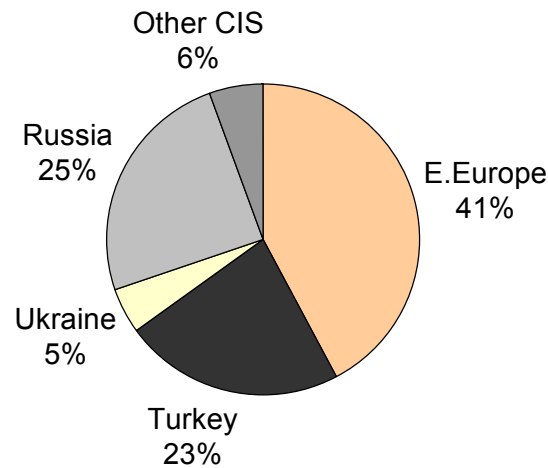
Source: AC&M research

**There were 33.6 mln. mobile service subscribers in Russia and CIS as of 30 June 2003, 8.6 mln. net additions from December 2002. It is expected that subscriber base should further expand to reach 45-47 mln. by the end of 2003 - 84% y-o-y growth.**

# Wireless Market at a Glance

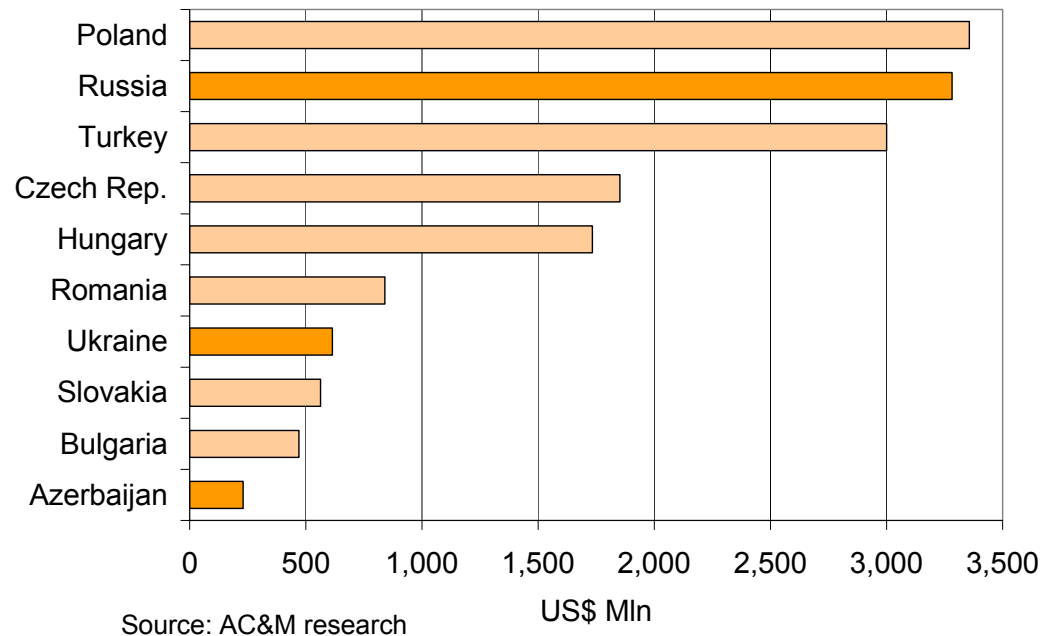
The contribution of Russia and CIS to the aggregate revenue of mobile service operators in Eastern Europe increased dramatically.

### Cellular Revenues in Eastern Europe and CIS (2002)



TOTAL: US\$ 13.2 bn

Source: AC&M research



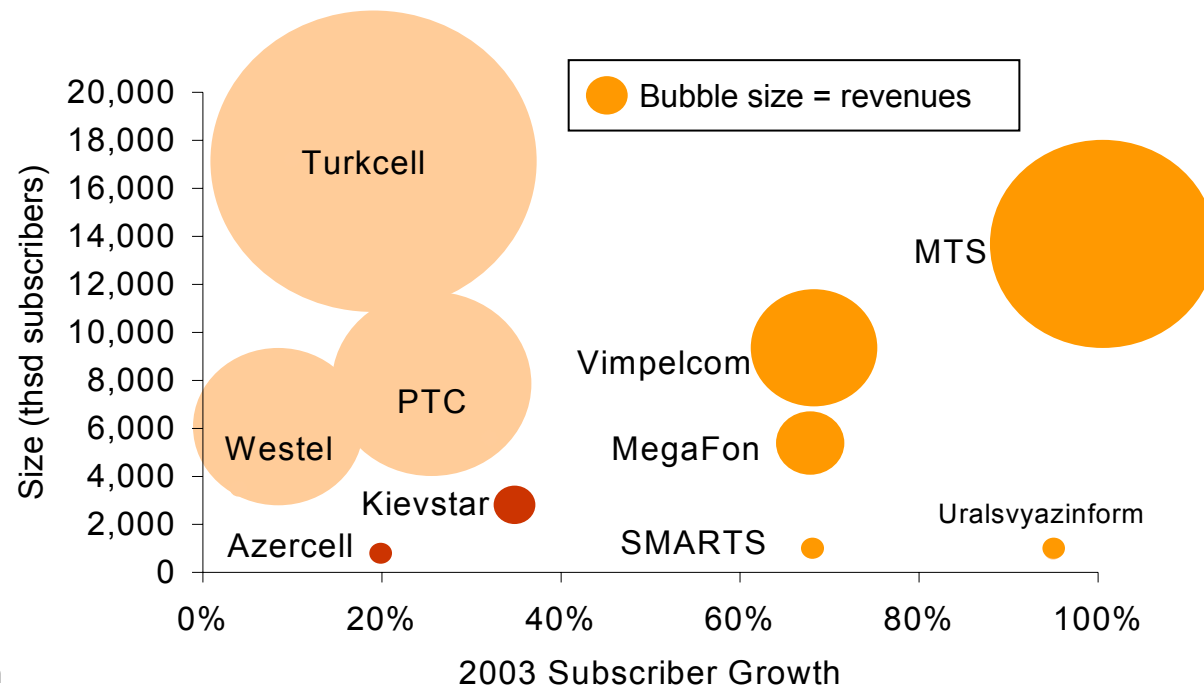
Source: AC&M research

US\$ Min

If the current trend holds, Russia and Ukraine put together already in 2004 should generate more mobile service revenue than Poland, Czech Republic and Hungary.

# Wireless Market at a Glance

MTS and Vimpelcom leave fellow European operators behind both in terms of size and growth potential.



Source: AC&M research

While operators in Russia and Ukraine made their service a commodity product with fairly low ARPU (compound ARPU as of 1H, 2003 was USD 17 and USD 15 in Russia and Ukraine respectively) high churn rates (11% for MTS and 10.5% for Vimpelcom in Q2, 2003), many operators in CIS countries have yet to explore “low budget” customer segments.

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# Wireless Market: Subscriber Growth

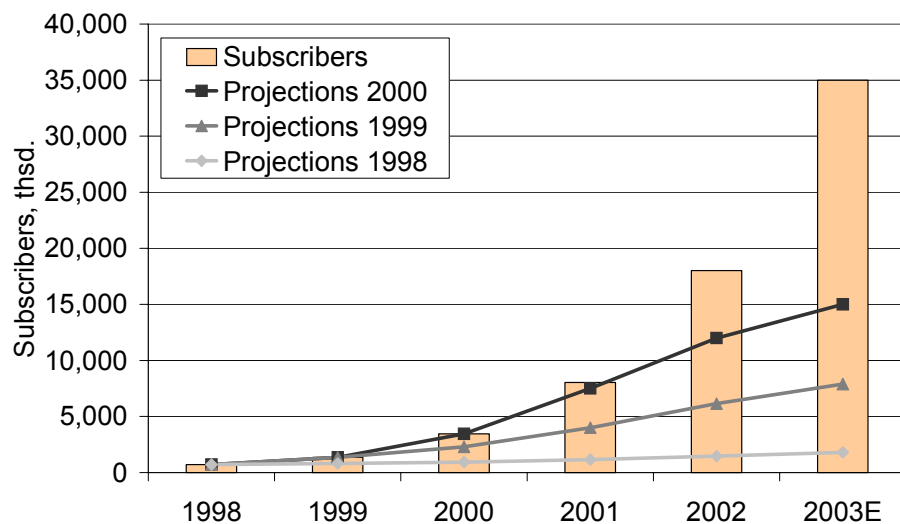
Russia and CIS represent the opportunity to capitalize on mobile service proliferation. However, there are several important questions that need to be answered:

- How long will this cellular boom last?
- What is the realistic ceiling for mobile service penetration in Russia and CIS?
- Is GSM business in the regions sustainable at ARPU below USD 5-7? What are financial implications for existing operators and potential strategic investors?
- What is the floor for ARPU? Is it going to recover after it “touches” the floor?
- What is the next paradigm for mobile service in Russia and CIS? Is 3G going to work on the comparatively less developed markets?

# Wireless Market: Subscriber Growth

Long term projections built based on existing trends rarely come true. Regardless of how preposterous some projections might sound, cellular operators have been unfailingly outperforming even the most optimistic forecasts.

## Consensus Projections Vs. Reality (Russia)



Source: AC&M research

- In 1998-99 it was considered that subscriber growth in Russia would slow down after reaching 15-16 mln.
- In 2001-02 subscriber ceiling was “set” to 30-35 mln. for 2004-05 – almost reached already in 2003.
- Nobody could imagine Moscow growing beyond 10 mln. subs– it’s 10 mln now and growth continues (370+k net adds in August)
- In many regions the penetration is trespassing 15% already in 2003 with no signs of slow down – something unheard of before.

**Most analysts tend to underestimate the three key drivers behind cellular growth: the decrease in ARPU (affordability of mobile service), increasing purchasing power of population in EMEA markets (and particularly Russia and CIS), expansion of the target customer group (which now includes many pensioners over 60-65 as well as children under 18).**

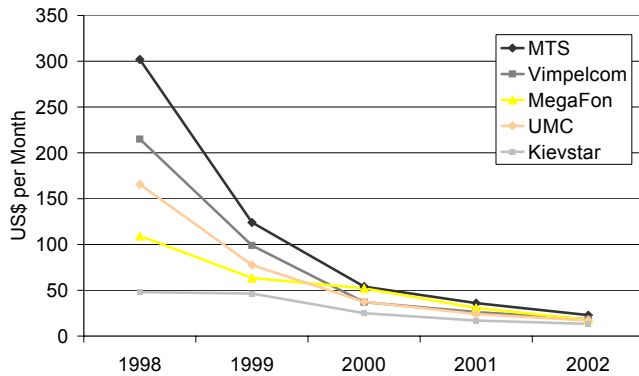


# Wireless Market: Key Drivers

What was seemingly inconceivable in 2000 turn out to be quite achievable in 2003.

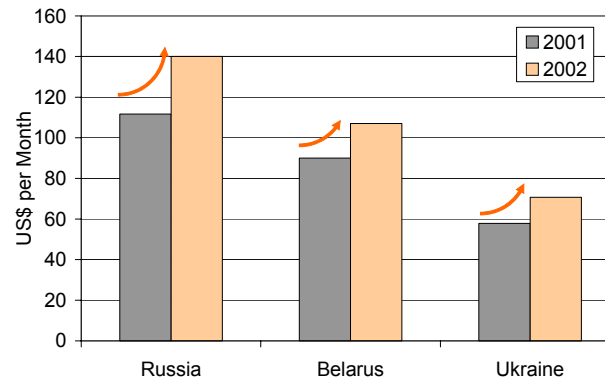
Three most important drivers behind cellular boom: pricing, purchasing power, proliferation of mobile communications technology among teenagers and children.

### ARPU



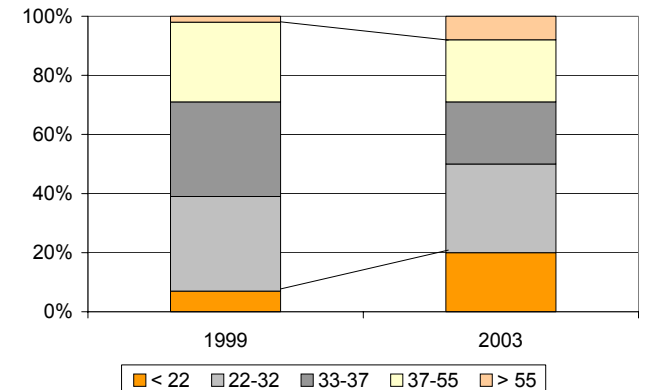
Source: Company data

### Average Wage



Source: Goskomstat

### Segmentation by Age (Russia)



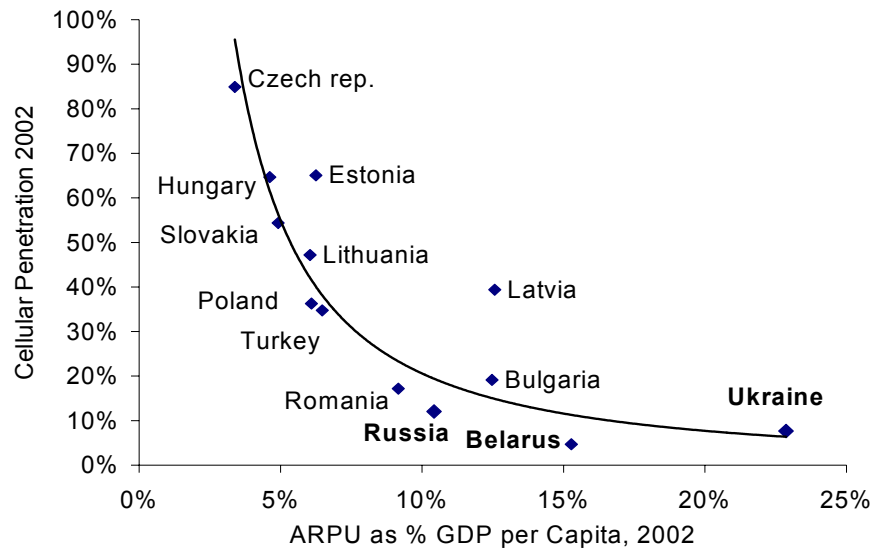
Source: AC&M field research

**Nominal income per capita in Russia reported by Goscomstat increased by 120% between 1999 and 2002. Similar trends are observed in CIS countries. At the same time ARPU in Ukraine and Russia decreased by 79% and 82% respectively. Thus average monthly bill for mobile service is now only 8-10% of the average monthly income – quite affordable for the majority of population.**

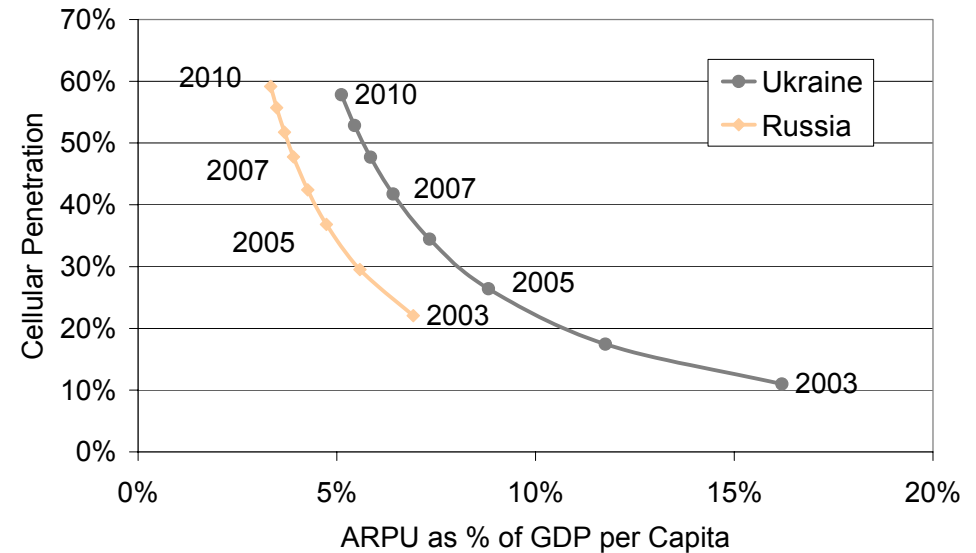
# Wireless Market: Subscriber Projections

Market expectations are based on a simple premise that that ratio between ARPU and GDP per capita (income per capita) shall be in correlation with penetration of service.

Correlation between Cellular Penetration and Share of ARPU in GDP per Capita



Evolution Path for Russia and Ukraine Cellular Markets



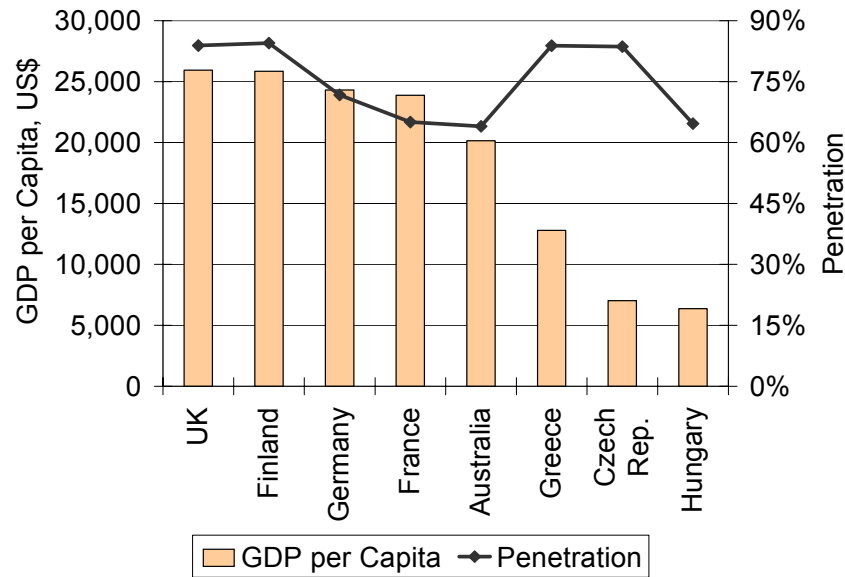
Source: AC&M research

As average monthly bill decreases (with a respective decrease in ARPU) and income per capita level increases, the larger portion of the population under license can afford cellular service. CIS countries will inevitably follow more advanced markets such as Poland, Czech Republic, Turkey, Hungary and Greece.

# Wireless Market: Subscriber Projections

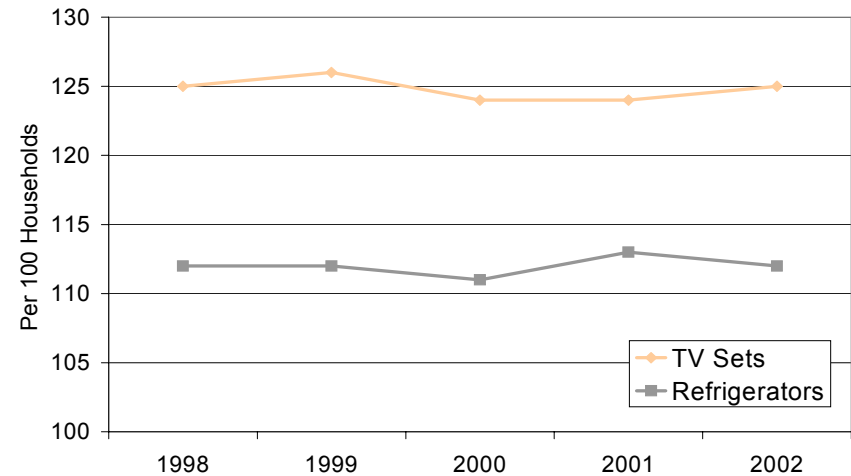
Regardless of the difference in GDP per capita and disposable income level, mobile service penetration has similar “ceilings” across Western and Central Europe.

### Cellular Penetration and GDP



Source: AC&M research

### Penetration of Durable Goods (Russia)



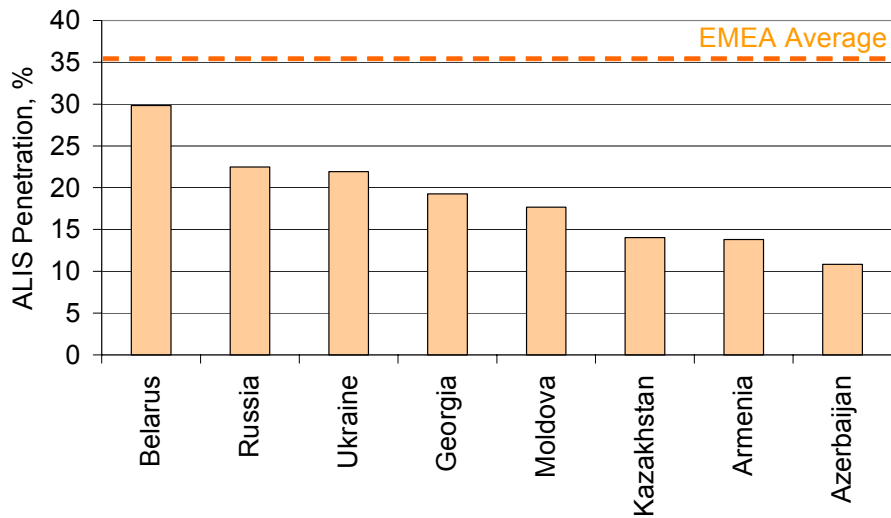
Source: Goskomstat

**There are all reasons to believe that in the longer run Russia, Ukraine and CIS states may very well reach mobile service penetration of 60-70%.**

# Wireless Market: Specific Enablers

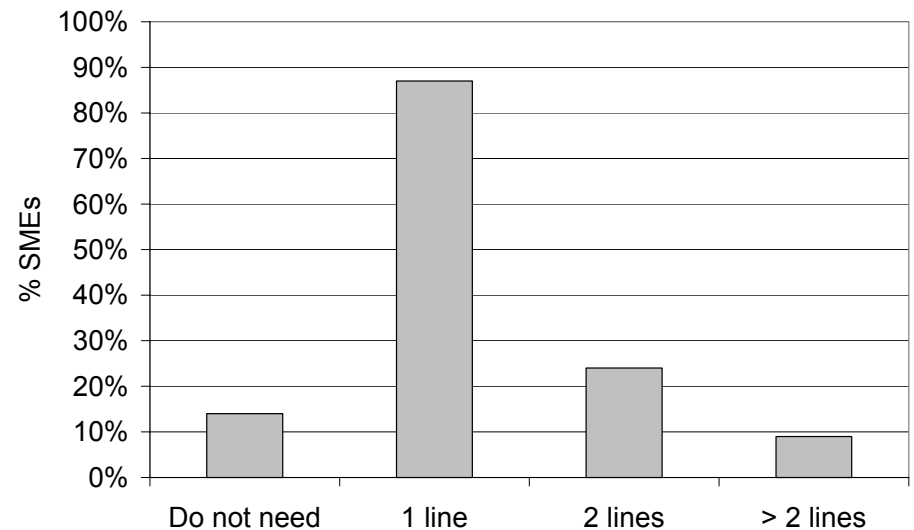
However, the penetration of mobile service in Russia and CIS could be even higher than in Western Europe. Cellular may abridge the gap in wireline communications.

### Penetration of PSTN



Source: RSS, AC&M research

### Demand for Additional PSTN Lines in the Russian SME Segment\*



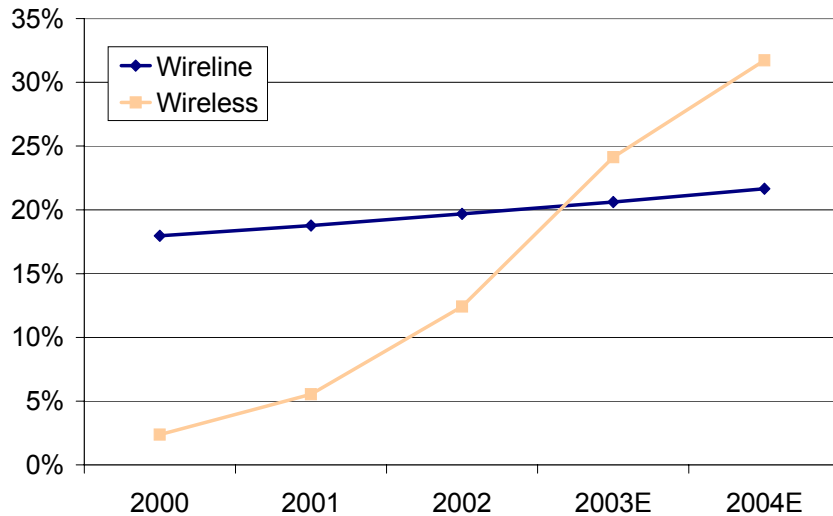
Source: AC&M field research

**There are 1-1.5 mln PSTN lines installed in Russia annually (4-5% growth). At the same time cellular lines increased 5 mln in 2001, 10 mln in 2002 and are expected to grow 15-17 mln in 2003 (100+% growth).**

# Wireless Market: Specific Enablers

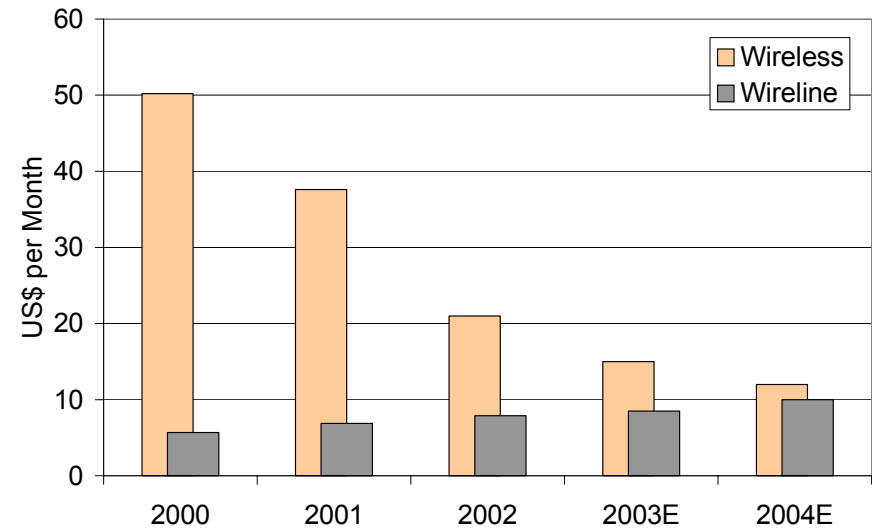
Substitution of wireline service by readily available wireless solutions already takes place in Russia and Ukraine.

### Penetration of Wireline and Wireless Service (Russia)



Source: Svyazinvest, AC&M research

### ARPU in PSTN and GSM Domains (Russia)



Source: AC&M research

**Substitution of wire-line service by wireless solutions already takes place in Russia and Ukraine. It is particularly pronounced in the suburbs of large metropolitan areas such as Moscow and Kiev. SMEs take GSM with unlimited air-time for inbound traffic as a substitution of wireline phones.**

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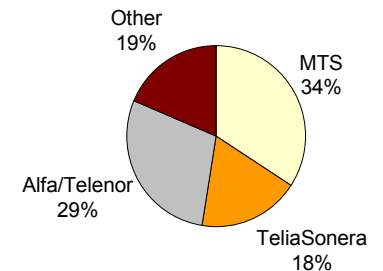
# Geographic Markets

Competitive situation changes from one geographical market to another. So does the revenue potential. While some markets are at the very beginning of the evolution curve, others are well on their way towards target penetration. Overall GSM market in CIS is highly fragmented with Sistema/DT, Alfa/Telenor and TeliaSonera dominating the area.

	Pops, mln	GDP per Capita, 2001	1H2003 Cellular Subs	Forecast Ceiling Subs	Ceiling Penetration	Number of GSM Players
Russia	145	\$2,137	25,130,000	94,250,000	65%	50+
Ukraine	49	\$769	4,382,260	29,340,000	60%	4
Uzbekistan	25	\$455	200,000	8,855,000	35%	5
Kazakhstan	15	\$1,487	1,032,857	8,162,000	55%	2
Belarus	10	\$1,197	740,208	4,977,000	50%	2
Azerbaijan	8	\$702	931,707	4,884,600	60%	2
Tadzhikistan	6	\$167	8,500	1,260,000	20%	2
Kyrgystan	5	\$283	100,000	994,800	20%	1
Georgia	5	\$586	595,238	2,475,000	50%	2
Armenia	4	\$510	95,000	1,900,000	50%	1
Moldova	4	\$408	377,000	1,812,500	50%	2

Source: RSS, AC&M research

Market Shares (1H2003)



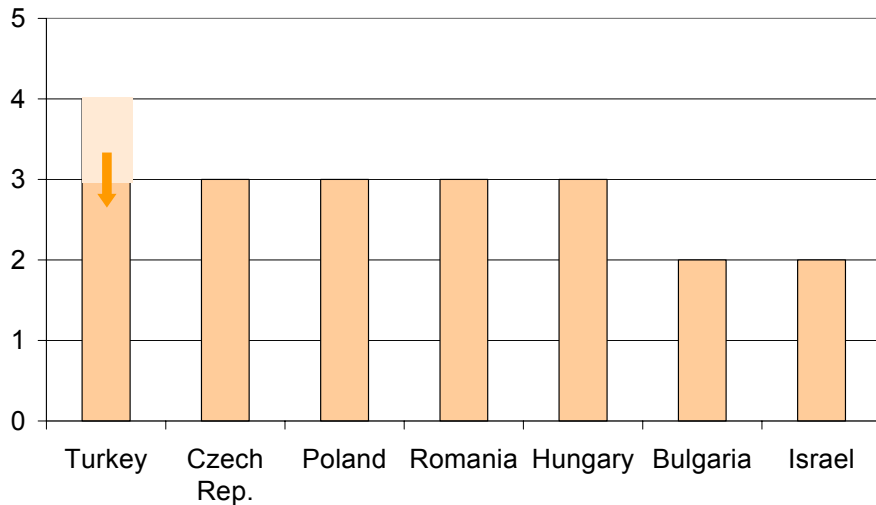
Source: AC&M research

**It is expected that as the largest GSM operators in Russia develop existing license properties, they should expand onto adjacent CIS markets, even though the solvent demand there is lower than in Russia.**

# Geographic Markets: Consolidation

“Big Three” powerhouses are already expanding in CIS. The immediate targets for MTS and Alfa were the largest countries with strongest gravity towards Russia.

Number of GSM Providers in Selected EMEA Countries



Source: AC&M research

“Big Three” Presence in CIS

	SISTEMA/DT	ALFA/TELENOR	TELIASONERA
Russia	MTS	VIMPELCOM	MEGAFON
Ukraine	UMC	KIEVSTAR	
Kazakhstan			KCELL
Belarus	MTS		
Azerbaijan			AZERCELL
Tadzhikistan			TT-MOBILE
Georgia			GEOCELL
Moldova			MOLDCELL

It appears like there is a room for three GSM operators in most of EMEA markers. In the longer term the share of “independent” providers should diminish to 10 – 15 % as “Big Three” consolidate the assets across CIS (very much like they did in Russia and Ukraine).

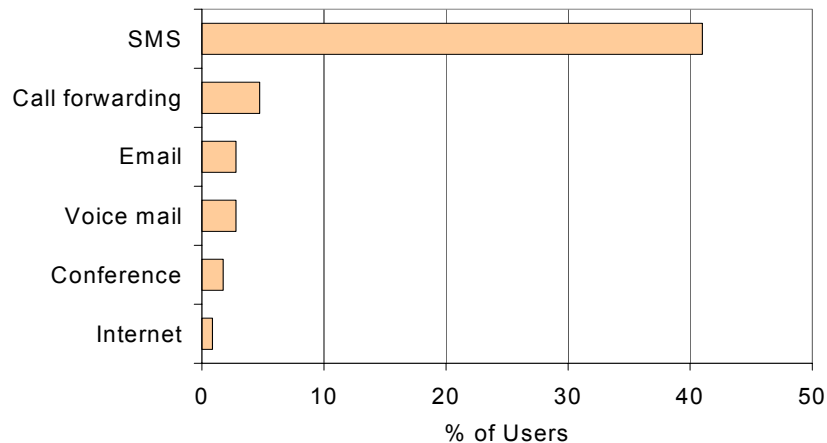


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# Non-Voice Services

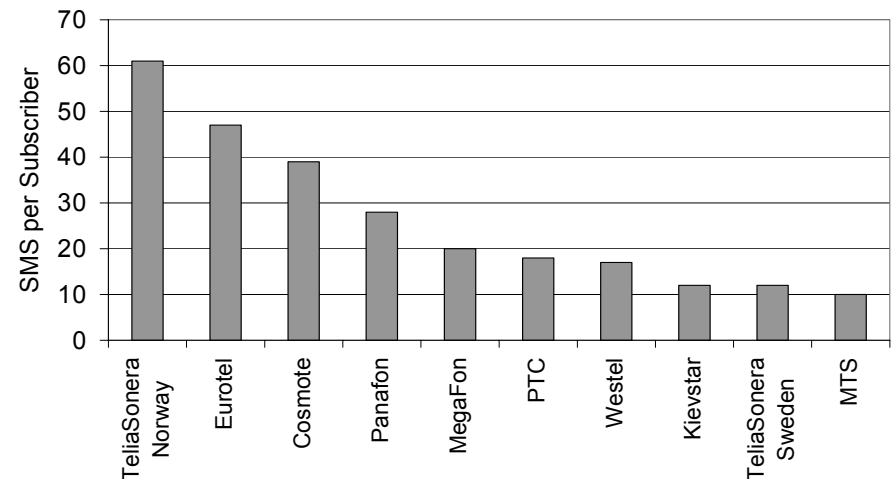
The overwhelming majority of GSM customers use basic voice services and SMS. Although GSM customer audience is aware of GPRS capability and SMS based applications only a fraction of them actually use paid non-voice services.

Estimated Share of GSM Customers Regularly Using Different Services and Applications (Russia)



Source: AC&M field research

SMS per Month per Subscriber (Selected Operators)



Source: Company data, AC&M research

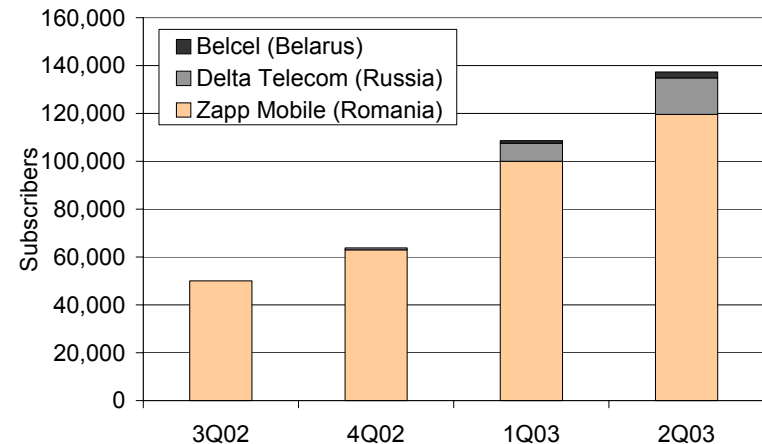
**There is a good reason to believe that Russia and CIS will soon catch up with the more advanced markets in terms of non-voice service penetration and usage. However, at least in the medium term CIS markets are unlikely to generate non-voice revenue flow sufficient to off-set the decline in voice ARPU.**

# 3G Prospective

Even though 3G licenses are likely to be granted for a token fee to the dominant GSM operators, broadband mobile service is hardly a best-seller on the market for a while.

- All three GSM operators (“Big Three”) in Russia have 2.5G capabilities. However MMS service is far from being a commercial success.
- There are IMT-MC-450 pilot projects launched in St.Petersburg and Minsk (shortly Moscow will go on air). However, very much like in the case of Hutchison, the 3G operators still collect the bulk of their revenue from conventional voice services.
- Field research indicates that only 2% of the customer base may really need mobile data applications in their everyday life.
- 92% of the corporate customers are reluctant to use mobile data applications

IMT-MC-450 in CIS and E. Europe



Source: EMC, AC&M research

**Very much like in Europe the major stumbling block for 3G networks is the lack of content and attractive customer applications to drive the sales of new technology.**

## So What Should We Expect?

- The growth is likely to continue through 2004-2005.
- As air-time usage increases across the customer spectrum, ARPU decrease should slow down.
- The market is likely to be reshaped through series of mergers and acquisitions.
- Largest operators are expected to buy into assets and license properties to expand. Later the largest players may proceed with acquisitions to reduce competition.
- Although some 3G initiatives may turn out to be commercially viable, they are unlikely to develop beyond the niche business for a while.

## *Advanced Communications & Media Ltd.*

11/2a Armyansky pereulok  
Moscow 101960  
Russia

Phone: +7 095 923-5480

E-mail: [info@acm-consulting.com](mailto:info@acm-consulting.com)

Internet: [www.acm-consulting.com](http://www.acm-consulting.com)