

Market Watch

Overview of the mobile WiMAX market in Russia and worldwide

August 2009



J'son & Partners Consulting presents the key results of the first research of mobile WiMAX market. Among others the report **"Overview of the mobile WiMAX market in Russia and worldwide"** analyses the advantages and disadvantages of mobile WiMAX in comparison with the other wireless technologies (HSPA+, LTE, etc.), the licensing issue of the new version of 802.16m standard is discussed. A separate chapter of the report considers mobile WiMAX equipment, operator and subscriber equipment is reviewed. The overview examines the current market development trends in Russia as well as the forecast of its development till 2011.

Technology: In January 2006 the first release of the system profile for 802.16e standard took place, first mobile WiMAX products were licensed. The network specification of 1.0 WiMAX version was published in March 2007. In June 2008 mobile licensing in 2.5 GHz band took place. 802.16 work team of IEEE committee is expected to approve of the second edition of Mobile WiMAX Rel.1.5 standard (802.16e Rev2) till the end of 2009. Further development prospects of WiMAX are connected with the new edition of IEEE 802.16m standard (Mobile WiMAX Rel.2.0). It is the advanced version of the mobile IEEE 802.16e. Work on IEEE 802.16m started in February 2007, approval is planned in 2011.

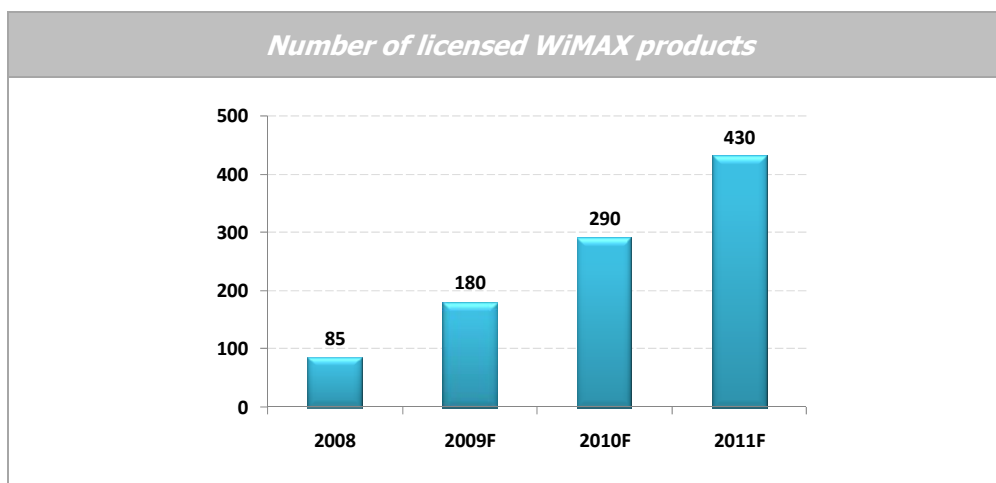
Frequency band: The key frequencies for the operation of mobile WiMAX networks are frequencies in 2.3 GHz, 2.6 GHz and 3.5 GHz bands; channel capacity is 10, 5 or 7 MHz. In 2008 an official application to accept IEEE 802.16 standard (which operates in 2.5 – 2.69 GHz band) as a global standard was submitted. Frequency profiles for mobile WiMAX release 1.5 are planned in 700, 1700, 2300, 2500 and 3500 MHz band.

Mobile WiMAX projects worldwide: Development pace of mobile WiMAX networks was not very fast in the first half of 2008. Many companies doubted the future of the technology due to decreased overall interest to mobile WiMAX. Some vendors announced that they gave up the plans to develop mobile WiMAX in favor of LTE technology, operators worldwide also showed more interest to LTE. But in the end of 2008 and in the beginning of 2009 a series of events enabled mobile WiMAX to take a significant place in the market. First of all these were the launches of a series of projects:

- ✓ in Russia: Yota project (in Moscow and Saint Petersburg) and Comstar UTS (in Moscow)
- ✓ in the USA: Sprint Xohm project (Baltimore and Portland)
- ✓ as well as other projects.

By mid 2009 the number of mobile WiMAX projects worldwide exceeded 40.

Equipment: Currently the number of WiMAX Forum Certified products (according to 802.16e-2005 and 802.16d standards) exceeds 110. According to the forecasts of WiMAX Forum this number will exceed 1000 by 2011.



Source: WiMAX Forum

By the end of the first half of 2008 the number of mobile WiMAX equipment items was less than 10, while by the end of 2008 the number increased nearly fourfold. Such companies as Samsung, Alcatel-Lucent, Cisco Systems, Huawei Technologies, Motorola, NEC and RedLine Telecommunications mainly contributed to the growth.

Mobile WiMAX projects in Russia and market size: Russia became one of the first countries to develop the new mobile WiMAX technology. The first mobile WiMAX projects in Russia emerged in autumn 2008. The development of the new technology started from Moscow and Saint Petersburg.

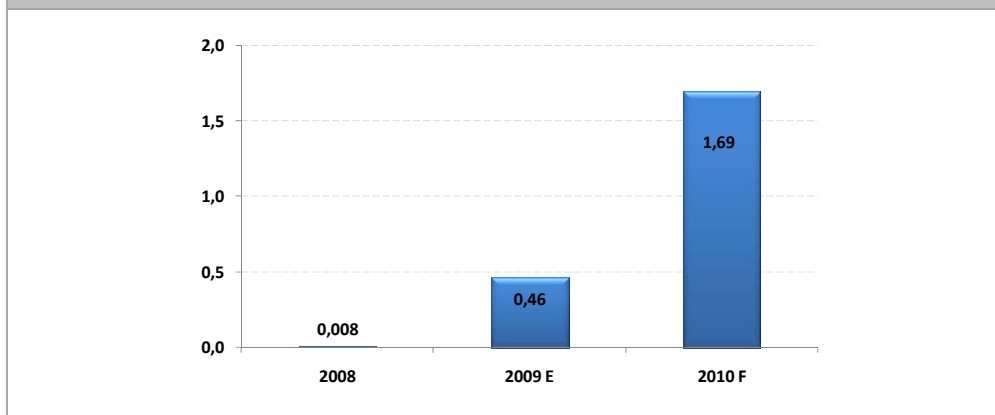
Mobile WiMAX projects in Russia

Brand	Region	Frequency band	Launch date of the revenue service
Yota	Moscow	2.5 -2.7 GHz	April 1, 2009 – for legal entities
	Saint Petersburg		June 1, 2009 – for individuals
	Ufa		(Moscow and Saint Petersburg)
Comstar	Moscow	2.5 – 2.7 GHz	May 2009
Synterra	Moscow Region (Aprelevka)	2.5 – 2.7 GHz	January 2009
Wi-Te	Central, Siberian, Volga, Southern, Ural and Far-Eastern Federal Districts	3.5 GHz	June 2009 (Kemerovo)
Freshtel	Central and Southern Federal Districts	3.5 GHz	September 2009 (planned)

Source: J'son & Partners Consulting, market data

According to the estimates of J'son & Partners Consulting, by the end of 2008 about 8 000 people had tested the Internet access service by means of mobile WiMAX technology. Revenue service of the first WiMAX network (owned by Synterra) took place in January 2009, this was followed by the launches of Comstar UTS and Skartel networks.

*Dynamics of mobile WiMAX subscriber base in Russia, mln. subscribers,
2008 -2010*



Source: J'son & Partners Consulting

J&P Consulting expects subscriber base of the service in Russia to grow up to 460 K [60 times] by the end of 2009.

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Research coverage

- ✓ world [Asia, Europe, Australia and Oceania, Americas]
- ✓ Russia

Research contents

The research covers issues on the current situation and trends in the Russian mobile WiMAX market. Opportunities of entering the market by new market players with respect to current regulation are analyzed. The research also contains a case study of the most successful projects outside Russia. The report provides forecasts of the market till 2011.

Report structure

Introduction

1. Mobile WiMAX – 802.16x standard

- 1.1. IEEE 802.16e – 2005: performance capabilities of the standard
- 1.2. WiMAX Forum certification

2. Mobile WiMAX project

- 2.1. Projects worldwide
- 2.2. Russian projects
 - 2.2.1. Skartel (Yota trade mark)
 - 2.2.2. Comstar UTS
 - 2.2.3. Synterra and new projects

3. Mobile WiMAX equipment

- 3.1. Operator equipment
- 3.2. Subscriber equipment
 - 3.2.1. Laptops
 - 3.2.2. Switch boards and smart phones
 - 3.2.3. USB modems and PCMCIA cards

4. Development prospects of mobile WiMAX in Russia

- 4.1. Market volume of mobile WiMAX, 2009 – 2011
- 4.2. Business plan for deployment of mobile WiMAX in a typical city
 - 4.2.1. Description of a typical project
 - 4.2.2. Methodology of a business plan elaboration
 - 4.2.3. Tasks and objectives of a project
 - 4.2.4. Analysis of risks inherent in the project
 - 4.2.5. Financial plan

5. Conclusion

6. Appendix

- Appendix 1. Development prospects of mobile WiMAX in Russia
- Appendix 2. Mobile WiMAX projects
- Appendix 3. Mobile WiMAX equipment

Presentation format - .pdf

Data relevance – 1 half of 2009

Size of the report: ~70 - 80 pages

Methods and data sources

Research in the sphere of wireless technologies is one of the priority areas for J&P Consulting. The company uses a number of key data sources for developing analytical materials on the topic, i.e.

● **Data obtained from the market players**

Currently J&P Consulting has a vast partner network which includes most significant market players in the sphere of Internet access. From the partners J&P Consulting receives the information on general estimates [sales volume, market shares of manufacturers, etc.] as well as a more detailed data [traffic volume, etc.] on a regular basis.

● **Data from field studies**

J&P Consulting carries out regular and individual field studies (individual interviews with top managers of the largest market players in this area as well as traditional consumer interviews, online polls of mass consumers). The research allows forming a sociodemographic profile of an individual who uses wireline/wireless Internet access, assessing the consumption structure of different services, tracking customer preferences, analyzing dynamics of the data.

● **Additional data sources**

J&P Consulting used additional data sources which allow verifying the obtained estimates which are based on the information resources mentioned before. This section includes data of external experts, data provided by mobile operators, public information.

The use of a combination of key data sources by J&P Consulting ensures high quality of the analytical products and estimates.

More details on data sources. J'son & Partners Consulting conducts research on the basis of its own data sources:

■ Expert interviews with top managers of operator companies

As a part of research J&P surveys top managers of key market players personally and via the telephone using developed and tested questionnaires which fully cover main aspects of company's performance. Our respondents are

- ✓ *CEOs*
- ✓ *engineering managers*
- ✓ *marketing managers*
- ✓ *directors of business development departments*
- ✓ *others.*

In the course of the research more than 5 representatives of WiMAX (not only mobile WiMAX) operators were interviewed.

■ Desk research and monitoring of the market

J&P Consulting understands desk research as data collection and analysis of the secondary information from public sources. Such research is based on different data sources which allow obtaining large amounts of data, comparing and analyzing obtained information. Sources for a desk research are

- ✓ *published materials (media, specialized periodicals, reports of research agencies)*
- ✓ *legislative acts (industry legislature)*
- ✓ *digital sources (news reports, data bases)*
- ✓ *developing, standardizing and certifying professional organizations (IEEE, ETSI, WiMAX Forum, etc.)*

■ Expert net of J'son & Partners Consulting

In order to develop any product J&P Consulting involves multiple experts from the accrued base which now includes about 300 names. Our experts are top managers of Russian and Western telecom companies. J&P Consulting expert net is the largest one in Russia. In this research 3 experts were involved apart from the full-time employees of J&P Consulting.

- Own market research of J'son & Partners Consulting

J'son & Partners has been carrying out regular surveys of Internet access market in Russia and the CIS for many years already. Surveys are conducted twice per year. The sample includes about 80 K respondents in Russia who are active Internet users.

- Market models of J'son & Partners Consulting for certain technologies and markets

Market models developed by J&P are based on multiple macroeconomic indicators which are regularly or occasionally assessed and forecasted as a part of projects and contract work. While processing analytical materials J'son & Partners Consulting uses own dynamic models of key macroeconomic indicators which are updated with regard to official and unofficial sources which cover 2005-2011.