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PARTICIPANTS' REPORTS-6

ICTP - URSI - ITU/BDT WORKSHOP ON THE USE OF RADIO FOR DIGITAL COMMUNICATIONS IN DEVELOPING COUNTRIES

(17 - 28 February, 1997)

"Mobile Cellular Telephone Communications in Russia"

(Case Study)

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**MOBILE CELLULAR TELEPHONE
COMMUNICATIONS**

IN RUSSIA

(Case Study)

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- 1. Common Parameters of Russian Telecommunications**
- 2. Infrastructure of Telecommunications**
- 3. Mobile Cellular Communications**
- 4. Past, Current State and Plans**
- 5. Concluding Remarks**

MOBILE CELLULAR TELEPHONE COMMUNICATIONS
IN RUSSIA
(Case Study)

1. Common Parameters of Russian

Telecommunications

(end of 1996)

Population 150 mlns

Number of SL 25 mlns

Number of city's SL 22 mlns

Number of rural SL 3 mlns

Telephone Density

*** *Total* 17 SL/100 inhs**

*** *City* 18,3 SL/100 inhs**

*** *Rural Area* 10 SL/100 inhs**

2. Infrastructure of Telecommunications

Ministry of Communications

**(Main functions - General Control, Regulations, Licensing,
Certification (Approval of equipment))**

and Regulatory Body - Chief Communication Inspectorate

(Main Functions - Spectrum Allocation and Monitoring QoS)

Operators

A). * Public Operators

*** Private Operators**

B). ** Long Distance/International Public

Operators (there is only ONE)

**** International Private Operators (around 20)**

**** Local Public Operators (86)**

**** Local Private Operators (more 200)**

C). * Fixed Network Operators**

***** Mobile Network Operators**

State of Public Network and Trends

- A). Main Part of Networks is based on crossbar exchanges and analog transmissions (especially, local networks)**
- B). Intensive Digitalization of Switching and Transmission Systems**

Problems

- A). Unstable Environment**
- B). Lack of Normal Regulations**
- C). Financial Constrains**

Positive Factors

- A). Liberalization**
- B). Privatization**
- C). Direct Foreign Investments**

1992 - 4%

1996 - 41% (750 mlns USD)

3. Mobile Communications

Three Standards

A). * NMT-450 (Analog, 450 MHz, NE)

*** AMPS (Analog, 800 MHz, USA)**

*** GSM (Digital, 900 MHz, PE)**

B). * NMT-450

&

GSM

are Federal Standards

*** AMPS is a Regional Standard**

C). * First System (NMT-450) was installed in 1991

Number of Users (the end of 1996)

* Total	200 000
* NMT-450	60 000
* GSM	50 000
* AMPS	90 000

Main Suppliers

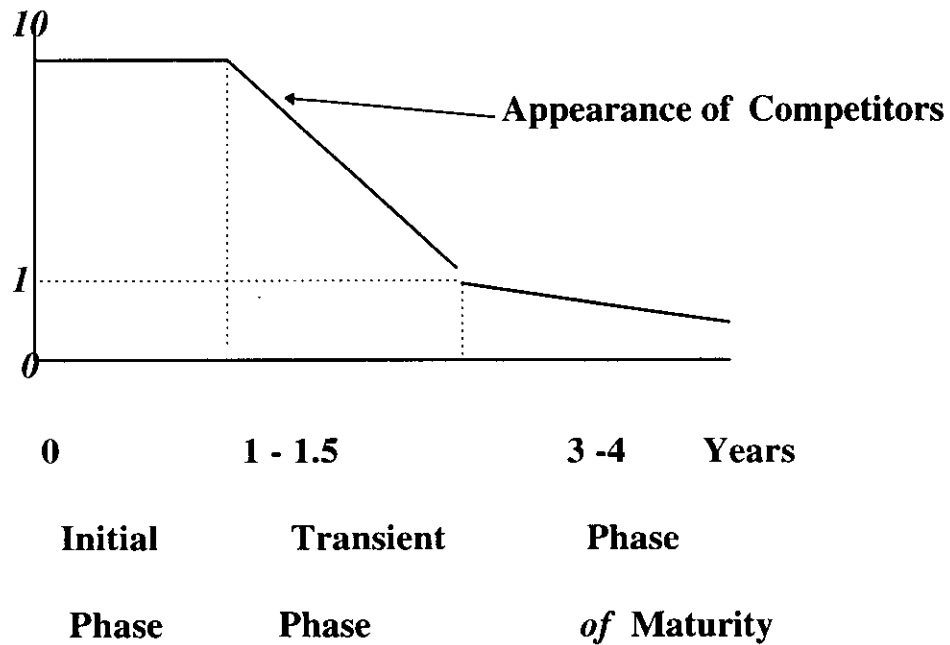
*** Ericsson, Nokia, Motorola**

*** Selection of Suppliers on the Base of Tenders**

Prices

Conditions

Reputation

Tariffs**Tariffs****Range of Tariffs**

Installation Fee 100 - 2000 USD

Month Fee 30 - 200 USD

Tariffs for 1 min. (Outgoing Call/Incoming Call)

0.10 - > 1 USD

Problems

- * Lag on Development**
- * Spectrum Availability**
- * Lack of Competition**
- * Absence of National Vendors**
- * Restricted Amount of Potential Users**

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- * Unstable Environment**
- * Lack of Normal Regulations**
- * Financial Constrains**

#Positive Factors

- * Rapid Development**
- * Decision of Problem “Waiting List”**
- * Experience of Operators**
- * Introduction of New Technologies (DCS-1800, DECT, PCS)**
- * Impact on Positions of Domestic Manufacturers**

4. Past, Current State and Plans

Years	a). Telephone Density		b). Cellular Density		a/b	
	-----		-----		-----	
	R	EE [G.R.]	R	EE [G.R.]	R	EE [G.R.]
1994	15 %	15.85 %	0.02 %	0.10 %	0.14 %	0.57 %
1995	16 %	16.96 %	0.06 %	0.20 %	0.38 %	1.09 %
1996	17 %	18.46 %	0.13 %	0.30 %	0.80 %	1.75 %
2005	30 %	---	3.00 %	---	10.00 %	---

R - RUSSIA

EE [G.R.] - Eastern Europe [Giovanni Repici, ICTP, Feb.'97]

Concluding Remarks

*** Problems**

- General

Unstable Environment

Lack of Normal Regulations

Financial Constrains

- Particular

Spectrum Availability

Absence of National Vendors

Restricted Amount of Potential Users

*** Positive Factors**

- General

Liberalization & Privatization

Direct Foreign Investments

- Particular

Rapid Development

Impact on Positions of Domestic Manufacturers

