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Strategies of Yota (Scartel) - 4G Operator in Russian Federation

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***Abstract**: Russian Federation is one of the high growth markets for telecom services which are expected to reach $48.5 billion by 2013. With the granting of 4G LTE licenses, it is expected that 4G market in Russian Federation will be dominated by four cellular operators, i.e., MTS, Beeline, and MegaFon, Rostelecom along with two new startups, i.e., Osnova Telecom and Red Telecom. In addition, other companies such as Yota, Synterra, COMSTAR, Freshtel etc. are also operating in Russian WiMax & LTE telecom market to provide similar services. This paper is an attempt to analyze some of the parameters of LTE turn Yota WiMax Telecom Operator in Russian Federation. The paper covers current achievements of Yota, its reach in Russian Federation, its network size & technology, its services, expansion plans for future, strategies for survival (in question) in a highly competitive market of big companies, and its ultimate fate*.

Keywords: *WiMax, Long Term Evolution (LTE), Yota, Russian Markets, MTS, Beeline, MegaFon, Rostelecom.*

Strategija Yota (Scartel) – 4G operatera u Ruskoj Federaciji

***Apstrakt**: Ruska Federacija je jedno od brzo rastućih tržišta telekomunikacionih usluga za koje se očekuje da će dostići $ 48.5 milijardi dolara tokom 2013. Uz izdavanje dozvola 4G LTE, očekuje se da će 4G tržištem u Ruskoj Federaciji dominirati četiri postojeća mobilna operatera,*

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odnosno, MTS, Beeline, i MegaFonu, Rostelecom, zajedno sa dva novoosnovana, odnosno Osnova Telekoma i Red Telekoma. Osim toga, druge kompanije kao što su Yota, Synterra, COMSTAR, Freshtel itd takođe posluju u ruskom ViMak & LTE telekomunikacionom tržištu sa ciljem da obezbede slične usluge. Ovaj rad je pokušaj da se analiziraju neki od parametara LTE Yota WiMax Telekom operatera u Ruskoj Federaciji. Rad obuhvata aktuelna ostvarenja Yota, njihovog učešća u Ruskoj Federaciji, mreža i tehnologije, usluge, planovi za proširenje u budućnosti, kao i strategije za opstanak na visoko konkurentnom tržištu velikih kompanija.

***Ključne reči**: WiMax, dugoročna evolucija (LTE), Yota, Rusko tržište, MTS, Beeline, MegaFon, Rostelecom*

1. Introduction

Yota is the brand name of Scartel LLC. Yota (4G internet-http://www.yota.ru) is the first Russian high-speed wireless network based on Mobile WiMAX technology in a market dominated by top telecom operators such as, MegaFon, Mobile TeleSystems (MTS), Rostelecom and VimpelCom (Beeline). WiMAX technology implemented in Russian markets delivers access speed up to 10 Mbps at any time within the coverage area. The connection is maintained even when user is moving at the speed of 120 km/h. WiMAX networks of Russian Federation can truly claim the delivery of telecom services at any time and everywhere. It operates in 2.5 GHz spectrum band. Yota started its WiMAX based services in March 2007 (Shaw (2011)).

According to Maistre (2009), 74.9% of Scartel's parent company, (WiMAX Holding), is owned by a private investment company known as Telconet Capital Limited Partnership, which has made $300 million available for initial investment to Yota. The remaining 25.1% is owned by Russian state-owned company Rostechnologii, a Russian state corporation founded as a non-profit Non-Government Oragnization with the goal of supporting domestic technological development (WiMAX Forum (2009)). The Yota invested the $300 million cost in installing the initial 1,600 base stations in the cities of Moscow and St Petersburg.

Yota launched its pilot WiMAX services in St Petersburg in November 2008, two months after American telecoms giant Sprint had started to roll out its own services in Baltimore, Maryland. Yota made total investment of $500million. Its sales in the first half of the year, 2010 were $66million. As per the company sources Yota is already making an operating profit (Economist (2010)). The details of other WiMAX operators in different regions of Russian Federation are compiled in Table 1. Yota has become a big network player in Russian Federations by switching from WiMAX technology to LTE technology

domain and having signed an agreement with four big telecom players for creating 4G networks in Russia (Telecompaper (2011a)). Yota is second LTE wholesale operators after Lightsquared (US). The third LTE wholesale operators in future could be a consortium firm of Kenya or may be network of Government of Rwanda (Obiodu (2013)).

Table 1. Mobile WiMax Projects in Russia

Brand	Region	Frequency Band	Launch dates
Yota (http://www.yota.ru)	Moscow, St. Petersburg, Ufa, Sochi and Krasnodar	2.5 -2.7 GHz	April 1, 2009 – for legal entities & June 1, 2009 – for individuals
COMSTAR (http://www.comstar.ru)	Moscow	2.5 -2.7 GHz	15 January, 2009 for testing & May, 2009 commercial launch (J'son & Partners (2009)).
Synterra (www.synterra.ru)	Moscow Region (Aprelevka)	2.5 -2.7 GHz	April, 2006 – for business users (J'son & Partners (2009)), Tele-Geography (2006)
Wi-Te (http://www.wite.ru/)	Central, Siberian, Volga, Southern, Ural and Far-Eastern Federal Districts	2.5 -2.7 GHz	June 2009 in Kemerovo City. (ITNews (2009)).
Freshtel (http://www.freshtel.ru)	Central and Southern Federal Districts	3.5 GHz	October 2009 (J'son & Partners (2009)
Enforta (http://en.enforta.ru/technology/)	Moscow and St Petersburg + other (Total number is 93 cities)	2.5GHz, 3.5GHz and 5.2GHz	January 2005 (http://en.enforta.ru/technology/)

Source: J'son & Partners Consulting.

Keeping in view, high economic importance of a collaborative business model of Yota, this research paper is an attempt to integrate facts & figures of the collaborative model of Yota before it disappear from the business scene of modern era which is not friendly to collaborative business model. These facts and figures are taken mainly from the website of Yota, Internet and other sources of English language. These facts and figures are then integrated and presented in chronological manner under the seven sections. These sections are (i) current achievements of Yota, (ii) reach of Yota in terms of geographical area, (iii) network of Yota and its technology vendors, (iv) services of Yota along with tariff models, (v) expansion plan for future, (vi) strategies for survival in a highly competitive Russian telecom market, and (vii) recent developments where in Yota may cease to exist. A section of introduction and research methodology is also included in the research paper.

2. Research Methodology

The research methodology adopted in this article is exploratory in nature and is referred/ defined as Grounded Theory 2.0, a variation from the original grounded theory (Singh (2013)). It is based on mainly secondary data collected and collated from various secondary sources. The data collection and analysis was conducted during November 2011 to September 2013. The main sources of data were the website of Yota, website of WiMAX technologies, web sites of LTE based network operators and websites of other WiMAX Technology based mobile network operators. Other sources of data include the press releases in newpapers about Yota, articles on the subject by academia mainly available on Internet, reports of various marketing & research agencies and websites of the companies having interest in 4G technologies, blogs of individuals etc. The data is basically analyzed for specific achievement and events in relation to 4G technologies in Russian Federation, and Yota in particular. The major emphasis on data analysis was on company's achievement, expansion plans, tariff models & strategies for survival in a highly competitive telecom market which does support collaborative business models.

3. Yota Ownership, Achievements, Agreements, Networks & Services

3.1. Yota Ownership

Scartel is 74.9% owned by Telconet Capital Limited Partnership, a privately owned investment fund, with the remaining 25.1% stake held by the government's Russian Technologies State Corporation. It is reported in TeleGeography (2012d) that Telecominvest, which is majority-owned by billionaire Alisher Usmanov would own Yota 100% and MegaFon 50%. The deal was finalized by Federal Antimonopoly Service (FAS) on 15th June 2012. It was also reported by Interfax.com (2012). Ablott (2012b) reported that 82 percent of Yota will be owned by Usmanov's telecoms investment vehicle AF Telecom with the remainder 18% will be held by Scartel's current shareholders, Telconet Capital and state-backed Russian Technologies.

3.2. Achievements of Yota

This section presents achievements of Yota since November 2008. The achievements are in terms of (i) growth of the subscribers base including expansion in geographical reach, (ii) achieving breakeven point, (iii) awards of excellence, (iv) geographical coverage (v) End user devices, (vi) missing lines.

i. Subscriber Base: The statistics presented here is of customers who are using WiMAX technology and from the five cities of Yota's operations. The subscribers statistics compiled from different sources are presented in Table 2. According to one estimate it has reached the figure of 1 million (5% of the population of five cities of its operation) customers. During its initial days of operation, Yota was adding 2000+ customers every day. The subscriber's base of Yota is still growing at the similar pace. For any newcomers with no experience of telecom business, it is extra ordinary growth.

Table 2. Number of 4G Internet Subscribers of Yota

Month Year	*No of Subscribers*	*Geographical Area*	*Source*
October, 2009	200,000	MSUSK*	Yota (2009)
December, 2009	350,000	MSUSK*	BWA Research (2011)
March, 2010	380,000	MSUSK*	Economist (2010)
August, 2010	600,000	MSUSK*	Economist (2010)
October 2010	682,000	Novosibirsk, Samara, Vladivostok, Kazan, and MSUSK*	http://cellstores.cell-partners.com/store/p/2729-Russia-Yota-5-Refill.aspx
November, 2010	700,000	MSUSK*	Lennighan (2010)
December 2010	700,000 778,000	MSUSK*	Dobardziev and Girvolas (2010). BWA Research (2011)
September, 2011	1000,000 1,034,000	MSUSK*	Shaw (2011) BWA Research (2011)
May, 2012	300,000	Moscow (Moving to LTE Technology)	Prime Business News Agency (2012)
August, 2013	648,000	Business and Private customers for its LTE network.	Morris (2013)
MSUSK*= Moscow, St. Petersburg, Ufa, Sochi and Krasnodar			

Source: Author

ii. Breakeven: Yota started its commercial operations in Moscow & Saint Petersburg on June 1, 2009 and in Ufa on October 12, 2009. It was reported that company has achieved breakeven point in five months of operations. Overall volume of data transferred through the Yota network in all three cities in September amounted to 1848 TB (Yota (2009)). Its

other achievements on this front include a customer base of 600,000, half-year revenue of $66 million and 80% market awareness in Russia. It is achieved in just 14 months of its launching of services (Yota (2010a)).

iii. **Yota Awards:** Yota have received many awards for excellence (http://www.yota.ru/en/). Some of these were Google Russia award (2009), global telecoms business innovation awards (2009), global mobile awards (2009), more than 500 press coverage, PR Week award (2011) (Yota (2010a)).

iv. **Geographical Coverage:** It had started its operations in Moscow and St. Petersburg. Its net coverage in Moscow, St. Petersburg and Ufa was over 90% and it was increasing. In the meanwhile, Yota has expanded its LTE/ WiMAX service to Vyborg, Serpukhow, Ryazan, Naberezhnye Chelny, Tolyatti, Novosibirsk, Samara, Volgograd, Rostov-on-Don, Ekaterinburg, Perm, Chelyabinsk, Nizhny Novgorod, and other cities. To mention, as an example Yota had invested USD 20 million in building 147 base stations to cover the entire area of the Kazan city. Yota achieved download speeds of 10 to 30 Mbps during the testing in Kazan (Kazan News (2010)).

It also operates in two cities of Belarus, i.e., Minsk and Grodno and provided internet access at the speed up to 40 Mbps (Tele-Geography (2012c)). It is also active in Peru & Nicaragua. In Nicaragua, Yota has deployed WiMAX network in record breaking time. Intel and Samsung were the strategic partners of Yota in Nicaragua (PRNewswire (2009)). By 2012, Yota services were available in 180 Russian cities with a population of more than 100,000.

v. **End User Devices:** End User has to acquire a device to receive telecom services. The Mobile WiMAX devices include 4G USB modems, 4G Express cards, 4G phone and laptops & notebooks with a built-in mobile WiMAX module. Yota had introduced dongles (4G USB-Modem Samsung SWC-U200, 4G Express card Samsung SWC-E100), Smartphones, portable desktop modem, business gateways and 50 laptops(WiMAX Forum (2009). Yota provided multiuser devices and mobile WiMAX/Wi-Fi Center for companies.

vi. **Missing Lines:** November, 2009, Yota planned to start commercial operation in Sochi and Krasnodar and to launch operation in 15 more Russian cities in 2010 (Yota (2010b). It has started operations in Sochi & Krasnodar but not in additional 15 cities as per its plan.

3.3. Yota Agreements

Mobile TeleSystems (MTS), MegaFon, VimpelCom and Rostelecom have agreed to create a joint venture to develop 4G network in Russia on the basis of Yota's initial 4G infrastructure at the initiative of the government during 2011(Razumovskaya (2011)). Experts said that if it comes true, it will lower the capital and operating expenses in a country with vast geographical boundaries for all operators but its success was doubted. Brief on individual deals is summarized in the following.

Yota has signed an agreement with Rostelecom (which acquired SkyLink and Svyazinvest). Agreement will allow full use of each other's telecommunications infrastructures with a view to accelerate growth of 4G services to Russian citizens (Press Release (2011) and Anderson (2011)).

Similar deal was signed with MegaFon (Sujit (2011)).Yota and MegaFon will jointly develop 4G LTE network as per the agreement (Luna (2011)). Yota will install its own LTE-equipment on the base stations of MegaFon in cities, where the company did not have its own infrastructure. For that, the company is to pay a commission to the operator. The size of the commission will depend on the amount of provided services (Marchmont New (2011)).

3.4. Yota Network

The countries with huge markets like India are rolling out 3G mobile networks, while others have moved to 4G Technologies such as LTE, HSPA+, and WiMAX but not with 100 Mbps. Yota, a start-up had built a 4G network from scratch, burying 3,000km (1,864 miles) of fibre-optic cables to connect its wireless base stations with a capacity of 180 Gbit/s. All of Yota's base stations in dense urban areas (around 500) are connected with fiber, and each had a backhaul link capacity of 200 Mbit/s. Its vendor is Cisco for fiber backhaul. The network operates under the standard IEEE 802.16e-2005 with high frequency 2.5-2.7 GHz spectrum band.

In less dense areas, microwave backhaul equipments from DragonWave Inc were installed (Maistre (2009)). Users can connect to the internet via smartphones, laptops and tablets at a speed which is at least as fast as fixed-line cable modem which is 6.8 Mbps in United Kingdom (Shaw (2011)). Its network supported more than 51 models of laptop, 1 WiMax /GSM Smartphone, 2 laptop dongles, 2 desktop modems with Wi-Fi (Paolini (2010)). The other devices supported by the network of Yota are listed by Klimanov (2010). Yota had also decided to depend on a single source for its WiMAX radio access equipment (RAN), i.e., Samsung Electronics Co. Ltd (Maistre (2009)).

Yota Networked with Huawei and announced the world's first test LTE-Advanced network with Carrier Aggregation in Moscow in October 2012 achieving downlink peak speeds of 300 Mbps. Yota also expected that LTE-Advanced commercial devices will be available in the first half of 2013 (4G Americas (2013)).

Network Business Model: Yota's business model is similar to USA's Clear-wire where the wholesale network owner retains a retail business that competes equally with other retail brands (Higginbotham (2011)). If the main stakeholders take up the option to buy Yota after 2014, the model will become a type of network sharing agreement, with Yota remaining as the manager of the network. The model is referred as wholesale operator's collaborative model.

The Difference: The Yota plan is different from other wholesale players or normal MVNO business model. In other countries, wholesale players are building their networks in anticipation that large number of operators will use their networks. However, there is no guarantee that they will use it. For Examples: in USA, there is no guarantee that AT&T, Verizon, T-Mobile, or any other operator will use LightSquared's network. In Russia, Yota has assurance that it will have at least four tenants on its network, and if the Yota retail brand remains, this will be increased to five. In addition to the benefit to Yota, this mechanism will significantly reduce the cost of rolling out a nationwide LTE network in Russia. It may have capacity constraints, particularly in dense, urban areas but can be taken care of by adding more capacities to the networks (Obiodu and Hartley (2011)). The other operators who had presence in Russia have criticized the agreement because they are excluded from the agreement (IDC (2011)).

3.5. Yota Services

The services of the Yota include (i) Yota -4G Internet, (ii) Yota- Music, (iii) Yota-Money, (iv) Yota- Video, and (v) Yota – Yap-Yap.

4. Expansion / Future Plans of Yota and other Operators

Yota planned to expand its reach in local markets as well overseas markets specifically in developing countries. Yota cited four reasons to expand in to developing countries. These were (i) the governments in developing countries are less worried about making money from selling radio spectrum but more concerned about getting wireless networks built to foster growth, (ii) the local market is overcrowded with too many players, (iii) the consumers base is big in developing countries and 4G technologies penetration is less, and (iv) less

competition (may not be the case in all developing countries). As a part of its overseas expansion policies it was up and running in Nicaragua. It had also launched its service in Belarus. It was planning to launch its services in Peru (Economist (2010)). It was also reported that it had planned in past to tie up with MTNL, a network operator operating in Delhi & Mumbai in India for 4G services but not much was reported about the success (Kapoor (2009)). Later on, it was reported that Yota considered selling its Belarus unit to concentrate more at home front (Tele-Geography (2012a)).

In Russian markets, Yota planned to roll out its 4G services to 180 Russian cities by autumn 2012. It will expand its customer base from its current one million 4G users to a potential 70 million users as reported by Shaw (2011). It will put Yota in the league of Clearwire in the US and TeliaSonera in Scandinavia. It was mentioned by Razumovskaya (2011) that Scartel committed to keep investing in network construction and LTE services will be available in Russia as early as this year, with the network expanding to 180 cities by 2014.

Yota was deploying FD-LTE networks in selected Russian cities alongside its WiMax networks. On May 21, 2010 Yota reported in Russian language on its website that it has plan to invest $100 million in 2010 for deployment of new LTE networks in five Russian cities, including Kazan (Kazan-147 cell towers for 1 million subscribers, developed in two months at a cost of $20 million against the plan of $ 30-40 million (Constantinescu (2010), Marchmont News (2010)), and planned to repeat it in Novosibirsk, and Samara. Yota's intention was to launch LTE networks in the first five cities in 2010 and in Moscow and St. Petersburg by the end of 2011. However, it could launch its commercial LTE network in Moscow on May 15, 2012.

Yota decided that future networks will be built using LTE technology and it will continue to develop and support WiMAX infrastructure in the regions where WiMAX has already been deployed, including Moscow, St. Petersburg, Ufa, Sochi, and Krasnodar. Yota planned to more than double the number of WiMAX base stations in Moscow, even as it planned to install LTE networks in Moscow and St. Petersburg by the end of 2011. Yota strategy was to support WiMAX in its existing markets and planned to operate WiMAX and LTE networks in parallel in Moscow and St. Petersburg (Ayvazian (2010)).

The estimated US$2 billion was needed for building LTE networks. It will be financed by Russian banks, state-owned Russian Technologies and private equity firm Telconet Capital. Even with its complex set of unpaired spectrum holdings in the 2.5GHz and 2.7GHz bands and the arcane rules governing them, Yota is likely to end up with a mixture of TDD and FDD networks and more than 50MHz of capacity in most markets and nearly national coverage. This will position the Russian wholesale 4G network provider as a unique roaming bridge between the LTE FDD (Frequency Division Duplex) networks

developing in Europe and the LTE TDD (Time Division Duplex) networks being deployed by China Mobile and India's BWA licensees (Ayvazian (2011) and Maistre (2011)).

Yota, Rostelecom, and Russia's 3G operators have all announced their interest and intent to deploy LTE networks in the near future (Maravedis (2010)). Rostelecom, its subsidiary Sibirtelecom, and Vainakh telecom have been granted permission by Russian Ministry of Defense to commence the deployment of LTE network. As per the term of licenses, Rostelecom is asked to build and launch 4G networks within 18 months using Russian-made equipment in their respective areas (Russia (2011b)).

5. Strategies of Yota & their Analysis

i. **Tariff Strategy:** It had built its core and fixed backhaul network. It had planned its expansion strategies via a strategic partnership with other biggies in Russian Telecom market. Its equipment partners are Cisco, DragonWave, Samsung Electronics Co. Limited. Its data usage strategy is "All you can eat". The data usage strategy is supported with its tariff model of $28 /month with no restrictions on streaming of videos and data download volumes. The average cost of DSL line connectivity in Russia is about $ 13/month with a limit on data download volumes.

   "The strategy is based on the speed, quality with no download restrictions but for more money with affordability".

   Key Achievements of the strategy: Select user's average monthly download reaching 10.3 gigabytes over wireless access connections of up to 10 Mbit/s. One heavy video user downloaded 1.82 terabytes of data in one month. At the rate of $28 per month with 1 million customers its monthly revenue is $ 28 million per month. It is equivalent to $336 million per year. It is still a small part of fixed broadband Russian market which was $1.5 billion in 2008.

ii. **Customer Premises Equipment (CPE) Strategy:** Yota reported that more than 60 notebook models available in Russia have embedded 802.16e capabilities and can be hooked to Yota's network. It has provided LTE modem at the time of switching from WiMAX to LTE as a part of its CPE strategy as well as customer relation strategy (Litteskylark (2012)).

iii. **Assured Tenancy on Network**: The deal with rival networks Beeline, Megafon, MTS and Rostelecom to roll out its 4G system across the country's 180 cities, made it available to more than 70 million people

by 2014 with assurance of two tenants on its network (Yota (2011)). However, there is need to devise a strategy to beat pressure on revenue & margins of future LTE partners (Telecompaper (2011b)).

iv. **Competition**: It will soon have competition from newcomer Freshtel, which will have initial access to $300 million of capital and have similar expansion strategies (FreshTel News (2009)). Donegan (2009) mentioned that Icon Private Equity, will invest $200 million in the new WiMax Russian operator. The new operator has a license in the 3.5 GHz frequency band and will operate under the brand name Freshtel. The $100 million will come by way of a loan from Chinese financial institutions.Malakhov and Balashova (2010) mentioned that Freshtel will offer the similar services at a cost of $13 per month which is at par with 3G tariff. Yota's competitors include Comstar (Cellular News (2009)), WiTe (Maximus (2009)),Enforta with its footprint in 93 cities (Enforta News (2009)), Osnova Telecom, an LTE licensee **(**Iladi (2010**)),** and Synterra (Russia (2011a)). Though Synterra and other are operating in different areas from Yota at present with not much overlap but Yota need to devise a competition strategy for future success.

v. **Visionary Initiatives/ Moves:** Operators in Nicaragua market offer 3G mobile data subscription at $60 a month for a 3G (third generation) mobile data subscription at a speed of 1Mbps (bits per second) with a limit of 2GB download (Sayer (2009)). Yota's existing subscription rate of US$28, or less, or more, a month for unlimited data with no speed cap will be good value to Nicaraguans. The similar business model can be repeated in other markets if feasible.

vi. **Shift in Technology:** Yota management is not to adopt one technology but select a better promising 4G technology (LTE in the case) as and when it is available & cost effective. Yota has chosen, Nokia and Samsung for LTE standard (Reuters (2010)). Both the technologies can use the same frequency of spectrum. The dispute over the frequencies is solved for Yota but the problem of technological neutrality remains unresolved (Russian News (2011)).

vii. **Business Model:** The core of Yota Business model is sharing of infrastructure with other operators. It will be more cost effective to all players in Russian market which has huge geographical spread in comparison to the thickly populated Indian and Chinese telecom markets. It will create a space for companies to concentrate more on products, services and also to make telecom services more environmental friendly (Global Telecom Business (2011)). Secondly, its business models to revolve around "elementary speed units", such as

"megabit per second" rather the amount. It will make the whole business more sustainable in its view (Zaripova (2012)).

viii. **Outsourcing of Business Activities:** Yota has been working with UCMS Group Russia for over 18 months since mid 2010. Yota has outsourced Payroll and HR processing services including the preparation and submission of reports to the authorities to UCMS Group (News (2012)). Yota has signed a 10-year agreement with Linxdatacenterfor providing tier 3 datacenter solutions to Yota in Saint Petersburg (http://linxtelecom.com/node/509).

ix. **Working more closely with other Mobile Network Service Providers:** Yota has recently signed an agreement with Rostelecom based on Virtual Mobile Network Operator (MVNO) model (Rostelecom (2012)). Yota has announced the launch of its LTE network in Novosibirsk. MegaFon under an MVNO deal will be service provider (Tele-Geography (2012b)). However, Russian LTE MVNO models are likely to be short lived (Cellular news (2012)). It is reported that Yota and MegaFon are considering the merger & filed a request with Federal Antimonopoly Service (FAS) (East-west digital news (2012)).

x. **New Owner and issues**: Rostelecom has lodged a complaint with Moscow's Commercial Court in September 2012 against Yota . Yota is obliged to offer its rival access to its in-deployment LTE network via a mobile virtual network operator (MVNO) agreement (Telegeography (2013)). Russia's Rostelecom has announced an MVNO deal with LTE operator Scartel (Yota) as reported by Tele-geography. Under the terms of the contract, testing was expected to commence in Moscow on 1 July 2012, with a commercial launch mooted for September 1, 2012. The deal gives Rostelecom access to Yota's frequencies in the 2500MHz-2530MHz and 2620MHz-2650MHz spectrum bands (Ablott (2012a)).

6. Recent Development

In the recent past, it is reported that MegaFon, Russia's second-biggest mobile operator is buying 100% of Yota for $1.18 billion (€882.5 million) (Morris (2013)). MegaFon will gain an edge in Russia's nascent market for 4G mobile services. Russia's Federal Anti-monopoly Service has granted permission to MegaFon to buy 100 per cent of Scartel (telecoms.com (2013)). TeliaSonera (a share holder in Megafon) had analyzed the deal and concluded that acquisition of Scartel (Yota) would strategically attractive and value enhancing for MegaFon (Hibberd (2013)). The reason for buyout could be in the mind of promoters that it will be tough for Yota to compete in LTE Russian markets as

predicted by Dobardziev and Girvolas (2010). Earlier it was reported that Russian mobile giant MegaFon and WiMAX-turned-Long Term Evolution (LTE) operator Scartel (Yota) have completed the merger of their telecoms assets (Tele-Geography (2012d)). This will be a major setback to Yota Business Model (CEE Insight (2012)).

7. Concluding Remarks:

Yota, a Russian WiMAX-turned-LTE player, announced a wholesale network deal that will make it the key LTE network provider in Russia. Its LTE network will cover 200 cities across Russia covering 70 million people (Ruble (2012)).

Lightsquared, USA, also recently announced a wholesale model for a nationwide wireless broadband network in the US. While these are both extremely ambitious plans, if they succeed, the future of the mobile industry will be considerably different from what it is today. It can be said that Yota, Lightsquared and TeliaSonera will shape the future of mobile services in the world. Government of Kenya has also tried to emulate Yota Model but with a bleak outlook (Singh (2013)).

The Yota model was different from Lightsquared, USA with a guaranteed business from four big operators in Russia still its success depends on many factors or behavior of market, and policy changes. Some of the happenings as mentioned below are not in favor of Yota Business Model

(i) Few functionaries of the Russian government think it has too much radio spectrum, and want to give this radio spectrum to other operator. The country's telecom regulator recently cancelled some licenses, a decision that Yota is fighting in court.

(ii) Yota is certainly ambitious. It dreams to establish a global brand. However, alone Nicaragua will not help. In past global brand of Russian companies is a rarity for Russia. If it happen it will be highly beneficial in creating Russian MNCs or global brand in future.

(iii) There is a criticism by four big carriers in Russian Federation on the following two accounts, i.e. (a) the amount of the valuation of Yota as $ 1 billion, (b) it may hurt small players in the market. The success of the Yota model had to wait (Gabriel (2011b)).

(iv) Yota is not wedded to a single technology. It had no inhibition in switching from WiMax, to LTE (Belic (2010)). It is a positive sign in its strategies. Another positive sign is simple business model of Yota. LTE price might have decreased by 60% in the market by 2016 (Sa-

hota (2011)). The 8 years business experience of Yota by 2016 will help it to compete in the LTE based broadband market.

(v) **Major Event:** Russia has gone back to the tried and tested method of awarding spectrum to multiple operators wherein each build their own LTE networks. MTS, Vimpelcom, Megafon, and Rostelecom were all awarded free licenses to provide nationwide LTE services by 2019, with the condition that they must meet annual investment targets of RUB15bn ($459m) (Obiodu (2013)).

(vi) Another missing link in the strategies is no investment in research and development by Yota. It has made Yota completely dependent on others for new technologies as and when needed.

(vii) Megafon plan to buy Yota for $1.2 billion. It will be an end to excellent resource sharing business model.

In the end it can be inferred that Yota Business model will come to an end very soon due to above listed reasons. The big four telecom operators will write the destiny of 4G telecom markets in Russia

8. Points for Further Research

There is a need to test following hypotheses in future.

(i) A business model in telecom industry which is cost effective, environmental friendly and might have saved the earth resources in future will not survive unless it makes more business sense to the stakeholders.

(ii) Even, if all countries adopt such collaborative strategies which generate saving of many natural resources on the earth and these saving may be solution to the recent economic crises to some extent will not be successful unless it clearly defines winners & losers in the game.

(iii) Company of a country/society with so many inventions to its credit is planning to run faster to win the race with complete dependency on external technological resources looks somewhat a week strategy. Yota model may be a learning lesson to companies.

(iv) Big size (both in term of money & manpower) is needed to sustain the business in a competitive & growing markets for the longer duration.

(v) Kenya is building a single LTE network and plan to support many mobile operators via wholesale agreements in deploying 4G net-

works (Gabriel (2011a)). It may be successful because of four reasons. These are (a) less competition among buyers, (b) less competition among provider side, (c) very basic structures of the needs of the citizens, and (c) data transfer needs may not be as in case of developed economies. It may also go Yota's way. There is a need to analyze.

(vi) There is a need to research the negative side of telecom business in the context of environment and positive side of business models such as Yota.

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