Russia

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Russia

COUNTRY BACKGROUND

General Information

Official Name	The Russian Federation
Area	17,045,400 km^2
Government	Federal state with a republican form of government
Head of State	President - Vladimir Putin
National Legislature	Two-chamber legislature: State Duma (lower house) with 450 deputies elected on a territorial basis, and the Federation Council (upper house) with 178 deputies
Most Recent Election	December 1999 (parliamentary), March 2000 (presidential)
Next General Election	December 2003 (parliamentary), March 2004 (presidential)
Party of Government	Proportional representation means that the government currently includes members from the following parties: United Russia, Communist Party of the Russian Federation, Yabloko, Union of Rightist Forces, and Liberal Democratic Party of Russia
Prime Minister	Mikhail Kasyanov

Economic and Social Data

Year ended December 31	1998	1999	2000	2001	2002
Population (m)	146.7	145.9	144.8	143.9	145.2
Population density (per km^2)	8.6	8.6	8.5	8.4	8.5
GDP (US$ b)	270.0	196.0	259.7	313.7	346.5
GDP/capita (US$)	1,840.5	1,343.4	1,793.7	2,178.8	2,386.7
Unemployment (%)	13.2	12.3	9.7	8.7	8.5
Inflation (%)	84.8	36.6	20.2	18.8	15.1
Exchange Rate (US$1:Rb)	9.71	24.61	28.13	29.15	31.39

Telecommunications Data

Year ended December 31	1998	1999	2000	2001	2002
Direct exchange lines (DELs) (000)	NA	NA	32,070	33,278	35,500
DEL penetration (per 100 population)	NA	NA	22.1	23.1	24.4
Mobile phone subscribers (000)	718	1,360	3,400	8,040	18,001
Mobile phone penetration (per 100 pop)	0.5	0.9	2.3	5.5	12.4
Internet subscribers (000)	NA	NA	2,900	4,300	6,000

Notes: Economic and social data sourced from State Committee on Statistics of Russian Federation. Telecommunications data sourced from International Telecommunication Union (DELs and Internet subscribers) and from State Committee on Statistics and mobile operators (mobile subscribers).

TELECOMMUNICATIONS REGULATION

SUMMARY

In general, Russia's telecommunications market may be described as being under rapid development, with the long-awaited consolidation in the state-owned operating utilities sector now well-advanced, providers of value-added and advanced communications services proliferating and profiting in the major population and business centres, and mobile operators and service providers extending their reach nationwide.

According to the Russian Ministry for Communications and Informatisation, the market for communications services was worth approximately US$9,100 million in 2002, having increased in value by 15.6% in just one year. The key to this growth, claimed the ministry, was increasing demand for and usage of data and mobile communications services. Nevertheless, the penetration of basic telephone lines is relatively low, at around 24.4 lines per 100 population in 2002; this disguises the fact that many rural areas and even small towns have little or no coverage by the national telecommunications system, whereas major cities such as Moscow and St Petersburg benefit from extensive and technologically well-advanced networks and therefore have a much higher penetration rate. A number of telecommunications operators characterise the Russian market as being "unsaturated" and have indicated their intention to continue investing heavily in networks and service provision for the foreseeable future.

The vast majority of the state's telecommunications business is held by the Svyazinvest holding company, an entity that is 25%-owned by the privately-controlled Mustcom group and 75% by the Russian state. Svyazinvest itself owns more than 70 of Russia's fixed line local, regional, long-distance, and international operators and has spent much of the past 18 months consolidating the assets and operations of these companies into eight regional business units. Svyazinvest is working towards the goal of eventually becoming a publicly-listed company and this seems likely to happen in 2004, providing the global technology stock markets continue to recover sufficiently.

There are a number of alternative network operators and service providers, some of which are highly specialised. Generally, however, these alternative operators are confined to the provision of services within a limited territory or to a narrow market. Opportunities for expansion remain hindered by the prospects of low profitability, even in the medium to long terms, while a number of operators are fighting for the same markets and customers, those who are not competitive or adaptable enough will eventually be forced out of the market.

Laws governing the telecommunications sector and the Russian business sector have been somewhat muddled and open to varying degrees of interpretation. Much work needed to be done in clarifying and enhancing legislation governing the sector and it is to be hoped that the new Communications Law, which took effect on January 1, 2004, will have resolved these problems.

A certain degree of competition is permitted at the local and regional level. The domestic and long-distance markets appear likely to remain under the monopoly of Rostelecom, the long-distance arm of Svyazinvest, until at least 2010. As Russia is negotiating to accede to membership of the World Trade Organization (WTO), a successful application may result in a fresh impetus to definitively revise the country's telecommunications laws and to actively pursue liberalisation within the sector.

REGULATION

The regulatory body for the Russian telecommunications sector is the Ministry for Communications and Informatisation (MCI), which replaced the State Committee for Telecommunications (SCT) in February 2000. It is aided by the State Commission for Radio Frequencies Service (SRFS) and the Department for State Supervision of Communications in the Russian Federation; however, these organisations are themselves supervised by the MCI. The SRFS is primarily responsible for the development and implementation of a long-term policy for frequency allocation. The Department for State Supervision of Communications is responsible for technical supervision of networks and equipment throughout Russia, including supervision of complaince by network operators with applicable regulations and by licensees with the terms of their licences.

In addition, the Federal Agency of Governmental Communications and Information under the President of Russia (FAPSI) and the Ministry for Anti-Monopoly Policy are charged with oversight of the telecommunications industry.

Russia: Regulatory Bodies and their Responsibilities

Regulatory Body	Responsibilities
Ministry for Communications and Informatisation of the Russian Federation 7, Tverskaya Street Moscow 125375 Russian Federation Tel: 00 7 095 292 7128 Tel: 00 7 095 292 7410 Web: www.minsvyaz.ru	The Ministry for Communications and Informatisation lists its core responsibilities as being: to define the basic policy for development and improvement of communications in the Russian Federation; to increase the quality, availability, and stability of the telecommunications network; to regulate activity in the telecommunications sector to satisfy the needs of federal government bodies, local government agencies, companies, and individuals; to assist the development of new service providers; and, to carry out state policy on restricting monopoly activity in the telecommunications sector.
Federal Agency of Government Communications and Information (Federal'naya Agenstvo Pravitel'stvennoy Svyazi in Informatsi, **FAPSI**) Bolshoi Kisel'nyi per Moscow 103031 Russian Federation Tel: 00 7 095 224 5050 Fax: 00 7 095 144 6409	FAPSI has jurisdiction over four specific areas: government communications networks; cryptography and security of government communications; intelligence-gathering activities; and, provision of "special information" to government bodies.
Ministry for Anti-Monopoly Policy and the Support of Business Activities ulitsa Sadovaya Kudrinskaya 11 Moscow Russian Federation Tel: 00 7 095 252 7653 Fax: 00 7 095 252 4657	The Ministry for Anti-Monopoly Policy and the Support of Business Activities has authority to regulate tariffs on certain telecommunications services, including: the provision of access to local telephone networks, regardless of the type of line used by the customer (wire or radio); local and domestic long-distance connections to fixed-line customers; and, distribution and broadcasting of public TV programmes.

LEGISLATION

For many years, Russia's telecommunications sector has operated under an uncertain regulatory regime, due to the convoluted and often contradictory primary legislation, the Federal Law "On Communications" of February 1995 (amended at various times since then) and the Federal Law "On Natural Monopolies" of August 1995 (also amended at various times since its passage).

In essence, the Communications Law established the legal basis for state supervision and development of the communications industry, including granting licences to provide telecommunications services, allocation of radio frequencies, certification of equipment compatibility, development of comprehensive public networks, and supervision of fair competition among telecommunications service providers. Under the Communications Law, the interconnected communications network (ICN) formed the basis for the Russian telecommunications industry. The ICN is a centrally-managed complex of technologically-linked telecommunications networks owned and operated by the country's state-controlled incumbent fixed-line regional operators, which were brought together as the seven "mega" regional operators controlled by the Svyazinvest holding company during 2002/03 (*see Privatisation*), Rostelecom, and governmental agencies in Russia. The Communications Law provided for equal rights of individuals and legal entities to participate in telecommunications operations and did not contain any special restrictions with regard to participation by foreign

individuals or entities. All users and operators could, in compliance with the terms of the licences issued to them, have access and the right to interconnect their networks with the ICN.

The Natural Monopolies Law established the legal basis for federal regulation of natural monopolies such as telecommunications and provided for state control over the setting of tariffs and other activities of natural monopolies. Subject to the oversight of the Ministry for Anti-Monopoly Policy, the implementation of this law has had a significant impact on the ability of telecommunications service providers to set tariffs. The Natural Monopolies Law also controls the types of transactions into which a regulated entity, such as a telecommunications service provider, can enter. Regulated entities are subject to continuous reporting requirements, which include the submission of plans for capital investments. In addition, regulated entities can not refuse to enter into contracts with particular consumers if required by the regulatory authority, the Ministry for Communications and Informatisation.

This regulatory framework did not clearly establish the interaction between the Communications Law and the Natural Monopolies Law, which resulted in a number of contradictory decrees and decisions amending and supplementing the letter of the laws.

It was not until the second half of 2003 that the Russian government accepted the text of a significantly revised version of the Communications Law. The new version of the law took effect on January 1, 2004.

The new Communications Law more clearly delineates the various responsibilities and interactions of Russia's telecommunications authorities and eliminates much of the overlaps and contradictions that existed in the old Communications Law and the Natural Monopolies Law. Its specific goals are now stated as being:

- arrangement of conditions to provide communications services throughout the territory of the Russian Federation;
- support of prospective technologies and standards implementation;
- protection of interests of communications service users and managing subjects which operate in the field of communications;
- provision of effective and faithful competition in the communications services market;
- arrangement of conditions to develop the Russian communications infrastructure, directing its integration into the international communications networks;
- provision of the centralised management of the Russian radio-frequency resource including the orbital satellite resource and numbering resource; and,
- arrangement of conditions to provide needs in communications for governmental management, national defence, state security, and law enforcement.

The main new feature of the 2003 Communications Law provides for the introduction of a universal service obligation (USO) system, although the Law does not identify universal service providers by name and indicates that a tender process will be used to select universal service operators. As incumbent fixed-line operators with a de facto monopoly over the supply of local telephone services, it is expected that Russia's seven "mega" regional operators controlled by the Svyazinvest holding company will benefit most from the financial resources provided by the USO fund, enabling them to make the necessary technological developments to their networks, improve quality of service, expand the range of services on offer, and ultimately become more profitable. Although not specifically addressed by the text of the new law, it is expected that the modified licensing procedures will allow the Russian authorities to move forward with the licensing of third-generation (3G) mobile communications operators in 2004/05. The new version of the Communications Law also incorporates regulations pertaining to Russia's postal services sector for the first time; previously, postal regulations had been addressed in a separate piece of legislation.

As a result of the implementation of the new 2003 Communications Law, the former Communications Law of 1995 and its subsequent amendments have been invalidated, as has the Federal Law on Postal Services of 1999.

As yet, it is too early to tell whether the new Communications Law is water-tight and whether the conflicts with the Natural Monopolies Law - which is still in force - have been fully resolved.

COMPETITION

The Russian telecommunications market is hugely underdeveloped, with a penetration rate of 24.4 telephone lines per 100 inhabitants at the end of 2002, up from 23.1 at the end of 2001. The penetration of mobile phones exceeded that of fixed-lines for the first time in 2003.

The incumbent operators in Russia are long-distance operator Rostelecom and the former Elektrosvyaz local/regional telephone companies, many of which are now grouped within seven "mega" regional operators controlled by the Svyazinvest holding company. Svyazinvest has a controlling stake in Rostelecom. The holding company is itself partially-privatised and is expected to see a further sale of its shares in 2005. A handful of Elektrosvyaz companies remain outside the control of Svyazinvest's "mega" regional operators and may ultimately break away as independent operators or succumb to pressure to join their peers within the holding company. A number of the local operators have built analogue NMT cellular networks (some of which are being upgraded with CDMA 2000 digital technology), but Svyazinvest has noted that it will no longer invest in the operation and upgrading of these networks. Svyazinvest is now placing an increased emphasis on developing its GSM 900/1800 assets, as it holds licences to build such networks in all of its local operators' service areas; interestingly, not all of these licences have been acted on as yet, and it remains to be seen how Svyazinvest will develop these properties ahead of the licensing of third-generation (3G) services.

Where competition does exist in the fixed-line market, it is invariably concentrated in large cities and focused on business rather than residential customers. Although the 1995 Law on Communications provided for incumbents to allow new entrants to access and interconnect with their fixed networks, the letter of the law was often at variance with the Law on Natural Monopolies, which attempted to safeguard state-owned business interests, effectively hampering the development of competition. Economic and political instability has also contributed to the slow development of competition outside of Russia's 10 largest cities, while the country's physical and climatic extremes provide an effective barrier to developing telecommunications in rural and remote parts of Russia.

There remains a high degree of demand for competition, however, as the incumbents have historically been frustrated by a lack of cash with which to effect network modernisation and expansion in order to meet increased demand for basic and advanced services. Until the restructuring of Svyazinvest between 2000 and 2002, many of the local operators did not have a common strategic development plan and were allowed to source network infrastructure from different suppliers, which therefore led to a certain degree of incompatibility between their networks. To a large extent, this has now been resolved, with Svyazinvest overseeing the purchase of high-capacity high-quality infrastructure from some of the world's leading suppliers.

In the Soviet era, telecommunications services to the public, businesses, and government were normally unreliable and expensive and suffered from a lack of investment. As a result, government organisations and industrial groups developed their own telecommunications networks, few of which were interconnected with the public network. At least some of these alternative networks were used by both licensed and unlicensed operators to bypass the existing public network, and some of these alternative platforms have now been licensed as official public infrastructures.

Recognising the weaknesses of the telecommunications infrastructure, in the early-1990s, the government permitted foreign telecommunications companies and Russian operators to form joint ventures to develop digital overlay networks (DONs). Most of these focused on Moscow and St Petersburg, however, and most have survived to the present day, although their parentages have invariably changed since they were first incorporated. Among the survivors are: Combellga (recently acquired by Golden Telecom); Comstar and Golden Line (owned by Moscow City Telephone Network, MGTS); Sovintel (now owned by Golden Telecom); Nakhodka Telecom and Sakhalin Telecom (owned by Cable & Wireless); and, PeterStar (owned by Metromedia International).

Initially, it was expected that networks utilising wireless local loop (WLL) technology would enable competitive operators to move quickly to address demand for service at the local level. However, the 1998 devaluation of the rouble, coupled with confusion in the market and at the regulatory level as to whether the use of CDMA-based WLL networks infringed the cellular operators' rights to exclusivity, meant that very little was achieved in this regard, and it is now only the incumbents as well as a few of the surviving DON operators that use wireless technology at the local level. Wireless local area network (W-LAN or Wi-Fi) technology is beginning to be rolled out, again only by the incumbents and the larger DON operators, while asymmetric digital subscriber line (ADSL) services are presently achieveable only on sufficiently modernised portions of metropolitan networks.

Rostelecom notes that the market for domestic long-distance and international voice packet transmission services has become more competitive in recent years, although the company's monopoly on basic international long-distance services remains intact. At the same time, specialised operators with wide coverage areas are entering the market; in the main, such new entrants are capable of developing primary networks that pose a direct threat to the incumbent.

In the Moscow-St Petersburg long-distance services market, Rostelecom faces competition from CJSC Sonera Rus (a subsidiary of TeliaSonera International Carrier), CJSC Rascom, and CJSC TransTelecom. For the rest of the market, Rostelecom competes with TransTelecom, the Federal State Unitary Enterprise (FSUE) Space Communications, and CJSC Zond-Holding. TransTelecom is Rostelecom's most significant rival, as it utilises capacity on the privately-owned national network owned by the Ministry of Railways.

In the metropolitan fixed-network market, Rostelecom and Svyazinvest's main competitors are: the Sistema Telecom group; Sonera Rus; Golden Telecom; and, Mobile TeleSystems (MTS). Sistema Telecom provides telephony, data transmission, Internet, cellular, satellite, and paging services through investments in companies such as MTU-Intel, MTU-Inform, and Telmos. Golden Telecom has acquired from Rostelecom data and corporate service companies such as TeleRoss and Sovintel; through these transactions, Rostelecom has acquired a minority stake in Golden Telecom.

Russia's huge size meant that the creation of nationwide cellular telephone networks has taken almost 10 years to achieve, and only then through the recent spate of mergers and acquisitions that have resulted in the establishment of the Big Three (MegaFon, Mobile TeleSystems (MTS), and VimpelCom (Beeline)) as Russia's premier mobile service providers. Trailing the Big Three by a considerable margin are Svyazinvest, Sweden's Tele2 Russia, and the privately-owned SMARTS and MCT groups.

In 1993, the Russian government implemented a policy for the development of cellular networks throughout Russia which would create "national" networks based on analogue NMT 450/900 and GSM 900 standards. In most regions, two or three competing operators received licences using different standards, including AMPS and D-AMPS. In fact, VimpelCom quickly became one of the first operators to offer a "national" service through the establishment of interconnection agreements with around 60 separate cellular operators. Subsequently, as GSM 1800 licences became available from 1998/1999 onwards, VimpelCom and other new entrants such as MTS and MegaFon were able to develop a national network strategy by selecting the licences they needed to fill gaps in their coverage or to upgrade areas they were already servicing with analogue systems.

At the end of 2003, there were 63 NMT 450 analogue cellular networks in operation throughout Russia. The owners of these networks are preparing to upgrade the NMT systems with digital systems based on CDMA 2000 technology. The CDMA 2000 standard is approved as a third-generation (3G) cellular standard and the Russian operators of NMT networks hope to leapfrog from first generation to 3G at a stroke. Around 20 Russian NMT 450 operators had received licences to operate CDMA 2000 networks by the end of 2003, including Moscow Cellular Communications, Rostov Cellular Phone (trading as Expo-Vim), Kuzbass Cellular Communication, Uralvestcom, and Novosibirsk Cellular Communications. These operators are to offer CDMA 2000 services through a joint venture company called SkyLink; the SkyLink brand name will be used to market these services. By the end of 2003, only three CDMA 2000 networks had been launched. Delta Telecom in St Petersburg launched its CDMA 2000 network in December 2002, while Bashkortostan Cellular Communication launched its CDMA 2000 offering in early-September 2003. Moscow Cellular Communications reportedly launched its CDMA 2000 network in November/December 2003. Other launches are expected to follow between 2004 and 2006, although Svyazinvest (which owns around 20 NMT operators) has recently said that it will not pursue the implementation of CDMA 2000 technology on its NMT networks; these may now be retired or sold on. Prior to Svyazinvest's decision, the SkyLink operators had expected to sign up 15 million CDMA 2000 subscribers by 2010, accounting for around 30% of the Russian cellular market at that time.

PRIVATISATION

Prior to the collapse of the Soviet Union, public long-distance and international services were provided exclusively by the state-owned Sovtelekom organisation. In 1991, control over the long-distance networks within the Russian Federation was retained by the state, but the cost of modernising and updating the networks proved greater than expected. The government reorganised most of the existing long-distance network into a new state-owned company, Rostelecom, in December 1992. The company was officially registered as a public joint-stock company in September

1993 and was granted a licence for the exclusive provision of national long-distance and international telecommunications services in January 1994.

Rostelecom was privatised in a voucher privatisation in March and April 1994, with stock sold to strategic partners US WEST (latterly Media One International, which subsequently became part of the AT&T empire) and Italtel. Preferred shares were distributed to the Russian public for free. Following the privatisation, 75% of the company's stock was accounted for by ordinary shares, of which 51% (38% of Rostelecom's stock) was held by the state, 18% (13.5%) by employees, 16% (12%) by foreign shareholders, and 15% (11.25%) by Russian shareholders. Over time, trading of Rostelecom's preferred shares on the open market resulted in foreign investors acquiring the bulk of these shares. The Russian government's ownership of Rostelecom was eventually transferred to the Svyazinvest holding company in April 1997, which was itself privatised later that year. Svyazinvest continues to own approximately 51% of the ordinary shares of Rostelecom.

The privatisation of Svyazinvest is a long-running affair that is set to continue into 2004/05. The process commenced in 1992, when the Russian government began partially-privatising the Elektrosvyaz (local/regional fixed-line operators) through a voucher system, with shares distributed to employees, management, and the public. The government retained control of the companies. The process occurred in a piecemeal fashion throughout the country, resulting in a widespread pattern of ownership of local companies and different degrees of privatisation. In January 1995, shares in a number of the larger regional companies were sold to local strategic investors, with the effect of removing the central government as majority shareholder and weakening its control over local operators.

In September 1995, the Russian government created Svyazinvest as a new holding company for its interests in 85 local and regional telephone companies. The government's stake in Rostelecom was not merged at that time and it was decided that Svyazinvest would compete with Rostelecom in the domestic long-distance market. The plan was to sell a 25% stake in Svyazinvest towards the end of 1995. However, a number of factors combined to make Svyazinvest an unattractive proposition for potential investors: its lack of operational control over most of the operating companies; the large number of loss-making subsidiaries within the group; and, the huge investment required to upgrade and expand the companies' networks.

Nevertheless, it was thought that Svyazinvest could prove a good investment if it were allowed to compete fully and fairly in the long-distance market and, by November 1995, two candidates had submitted preliminary bids for the 25% stake. Telecom Italia's US$640 million bid was accepted by the Russian authorities; however, the deal had fallen through by January 1996, in part due to the lack of clarification of the relationship between Svyazinvest and Rostelecom.

In November 1996, it was reported that the Russian government was again considering merging Rostelecom and Svyazinvest in order to make the sale of Svyazinvest more attractive. By early-1997, it emerged that, although a tender for 25% of Svyazinvest would be open to foreign investors, bids put forward by Russian banks (which had financed the re-election of then-President Boris Yeltsin) would be favoured.

In May 1997, it was announced that the government's 38% stake in Rostelecom (representing 51% of the voting rights) had been transferred to Svyazinvest the previous month. By this time, foreign telecommunications companies, such as AT&T, Deutsche Telekom, and Ericsson, were expressing interest in bidding for the stake in Svyazinvest as many of the Russian banks had found it difficult to post the US$400 million prepayment required to bid. It was agreed that a total of 49% of Svyazinvest would now be sold in two tranches. In the first tranche, 25% plus one share would be sold by auction to Russian and foreign investors. It was expected that a further 24% plus one share stake, reserved for Russian investors only, would be sold in 1998. The second tranche was to have been made available through closed bids, where companies would make long-term investment proposals, rather than commit cash.

The Mustcom consortium, comprising Oneksimbank and Deutsche Morgan Grenfell, was announced as the winner of the tender in July 1997. Approximately 70% of the US$1,875 million bid went to the government, with the remaining 30% being used to start the modernisation of Svyazinvest's telecommunications infrastructure. Only one other bid had been submitted, by the TELEFAM consortium of Alfa Bank, Credit Suisse First Boston, and Telefónica SA of Spain.

In August 1998, the Russian government began the process of soliciting bids for the second tranche of shares in Svyazinvest. To increase the potential value of the company, Svyazinvest was awarded a national GSM 900 cellular licence, and many of its local and regional operating companies began developing digital cellular networks. Foreign

investors were permitted to participate in the sale, reversing the earlier decision that Russian investors only would be allowed to bid. However, the devaluation of the rouble that same month resulted in little interest from either domestic or foreign investors and the effective price of the sale fell from the equivalent of US$1,035 million to US$396 million at the end of September 1998. The government formally cancelled the sale on October 9, 1998. Attempts to re-start the sale process in 1999 and 2000 were abandoned, and no further attempts were made to sell any further shares in Svyazinvest until 2003, following the completion of a corporate restructuring of the holding company's operations.

Indeed, this restructuring may now make the sale of the second tranche of shares in Svyazinvest rather more appealing, as the company has reorganised 72 of its local and regional fixed-line telephone companies into seven "mega" regional operations spanning the whole of Russia. Svyazinvest has taken the opportunity to sell off or wind-down non-profitable businesses and, despite initial plans to upgrade its ageing analogue cellular infrastructure with more advanced technology, based on the CDMA 2000 standard, has now decided to sell off or liquidate these assets in order to focus on developing its second-generation GSM 900/1800 networks into 2.5G wireless data/Internet platforms as a precursor to launching 3G networks of its own. It is thought likely that 3G mobile licences will be awarded in 2004/05. There remain several local and regional operators owned by Svyazinvest which have not, for one reason or another, agreed to take part in this restructuring. They may choose to do so at some point in the future or may even be spun-off from Svyazinvest altogether.

Restructured Svyazinvest Holding Company

Region	Number of merged (or consolidated) companies	Base company	Share conversion/merger (or consolidation) date
North-West	9	OJSC North-West Telecom	October 31, 2002
Center	17	OJSC CenterTelecom	November 30, 2002
Volga	11	OJSC VolgaTelecom	November 30, 2002
Northern Caucasus	10	OJSC Southern Telecommunications Company	October 31, 2002
Ural	7	OJSC Uralsvyazinform	September 30, 2002
Siberia	11	OJSC SibirTelecom	November 30, 2002
Far East	7	OJSC Dalsvyaz	October 1, 2002

Source: Svyazinvest.

With the restructuring of Svyazinvest largely completed by early-2003, April saw the Russian government announce plans to sell a 25% minus two shares stake in the company by the end of the year, hopefully netting at least US$1,000 million. However, the advisor to the sale, JP Morgan Chase & Co, said that the sale was unlikely to raise more than US$350 million if it went ahead under the prevailing market conditions. The government therefore decided to postpone the initiation of the sale until early-2004. In the meantime, it is considering altering the size of the stake to be offered. If the size of the offering does increase, the government will likely introduce a "golden share" in order to control the company and to ensure that national security issues are addressed. Separately, in September 2003, Russia's Economic Development and Trade Minister said that the government did not intend to sell its stake in Svyazinvest until 2005.

COMMUNICATIONS MARKET INDICATORS

Comparison of Rostelecom and Svyazinvest Operating Results with CMA Averages, 2002

	World Average	EU Average	Svyazinvest	Rostelecom
Total Revenues (US$ m)	9,228.8	16,327.1	3,621.5	896.4
Operating Income (US$ m)	839.0	49.7	1,051.0	55.9
Net Income (US$ m)	-936.0	-3,649.5	345.7	21.6
Employees	46,400.6	74,217.3	364,410	31,729
DELs (000)	10,039.4	16,978.3	28,228.0	0.0
Revs/DELs (US$)	877.4	1,195.3	128.3	0.0
PTOP/DEL (US$)	91.7	20.3	37.2	0.0
Revs/Emp (US$ 000)	218.8	246.4	9.9	28.3
PTOP/Emp (US$ 000)	21.1	7.2	2.9	1.8
DELs/Emp	243.4	220.5	77.5	0.0

Note: The CMA World Average has been calculated on the basis of figures from 80 major incumbent local and long-distance/international operators worldwide. The CMA EU Average has been calculated from the figures of 14 European Union incumbent local and long-distance/international operators (excludes P&T Luxembourg). Figures refer to the consolidated results of the operating company, and may therefore include minority stakes held in incumbent operators in other countries.

OVERALL MARKET DEVELOPMENT IN 2002

According to data published by Russia's State Statistics Committee, the aggregate volume of telecommunications services in Russia grew by 15.6% year-on-year during 2002 in real rouble terms, to approximately Rb285,500 million (US$9,100 million). This was well above the 4.3% growth in gross domestic product (GDP) witnessed during the year. Consequently, telecommunications services accounted for 2.6% of Russia's GDP in 2002, up from 2.2% in 2001. Nevertheless, this was still below the 5% average for developing countries, remarked the State Statistics Committee.

[However, figures published separately by the Ministry for Communications and Informatisation (MCI) showed that the industry generated revenues of Rb270,200 million in 2002 (US$8,620 million). Neither MCI nor the State Statistics Committee publishes detailed information concerning the way in which their figures are calculated, so there is no way of verifying each organisation's claims.]

The continuing development of the telecommunications services sector was boosted during 2002 by the consolidation of the incumbent local/regional fixed-line operators controlled by the Svyazinvest holding company, as well as a sharp (40%-plus) increase in local tariffs for residential customers. Expectations for the sector were boosted by the acceptance of an initial draft of a new telecommunications law by the Duma (Parliament); however, the final version law would not be passed until mid-2003 and then only took effect from the beginning of 2004.

According to the State Statistics Committee, incumbent operators saw their revenues increase by around 27% during 2002, in nominal rouble terms. However, revenues of mobile and alternative network operators grew by 56% during the year under review, mostly as a result of a boom in demand for cellular services as new digital networks were cut-over and expanded (*see sub-section on Russian Cellular Market 2002-03, later this section for data on market shares*). According to the State Statistics Committee, incumbents' share of the overall telecommunications services market, in terms of revenue, fell from around 50% in 2001 to 45% in 2002.

During 2002, the number of active Internet users increased by approximately 39% to around six million, which implied a penetration rate of around 4.1%. This data was sourced from the Ministry for Communications and Informatisation (MCI), said the State Statistics Committee, rather from service providers, so may not be wholly accurate. Incumbent operators' Internet-related activities accounted for less than 3% of total revenues for 2002, however, indicating that the incumbents still have some way to go in developing their Internet offerings.

The State Statistics Committee estimated that Russia's telecommunications operators made investments of Rb65,400 million in 2002, representing a year-on-year increase of 10.8% over the year. This would seem to indicate that the

restructuring of the incumbents within the Svyazinvest holding company had gone some way towards improving the balance sheets of the operators. Improvements in the credit ratings of many of the Svyazinvest companies also gave them more credibility with foreign telecommunications equipment suppliers and financers. A sharper improvement was expected for 2003, following completion of the main restructuring programme.

OVERALL MARKET DEVELOPMENT IN FIRST HALF OF 2003

Using data supplied by the State Statistics Committee, Svyazinvest made the following report on the status of Russia's overall telecommunications services market during the first six months of 2003 (six months ended June 30). Svyazinvest noted that the Russian telecommunications sector was still growing faster than the economy as a whole, up by 39.1% year-on-year to around Rb175,000 million (US$4,600 million), compared to nominal GDP growth of 22.1%. Svyazinvest noted that growth was driven primarily by local tariff increases and growth in long-distance calling volumes. Nevertheless, revenue from local services grew faster than long-distance revenues.

Svyazinvest observed that new entrants had demonstrated considerably higher growth rates than the incumbents, with new carriers' combined share of the market rising to 55.7% by June 2003 (49.5% at June 2002). New entrants' share of local services was also growing, noted the incumbent, with the proportion of revenue increasing from 40% to 46% in the first half of 2003.

According to Svyazinvest, Internet and intelligent services/ISDN offerings demonstrated particularly high growth rates in the first half of 2003, despite continuing to account for a relatively small share of the market. The number of Internet users reportedly increased by a factor of 2.2 in the first half of 2003, and Svyazinvest noted that Internet development was being boosted through the introduction of public access points at post offices nationwide. Mobile revenues grew by 66.4% year-on-year to Rb60,400 million (US$2,010 million).

Data supplied by Svyazinvest showed that Russian telecommunications operators made capital investments of Rb23,400 million (US$780 million) during the first half of 2003, representing a year-on-year increase of 29.4%. New entrants accounted for 39.3% of capital investment during this time. Svyazinvest reported that a total of Rb19,300 million worth of new fixed assets was commissioned during the first half of 2003 (a year-on-year increase of 48.8%), with more than half (52.6%) coming from new entrants.

RUSSIAN CELLULAR MARKET, 2002-03

With as many as two or three cellular licences having been awarded in each of Russia's 89 administrative regions, there are now hundreds of local/regional cellular operators in Russia. However, recent years have witnessed a spate of mergers, acquisitions, and alliances that have brought many cellular licensees under a common or joint ownership. Consolidation has given rise to Russia's three largest operators, commonly referred to as the Big Three. These are: Mobile TeleSystems (MTS); VimpelCom (trading as BeeLine); and, MegaFon. All three companies operate GSM 900/1800 networks across Russia and are the nearest the country has to national cellular operators. Consequently, all three are likely to be the main applicants for third-generation (3G) licences, when these are made available in 2004.

Trailing the Big Three by a considerable margin are the companies that make up the privately-owned SMARTS group, which primarily operates in the Volga region, as well as the various analogue and digital cellular operations of the incumbent telephone companies owned by the Svyazinvest holding company. Tele2 of Sweden has inherited the AMPS/GSM 900 cellular operations of Millicom International Cellular (MIC), which are being augmented with GSM 1800 technology; thus, Tele2 could eventually become a major player in the Russian market.
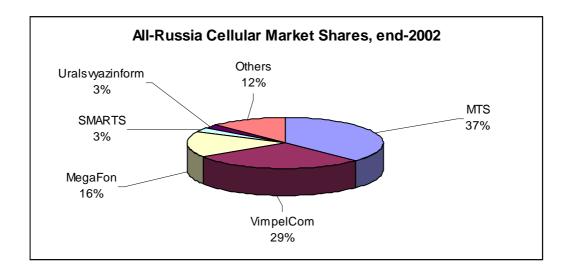
GSM 900/1800 appears to be the technology of choice in Russia, with the authorities only recently (December 2002) having accepted CDMA 2000 as a legitimate mobile communications standard. However, CDMA appears to be limited to upgrading the ageing analogue cellular NMT 450 networks that are still in service; there were 63 NMT networks in service at the end of 2003, of which three were offering services over CDMA 2000-enhanced networks, under the common SkyLink brand name. With Svyazinvest electing not to upgrade its 20 or so NMT networks in this way, it would appear that the use of CDMA 2000 in Russia has been still-born. So far, the Russian authorities have not indicated which technology standards are to be used in full 3G networks.
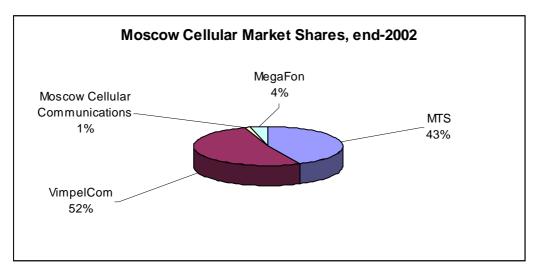
At the end of 2002, Russia's cellular market supported approximately 18.0 million subscribers, representing a penetration rate of around 12.4%. GSM 900/1800 subscribers accounted for around 92% of the subscriber base at that time. The Big Three operators accounted for more than 14.7 million customers at the end of 2002, or 81.7% of the market. Around 40% of customers were based in Moscow at the end of 2002.
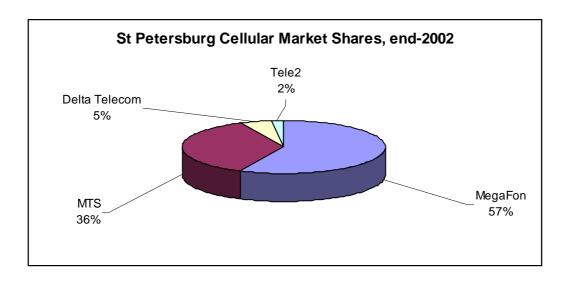
At that time, Mobile TeleSystems (MTS) had an overall market share of 37.2%, with a total of 6.69 million customers. MTS accounted for 43% of all subscribers in Moscow and 36% of subscribers in St Petersburg at that time.

VimpelCom had an overall market share of 28.6% at the end of 2002, with a total of 5.16 million customers. VimpelCom accounted for 52% of all subscribers in Moscow at that time. VimpelCom did not operate in St Petersburg at that time.

MegaFon had an overall market share of 16.3% at the end of 2002, with a total of 2.94 million customers. MegaFon accounted for 4% of all subscribers in Moscow and 57% of all subscribers in St Petersburg at that time.

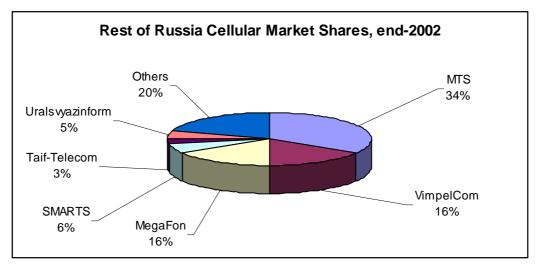**All-Russia Cellular Market Shares, end-2002**

- Uralsvyazinform 3%
- Others 12%
- MTS 37%
- SMARTS 3%
- MegaFon 16%
- VimpelCom 29%

Moscow Cellular Market Shares, end-2002

- MegaFon 4%
- Moscow Cellular Communications 1%
- MTS 43%
- VimpelCom 52%

St Petersburg Cellular Market Shares, end-2002

Tele2
2%

Delta Telecom
5%

MegaFon
57%

MTS
36%

Rest of Russia Cellular Market Shares, end-2002

Others
20%

MTS
34%

Uralsvyazinform
5%

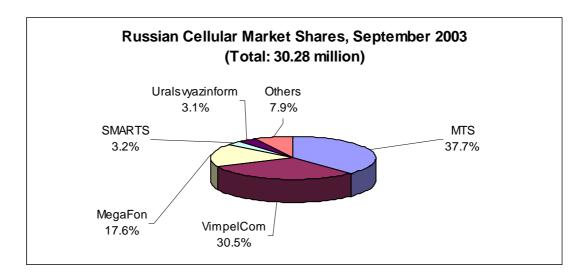Taif-Telecom
3%

VimpelCom
16%

SMARTS
6%

MegaFon
16%

Sources: Operators, Ministry for Communications and Informatisation, ACM-Consulting.

Note: Uralsvyazinform is a subsidiary of Svyazinvest.

By the end of September 2003, Russia's cellular market supported approximately 30.28 million subscribers, representing a penetration rate of around 20.9%. The Big Three operators accounted for 25.99 million subscribers at that time, or 85.8% of the market. Around 34.1% of customers were based in Moscow, while 10.3% were based in St Petersburg.

At that time, MTS had an overall market share of 37.7%, with 11.41 million customers, of which 4.49 million were in Moscow. VimpelCom had an overall market share of 30.5%, with 9.25 million customers, of which 5.03 million were in Moscow. MegaFon had an overall market share of 17.6%, with 5.33 million customers, of which 755,910 were in Moscow.

**Russian Cellular Market Shares, September 2003
(Total: 30.28 million)**

Uralsvyazinform
3.1%

Others
7.9%

SMARTS
3.2%

MTS
37.7%

MegaFon
17.6%

VimpelCom
30.5%

Sources: Operators, Ministry for Communications and Informatisation, ACM-Consulting.

By the end of November 2003 (latest data), there were 33.52 million cellular subscribers in Russia, representing a penetration rate of 23.1%. At that time, MTS had a market share of approximately 38%, VimpelCom 31%, and MegaFon 17%.

MAJOR OPERATORS

Major Operators

Operator	Company Information
CJSC Comstar Telecommunications 6, 1st Golutvinsky Per Moscow 119180 Russian Federation Tel: 00 7 095 956 0000 Fax: 00 7 095 956 0707 Web: www.comstar.ru	**Comstar Telecommunications** is equally-owned by Moscow City Telephone Network (MGTS, *see separate entry on this company, listed under Sistema Telecom, later in this section*) and Adamant Advisory Services, UK Virgin Islands. Comstar Telecommunications was established in 1989 to provide Russian business customers with high-quality local, national, and international communications services. Based in Moscow, Comstar Telecommunications' primary focus is on the Moscow corporate services market, while the company operates a 2,500km fibre-optic backbone that serves the Moscow region and adjacent markets. Over this network, Comstar currently offers a wide range of communications services, including telephony, Internet access, and data transmission. During 2003, Comstar deployed an all-new Riverstone Networks-supplied Next-Generation Network, dubbed ***Comstar NGN***, which is based on multi-protocol label switching (MPLS) technology. The NGN enables the company to offer a broader range of high-speed services, including asymmetric digital subscriber line (ADSL) connectivity, metro Ethernet services, virtual private networking (VPN), and voice-over-IP (VoIP) services. Comstar NGN is being put into service on a phased basis. In October 2003, Comstar and ITXC Corporation of the US signed an agreement for the bilateral exchange of international voice traffic. The agreement gives Comstar access to ITXC's international VoIP network, ITXC.net, which interconnects local, national, and global carriers in more than 175 countries. Thus, Comstar's VoIP and IP PBX customers now have global accessibility. Comstar's network was originally built by Marconi Telecommunications of the UK, itself one of the original investors in the Comstar project to build and operate Russia's first private payphone service. The Moscow network entered service in 1992, enabling Comstar to offer local, national, and international communications services. It began providing ISDN services in 1994, while dial-up Internet access services began to be offered in 1996. Interconnection of Comstar's ISDN network and the ISDN platform of long-distance operator Rostelecom (*see separate entry on this company later in this section)* was achieved in 2001. During 2002, Comstar began offering ADSL services to certain parts of its service area; in May 2003, the company began offering ADSL services to all of its telephone customers. Comstar put into service a new Siemens EWSD digital telephone exchange in 2002, adding to the four Marconi System X switches that have been in place since the company began offering services. Other network equipment has been supplied to Comstar at various times by Fotona, Perspective Technologies, Nortel Networks, Cisco Systems, and Hewlett-Packard. Comstar Telecommunications has approximately 500 employees. Financial and operating results of the company are not disclosed.
JSC Gascom 15 Kalinina Street KGUPS PO Box 99 Koroliov Moscow 141070 Russian Federaion Tel: 00 7 095 504 2906 Fax: 00 7 095 504 2911 Web: www.gascom.ru	**JSC Gascom** is owned 80% by Gazprom (Russia's largest gas production and distribution company), 16% by Rocket & Space Corporation Energia (a rocket-launching company), and 4% by Gazprombank (an authorised bank for the gas industry). Gascom was established in 1992 with the aim of building and operating a private satellite communications system in Russia, connected to the privately-owned national communications network operated by Gazprom. Work on building the company's dedicated satellite earth station network began in 1993, but work on designing and building the company's first satellite, designated Yamal-100, did not begin until 1995. The satellite itself was launched in September 1999, at which time Gascom's use of Russian Satellite Communications Company's (RSCC, *see separate entry on this company later in this section*) Gorizont satellites came to an end. The new Yamal-100 satellite offers telecommunications and broadcast services and its footprint currently covers most of the Russian Federation, most Commonwealth of Independent States (CIS) countries, and parts of eastern Europe and northern Asia. In late-November 2003, Gascom's two next-generation Yamal-200 satellites were finally launched, and these were expected to enter service in January 2004 following the completion of in-orbit tests. The

Operator	Company Information
	first of these new satellites is equipped with C-band and Ku-band transponders and is dedicated to the provision of communications and TV broadcasting services in the C-band and the servicing of VSAT users in the Ku-band. The second satellite has a semi-global coverage zone in the C-band and will service Europe, Asia, and north Africa. The launch of the new satellites effectively increased the capacity of Gascom's Yamal satellite system by a factor of seven. It is expected that 25% of the new satellites' capacity will be reserved for the use of Gazprom; the remainder will be offered to third parties in Russia and overseas. Work on developing two additional Yamal-200 satellites is now underway.

As of September 2003, Gascom operated 120 satellite earth stations across Russia; these provided communications services for Gazprom subsidiaries nationwide as well as to private customers with very small aperture terminal (VSAT) connections. Gascom also operated three satellite teleports as of September 2003, all of which were located in the Moscow region, as well as a digital satellite TV service centre. The teleports are connected to the Gascom network and third-party networks via fibre-optic links.

Gascom reports that approximately 40% of the capacity of its satellite network is used by the Gazprom group. The remaining capacity is leased to external users, including Rostelecom, Vostoktelecom, the Ministry of Defence, Ugoltelecom, the Ministry of Communications in Turkmenistan, the Russian Ministry of Finance, and Equant.

Gascom has approximately 500 employees. Financial and operating results of the company are not disclosed.

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Golden Telecom Inc is the largest independent facilities-based provider of integrated telecommunications and Internet services to business and other high-usage customers and telecommunications operators in Russia, Ukraine, an several members of the Commonwealth of Independent States (CIS). Its principal shareholders, as of early-December 2003, were: Eco Telecom (an affiliate of the Alfa Group, 30%); Telenor East Invest AS (20%); Rostelecom (11%, *see separate entry on Rostelecom later in this profile section*); the European Bank for Reconstruction and Development (8%); Baring Vostok (7%); Capital (6%); and, Others (18%).

Golden Telecom has its roots in San Francisco/Moscow Teleport Inc, which was founded in 1983 and gradually evolved into the now-defunct Global TeleSystems Inc (GTS). Golden Telecom and certain other Russian, Ukrainian, and CIS-based operations were spun-off as a separate entity in June 1999 ahead of an initial public offering (IPO) of shares in the business. The combined entity retained the Golden Telecom identity.

Golden Telecom is the result of the gradual merger and integration of various companies and subsidiaries within the former GTS group, as well as the subsequent acquisition of third party companies, including partners and competitors. Companies that have been subsumed into the current Golden Telecom business include: TeleRoss, TCM, Sovam Teleport, First Telecommunications Company (PTK), Agentstvo Delovoi Svyazi (ADS), Commercial Information Systems (KIS), ZAO Cityline, OOO Uralrelcom, Sovintel, OOO SibChallenge-Telecom, ZAO Tel, and OAO Combellga. In early-November 2003, Golden Telecom announced its intention to purchase Hudson Telecom Inc, owner of Rostov-on-Don-based Digital Telephone Networks (DTN). Purchase negotiations were ongoing at the time of writing. The companies that have been acquired by Golden Telecom are in the process of being folded into a single wireline operator business, EDN Sovintel.

As a result of an asset exchange transaction carried out in 2000, Golden Telecom has a 23% minority non-voting interest in Russian cellular operator MCT. Golden Telecom does not consolidate the operations of MCT into its financial accounts and may divest this interest in the future. *(See separate entry on MCT.)*

Golden Telecom has three distinct lines of business in Russia:

Competitive Local Exchange Carrier (CLEC) Services - using its local access overlay networks in Moscow, St Petersburg, and Nizhny Novgorod, Golden Telecom provides a range of services including local exchange and access services, international and domestic long-distance services, data communication, Internet access, and the design of corporate networks;

Operator   **Company Information**

Data and Internet Services - using its fibre-optic and satellite-based networks, including 149 combined points of presence (PoPs) in Russia, Ukraine, and member countries of the CIS, Golden Telecom provides data and Internet services, including: business-to-business services (data communications, dedicated Internet access, web design, web hosting, co-location, and data warehousing); and, business-to-consumer services (dial-up Internet access and web content offered through a family of Internet portals); and,

Long-distance Services - using its fibre-optic and satellite-based network, Golden Telecom provides long-distance voice services in Russia.

Golden Telecom competes primarily for high-volume business customers and carriers requiring access to highly reliable and advanced telecommunications facilities to operate their business. Golden Telecom's top five customers accounted for approximately 19% of the company's consolidated revenues for 2002; indeed, its largest customer, VimpelCom, accounted for 12% of revenues in 2002.

Golden Telecom's networks in Russia include: metropolitan area networks (MANs); international networks; and, domestic long-distance networks.

In Moscow, St Petersburg, and Nizhny Novgorod, Golden Telecom operates MANs through its CLEC Services divisions. In each of these locations, the company owns or leases local access lines and PBX connections, local exchange switches, local numbering capacity, fibre-optic transmission rings, and a fibre-optic backbone. In Moscow, the Golden Telecom MAN consisted of access lines supporting more than 210,000 local numbers and 50,000 '501' numbers connecting more than 2,500 buildings at the end of 2002. The network comprised two Nortel DMS 100, two Siemens EWSD, one Nokia DX 200, and one Ericsson AXE 10 local switches and 16 Nokia Meridian 1 hub PBXs. At that time, one EWSD switch and the DX 200 switch, with 150,000 operational local numbers, were interconnected to the local PSTN via Golden Telecom's backbone fibre-optic network and leased channels. At the end of 2002, approximately 2,200km of fibre-optic backbone and access infrastructure used SDH rings and PDH tails.

The St Petersburg network consisted of an EWSD tandem, local and long-distance switch, interconnected to the St Petersburg PSTN through Petersburg City Telephone Network and Petersburg Transit Telecom Network, with capacity for 10,000 local numbers, and 65 PBXs. At the end of 2002, Golden Telecom had built approximately 570km of fibre-optic cable in and around St Petersburg.

The Nizhny Novgorod network had an installed capacity of 22,000 local city numbers at the end of 2002, of which more than 17,000 were in service, supported by two NEC NEAX switches. The long-distance element of the network was supported by an Iskratel-supplied SI2000 long-distance switch and 15 PBXs. Local access is leased from the incumbent local operator in Niznhy Novgorod, a subsidiary of Volga Telecom (*see entry under Svyazinvest*).

Golden Telecom offers combined voice and data services with access to the local PSTNs in 16 different major metropolitan areas in Russia. Depending on the location, Golden Telecom had between 300 and 3,000 local lines in service at the end of 2002, for a total combined capacity of 10,000 lines.

At the end of 2002, Golden Telecom employed dial-up Internet access servers using more than 15,000 dial-up lines in 63 cities in Russia, Ukraine, Kazakhstan, and Uzbekistan. This dial-up roaming service was also available in more than 80 countries through an international data-roaming agreement with GRIC Dial.

Golden Telecom's domestic long-distance networks are based on fibre-optic cable and satellite systems. The company's terrestrial domestic long-distance network consists primarily of fibre-optic capacity leased from Rostelecom and TransTeleCom and serves 149 PoPs. Golden Telecom leases C-band capacity on a satellite transponder from Intelsat. Using this transponder, Golden Telecom serves 14 regional earth stations and 50 very small aperture terminal (VSAT) stations nationwide. Golden Telecom also leases Ku-band capacity from Intelsat; this capacity is primarily used to cover western Russia, Kazakhstan, and Uzbekistan.

Operator	Company Information

Golden Telecom's international networks provide international switched voice, data, and IP services in Russia using leased transmission capacity obtained from Rostelecom and TransTelecom. A Nortel DMS 300 international gateway is based in Moscow and is interconnected with an international gateway in Kiev, Ukraine, where Golden Telecom is also active. Golden Telecom's data and Internet services network utilises Nortel's Passport-branded ATM systems and Cisco Systems' Internet routers. Transmission capacity is leased from Rostelecom, TransTeleCom, Rascom, and TeliaSonera International Carrier (TIC). Indeed, Golden Telecom entered into a 10-year network capacity lease agreement with TIC in February 2000; under this agreement, Golden Telecom currently leases STM-16 (2.4Gbit/s) capacity on the TIC network routes linking Moscow and Stockholm in Sweden. In addition, Golden Telecom uses satellite connections to deliver services between Moscow and other major CIS countries.

In early-November 2003, Golden Telecom and wireless operators Mobile TeleSystems (MTS) and VimpelCom (*see separate entries on both of these companies, later in this section*) agreed to jointly build a fibre-optic backbone connecting Moscow and Nizhny Novgorod. The expected total cost of the project is US$8.6 million; this will be divided equally between the three companies. The link is expected to follow the main highway between Moscow and Nizhny Novgorod, connecting the base stations of the three companies and potential customers along the route. The system is scheduled to enter service in the second half of 2004. The network will comprise three fibre-optic cables, each with 32 fibre-pairs. The operators will own their own electronics connected to the backbone. Upon completion, each company will have rights to one of the fibre-optic cables, as well as equal shares in the housing and access facilities that are part of the cable system. It has been suggested (by Golden Telecom) that the cable may be extended beyond Nizhny Novgorod to other high capacity routes in the companies' key markets at some point in the future.

At the end of 2002, Golden Telecom operated 149 points of presence (PoPs), up from 140 at the end of 2001. This figure had not changed by the end of September 2003. The company served 242,155 dial-up Internet access customers at the end of 2002, up from 185,628 at the end of 2001. This figure had increased to 291,167 by the end of September 2003. Golden Telecom claimed to have had a total of 68,549 business and corporate services contracts at the end of September 2003; at the same time, the company had 689 carrier and operator service contracts.

Golden Telecom had revenues of US$198.7 million in the year ended December 31, 2002, up from US$140.0 million in 2001. The company reported a net profit for 2002 of US$29.8 million, much improved from the previous year's loss of US$39.0 million. Golden Telecom's consolidated entities employed 1,708 staff at the end of 2002, while its non-consolidated businesses employed 104 people.

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US-based **MCT Corporation** controls cellular telephone operators in Russia and Central Asia. In Russia, the company co-operates with 13 privately-owned cellular operators, but services are offered under the common brand name *Indigo*. The sizes of the stakes (if any) that MCT owns in its 13 Russian cellular businesses are not known, as the company was not able to respond to Espicom's request for information concerning its activities. Fixed-line operator Golden Telecom holds a 24% stake in MCT.

MCT sold its stakes in five regional cellular operators to Mobile TeleSystems (MTS) in October 2003: 50% of *Primtelefon*; 43% of *Uraltelecom*; 80% of *Mar Mobile*; 50% of *Astrakhan Mobile*; and, 50% of *Volograd Mobile*. MCT received a total of US$70 million for these stakes. All of these companies operated GSM 1800 cellular networks.

The company's remaining cellular businesses are:

Altaysvyaz - a GSM network operator based in Barnaul;
Arkhangelsk Mobile Networks - a D-AMPS network operator based in Arkhangelsk;
Chuvashia Mobile - an AMPS/D-AMPS network operator based in Cheboksary;
Coscom - a GSM 900 network operator based in Tashkent;
Lipetsk Mobile - an AMPS/D-AMPS network operator based in Lipetsk;
Murmansk Mobile Networks - a GSM 1800/AMPS/D-AMPS network operator based in Murmansk;
Novgorod Telecommunications - an AMPS/D-AMPS network operator based in Novgorod;
Parma Mobile - an AMPS network operator based in Syktyvkar;

Operator	Company Information
Web: www.mctcorp.net	**Penza Mobile** - an AMPS network operator based in Penza;
	Saratov Mobile - an AMPS network operator based in Saratov;
	Sibintertelecom - a GSM network operator based in Chita;
	Somoncom - a GSM 900 network operator based in Khudjad; and,
	Votek Mobile - an AMPS/TDMA/D-AMPS network operator based in Voronezh.

The Russian Ministry of Communications and Informatisation indicates that it may offer four third-generation (3G) universal mobile telecommunications system (UMTS) licences via a competitive tender process in the first quarter of 2004. It seems unlikely that MCT will pursue any such licences when they eventually become available.

MCT has not disclosed the subscriber bases of its Russian cellular networks.

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OJSC MegaFon is owned by LV Finance (an affiliate of the Alfa Group, 25%), TeliaSonera AB (44%), and Telecominvest (31%). Part of TeliaSonera's stake is indirectly held through its ownership of Telecominvest (*see later this section for details on Telecominvest*). The Alfa Group also indirectly holds a 25% stake in rival cellular operator VimpelCom (*see later this section for details on VimpelCom*); Alfa's purchase of its 25% stake in MegaFon in late-August 2003 prompted speculation that a merger of MegaFon and VimpelCom might follow. Such a merger would not be advisable, as the combined entity would have many overlapping licensed territories it might then have to spend considerable resources in divesting. Certainly, both MegaFon and VimpelCom have not publicly reacted to this speculation.

MegaFon was established in May 2002 when existing cellular operator *North-West GSM* merged with new entrant *CJSC Sonic Duo* (a GSM operator licensed to serve the Moscow region) and a host of affiliated regional GSM operators, including: *CJSC Mobicom-Kavkaz*, *CJSC Mobicom-Centre*, *CJSC Mobicom-Novosibirsk*, *CJSC Mobicom-Khabarovsk*, *CJSC Mobicom-Kirov*, *CJSC MSC-Povolzhje*, *CJSC Volzhsky GSM*, and *CJSC Uralsky GSM*. The result was a company with cellular licences covering 100% of the territory of the Russian population and a population of 145 million people. MegaFon aims to capture over one-third of the Russian market by 2009. The company plans to invest US$600 million until 2004 to achieve this goal.

North-West GSM was established in St Petersburg and began operating a GSM 900 cellular network in that region in December 1994. Operations at most of the affiliate companies began in 1997. Subsequently, value-added services such as Caller ID and voice mail have been launched, and wireless data/Internet services such as WAP and GPRS are also in the process of being rolled-out. GPRS and MMS roaming with international partners TeliaSonera, Radiolinja, Turkcell, T-Mobile International, and MobIsle of Malta was launched in October 2003. Prepaid subscriptions are available under the **GSMLITE** brand name.

According to TeliaSonera, MegaFon had 3,030,000 subscribers at the end of 2002, up from 917,000 at the end of 2001. TeliaSonera claimed that MegaFon was Russia's third-largest cellular operator at the end of 2002, with market shares of 65% in the St Petersburg region, 4% in the Moscow region, 25% in the Volga region, 29% in the Southern region, and 16% in the Urals region. By the end of September 2003, TeliaSonera claimed that MegaFon was serving 5,328,000 cellular customers. The number of customers exceeded 5.7 million by November 2003.

In November 2003, MegaFon announced plans to launch commercial services in the Siberia region, to "considerably increase" its presence in central Russia, and to establish services in the far-eastern region of the country. Huawei Technologies of China was contracted in June 2003 to build the Siberian and far-eastern networks. Nokia, Ericsson, and Siemens have previously supplied network equipment for MegaFon's existing GSM 900/1800 networks. MegaFon now plans to invest US$590 million in developing its networks in 2004, up from US$365 million in 2003. In August 2003, the Savings Bank of Russia extended a US$300 million line of credit to MegaFon until 2010; this line of credit can be increased by a further US$75 million if necessary

The Russian Ministry of Communications and Informatisation indicates that it may offer four third-generation (3G) universal mobile telecommunications system (UMTS) licences via a competitive tender process in the first quarter of 2004. MegaFon is likely to bid for such licences when they become available, and has indicated that it is already well-placed, technically, to migrate to 3G.

Operator	Company Information
	MegaFon also has a 75%-owned subsidiary, ZAO TTMobile, which operates a GSM cellular network in the Republic of Tajikistan. This subsidiary was established in the second half of 2001 and commercial services were launched in October 2001.
Metromedia International Telecommunications Group **ZAO PeterStar/** **Baltic Communications Ltd** Tel: 00 7 812 329 9090 Fax: 00 7 812 329 9001 Web: www.peterstar.ru	According to TeliaSonera, MegaFon had revenues of US$406 million in the year ended December 31, 2002, up from US$197 million in 2001. More detailed financial data are not currently available. US-based **Metromedia International Group** (**MIG**) owns interests in various communications and media businesses in Russia, Georgia, and eastern Europe. In Russia, MIG's principal telecommunications business is 71%-owned **ZAO PeterStar**, the leading competitive local exchange carrier (CLEC) in St Petersburg. At the beginning of October 2003, PeterStar acquired MIG's wholly-owned subsidiary, **Baltic Communications Ltd** (**BCL**), a local and long-distance telephony operator in St Petersburg. In June 2003, MIG sold its 100% stake in Technocom Ltd, a company that owned interests in several Russian telecommunications businesses, including satellite-based operator *Teleport TP* (*see separate entry, later in this section*). Earlier in 2003, MIG sold its 50% stake in *ZAO Comstar* (*see earlier this section*).

MIG's partner in PeterStar is Telecominvest, with a 29% stake (*see separate entry on Telecominvest*). PeterStar is licensed to offer telecommunications services throughout the Northwestern region of Russia and operates a digital fibre-optic network that is fully interconnected with the public switched network of incumbent operator North-West Telecom (*see entry under Svyazinvest*) and has direct and indirect connections via more than 1,200km of fibre-optic cable in St Petersburg with national and international switches.

PeterStar is expanding its facilities-based network, thereby decreasing its long-term dependence on the interconnection agreement with North-West Telecom. By the end of 2002, nearly 60% of PeterStar's customers were served by facilities owned and operated by PeterStar. The company is also aggressively introducing its own data transport, Internet, and Voice-over-IP (VoIP) services.

PeterStar's fully-digital telephone network is built on the nodes of North-West Telecom and has connections to the networks of other operators, including: Petersburg Transit Telecom; Telecom XXI; Metrocom; Golden Telecom; and, Rostelecom. The PeterStar network makes it possible to provide telephony services to customers over analogue links as well as over E1 digital trunks and ISDN connections.

The PeterStar wireless access network (WAN) covers the St Petersburg region and the Leningrad Oblast. The WAN consists of two segments: 1.5GHz and 2.4GHz. At the end of 2002, both networks served 3,890 lines.

PeterStar's data and Internet access network covers St Petersburg and the neighbouring regions, such as Petrodvorets, Pavlovsk, Pushkin, Sestroretsk, Zelenogorsk, and Kronshtadt. The network has gateways to all carriers represented in the territory of St Petersburg and the Leningrad Oblast. At the end of 2002, PeterStar possessed four Internet access nodes with a total capacity of 1,680 switched connections and 558 dedicated channels at 64kbit/s each. The company had the following external Internet channels at the end of 2002: Cable & Wireless (155Mbit/s); Golden Telecom/TeleRoss (100Mbit/s); and, Rostelecom (100Mbit/s). A VoIP node was in place with a capacity of 1,290 connections. The data network consists of frame relay, asynchronous transfer mode (ATM), and Gigabit Ethernet platforms. There were three ATM switches in service at the end of 2002.

PeterStar served 54,255 business fixed lines at the end of 2002, up from 52,442 at the end of 2001. The company also served 35,801 fixed lines in the Vasilievsky Island region at the end of 2002, up from 34,697 in 2001. Some 6,636 data lines were in service at the end of 2002, up from 5,350 at the end of 2001. PeterStar served 9,875 Internet customers at the end of 2002, up from 1,619 at the end of 2001. PeterStar had revenues of US$55.9 million in 2002, up from US$47.9 million in 2001.

Baltic Communications Ltd (BCL) is a local and long-distance telephony operator in St Petersburg. It also serves customers from the Leningrad Oblast, the greater metropolitan area of St Petersburg. BCL provides local, long-distance, and international direct dial telephony, Internet, data transfer, and leased line services as well as carrier-to-carrier services to traditional telephony operators, VoIP operators, and Internet service providers. BCL also offers pre-paid and credit card payphones and calling card services to the business and consumer markets.

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BCL's transmission network is based on a 95km fibre-optic network and a microwave backbone. The network covers all of the key business areas of St Petersburg. The SDH transmission network comprised four STM-1 rings at the end of 2002, while its Ethernet transmission network was based on direct links to the fibre network. BCL operates a last-mile network for its dedicated and overlay voice services, as well as for data and Internet services. BCL provides domestic long-distance and international call services through a dedicated telephony network. BCL utilises a number of E1 channels and copper last-mile circuits leased from North-West Telecom, LenSvyaz (Vyborg), TeliaSonera International Carrier, Rascom, and Cable & Wireless. The overlay telephony network had a total installed capacity of 3,000 customer connections at the end of 2002 and was connected to the PSTN via North-West Telecom, Petersburg Transit Telecom, and PeterStar. BCL's network connects to the Internet via three diversely-routed links to the main peering point in St Petersburg. BCL also has an Internet node in Vyborg, supporting dial-up, leased-line, and Ethernet access.

At the end of 2002, BCL had 2,974 active telephone lines, up from 2,530 in 2001. The company had 26 carrier customers at the end of 2002, up from 17 in 2001. The company sold 61,236 VoIP cards in 2002, compared to 8,986 in 2001. The company also operated 320 64kbit/s leased-line circuits at the end of 2002, compared to 133 in 2001. BCL had total revenues of US$6.9 million in 2002, down from US$7.2 million in 2001.

OJSC Mobile TeleSystems (MTS)
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Moscow 109147
Russian Federation

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Fax: 00 7 095 766 0100
Web: www.mtsgsm.com

[Mobile TeleSystems (MTS) is profiled separately and in greater detail in Espicom's Network Operators Worldwide (NOW) service.]

OJSC Mobile TeleSystems (**MTS**) is one of the largest cellular telephone network operators in the Russian Federation, having begun providing services in Moscow - which remains its core market - in 1994. MTS is owned by Sistema Telecom (40.8%, *see separate entry on this holding company*); T-Mobile International of Germany (25.1%); Invest-Svyaz-Holding (8.0%); VAST (3.0%); public shareholders (22.3%); and, individuals (0.7%). It should be noted that Sistema Telecom owns 100% of Invest-Svyaz and 51% of VAST, giving Sistema greater influence over MTS.

MTS operates GSM digital cellular networks in over 50 regions across Russia and, as of September 2003 (latest data, and assuming certain acquisitions initiated in recent months were completed as planned), MTS had a licence footprint covering 184.1 million people in 72 regions of Russia. The company had 11.34 Russian subscribers at the end of September 2003, up from 5.43 million at the end of September 2002; this represented year-on-year growth of 108.8%. The September 2003 figure does not include 114,372 subscribers served by three non-consolidated subsidiaries at that time.

Between 1993 and 2003, MTS has acquired licences enabling it to build and operate its own GSM 900/1800 cellular networks across Russia. The company has also spent the last five years steadily acquiring other cellular operators or cellular licensees that had never started building or operating their networks. This is a process that continues to date, with MTS acquiring cellular operations from Svyazinvest-owned incumbent fixed-line operators where these operations are no longer considered to be essential to the Svyazinvest group's strategic plans.

In the main, MTS operates GSM 900 networks; these are augmented with GSM 1800 equipment in high-use areas. To connect base stations with their respective base station controllers, MTS leases fibre-optic links from MTU-Inform, Sovintel, Rostelecom, and Equant, as well as using its own microwave connections. Where practical and cost-effective, MTS is replacing microwave links with fibre-optic connections. In addition to its own network coverage, MTS provides coverage in several regions of Russia where it does not operate through roaming agreements with around 20 regional operators. International roaming is available with more than 260 GSM service providers in more than 115 countries. MTS has interconnection agreements with several telecommunications operators in Moscow and other regions, including Moscow City Telephone Network (MGTS) and Telmos (a joint venture of MGTS with Sistema Telecom and Rostelecom). For domestic long-distance services, MTS has interconnection agreements with Rostelecom and Multiregional Transit Telecom (MTT) and, for international long-distance services, with Rostelecom and Sovintel (a Golden Telecom subsidiary). MTU-Inform and Telmos also provide domestic long-distance and international services through interconnection with the Rostelecom network.

To foster the growth of telecommunications in Russia and to increase the telephone numbers available to GSM operators in Russia, the government has devised a plan to link all GSM operators in Russia by means of a national network. As envisioned, this network would be based around eight hubs to be linked together through fibre-optic network connections. In accordance with a decree promulgated by the Ministry of Communications and Informatisation, MTS was appointed a co-

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Operator	Company Information
	ordinating operator in the Central Region of Russia, which covers 16 operators. The national fibre-optic network is expected to enable MTS and other operators to reduce their reliance on interconnection agreements.

In early-November 2003, MTS, its wireless rival VimpelCom, and fixed-line operator Golden Telecom agreed to jointly build a fibre-optic backbone connecting Moscow and Nizhny Novgorod. The expected total cost of the project is US$8.6 million; this will be divided equally between the three companies. The link is expected to follow the main highway between Moscow and Nizhny Novgorod, connecting the base stations of the three companies and potential customers along the route. The system is scheduled to enter service in the second half of 2004. The network will comprise three fibre-optic cables, each with 32 fibre-pairs. The operators will own their own electronics connected to the backbone. Upon completion, each company will have rights to one of the fibre-optic cables, as well as equal shares in the housing and access facilities that are part of the cable system. It has been suggested (by Golden Telecom) that the cable may be extended beyond Nizhny Novgorod to other high capacity routes in the companies' key markets at some point in the future.

MTS' primary area of operations is Moscow City and the Moscow Oblast. MTS launched a GSM 900 network in Moscow in 1994, then expanded it to the adjoining Tver and Kostroma regions, as well as the Komi Republic after receiving licences for these regions in 1997. MTS has access to 1800MHz frequencies in selected areas of the Moscow region. The network is supported by a 650km fibre-optic transmission backbone supplied by Bosch Telekom of Germany.

MTS acquired Telekom XXI in May 2001. This company has GSM 900/1800 licences to operate in 10 regions of Russia: St Petersburg, Karelia Republic, Nenetsky autonomous district, Leningrad, Arkhangelsk, Vologda, Kalininingrad, Murmansk, Novgorod, and Pskov. MTS launched its network in St Petersburg and the Leningrad region in December 2001. The networks in the other regions were launched commercially during 2002. Ericsson has been the principal supplier of infrastructure used in these networks.

In September 2000, MTS began installing general packet radio service (GPRS) equipment at base stations in the Moscow licence area. By the end of 2001, MTS had sufficient GPRS software to support all base stations in the region. By the end of 2002, MTS had also introduced GPRS technology to the St Petersburg, Nizhny Novgorod, Tver, Smolensk, Yaroslavl, Novosibirsk, and Kostroma licence areas. Commercial GPRS services were launched by MTS in May 2003 for subscribers in the Moscow area.

In 2001, MTS began creating two universal mobile telecommunications system (UMTS) test zones, one based on Siemens equipment and the other on Motorola equipment. In November 2002, MTS carried out what it claimed was the first UMTS voice call in Russia. The UMTS equipment is rented. UMTS licences in Russia have not yet been offered. The Russian Ministry of Communications and Informatisation indicates that it may offer four licences via a competitive tender process in the first quarter of 2004. MTS has estimated that the build-out of a 3G UMTS network in the Moscow licence area would require an investment of between US$60 million and US$100 million.

In addition to its activities in Russia, MTS also wholly-owns Ukrainian Mobile Communications (UMC, a GSM cellular network operator in Ukraine) as well as a 49% stake in JLLC Mobile TeleSystems, a GSM cellular network operator in Belarus. (*See Espicom's Communications Market Analysis (CMA) profile on Ukraine for further information on UMC.*)

For the year ended December 31, 2002, MTS reported revenues of US$1,361.8 million, representing a year-on-year increase of 52.5% from the US$893.2 million reported in 2001. MTS ended 2002 with net income of US$277.1 million, up by 34.6% from US$205.8 million in 2001. MTS had 11,042 employees at the end of 2002.

OJSC Moscow City Telephone Network (**MGTS**) 12, Building 3 Petrovsky Boulevard Moscow	**OJSC Moscow City Telephone Network** (**MGTS**) is 28.0%-owned by the Svyazinvest holding company (*see separate entry on Svyazinvest*), with 3.3% owned by foreign legal entities and 1.94% owned by employees and other individuals. Its roots go back to the inauguration of an 800-number telephone network in Moscow by the International Bell Company in 1882. Between 1890 and 1917, the operating rights for the Moscow network were held by the Swedish-Danish-Russian Joint Stock Company, but the business was nationalised by the Russian government in January 1917 and

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Russian Federation Tel: 00 7 095 950 0600 Fax: 00 7 095 950 0618 Web: www.mgts.ru	remained a state enterprise until June 1994, when it was transformed into a joint stock company. In November 2003, it was reported that MGTS was planning to launch an initial public offering (IPO) of its stock, valued at between US$200 million and US$300 million, by the end of 2004. The proceeds would be used to help in the modernisation of the company's network over the period to 2006. MGTS' board of directors had not ratified the proposal at the time of writing; a decision is expected early in 2004.

MGTS' main subsidiaries are: JSC Golden Line (50%-owned); JSC Telmos (40%); JSC AMT (100%); Comstar Telecommunications (50%); and, JSC VOLS (10%).

MGTS offers local telephone services, data transmission services, wire broadcasting services, ISDN services, and channel leasing. MGTS' service area covers the whole of metropolitan Moscow, where approximately nine million people reside. MGTS claims to serve approximately 80% of the fixed services market in Moscow City.

At the end of 2002, MGTS' basic network had an installed capacity of 4,334,862 lines and a switched capacity of 4,142,168 lines, supported by 572 automatic telephone exchanges. At that time, 4,084,482 telephone lines were in service, although only 17% of the network was digitalised. However, in 2003, the company commenced a general network modernisation programme, which is focusing on the replacement of analogue switches with digital facilities. Between 2003 and the end of 2006, the company aims to be replacing 200,000 analogue connections per year. This should supplement and extend the access to the company's public broadband data network, the first phase of which was completed and brought into service in December 2001 and which has recently been fully-deployed. Virtual private network (VPN) and interactive multimedia services are offered over this network.

MGTS employed 20,433 staff at the end of 2002. The company had revenues of US$10,102.0 million in 2002, up from US$7,937.5 million in 2001. The company had net income of US$1,126.4 million in 2002, up from US$366.4 million in 2001.

OJSC Multiregional Transit Telecom (**MTT**)
22, Marksistskaya Street
Moscow 109147
Russian Federation

Tel: 00 7 095 270 7010
Fax: 00 7 095 746 5060
Web: www.mtt.ru

Multiregional Transit Telecom (**MTT**) was established in 1994 to establish a nationwide digital interconnection platform for fixed-line and mobile communications operators in Russia. MTT claims that its network links the individual local and regional networks of more than 130 Russian companies, covering an area that is home to 99% of the Russian population. Some 23 million customers are served by MTT's network.

MTT provides mobile operators with local, domestic long-distance, and international long-distance services, enables signal traffic routing/carriage, and roaming. It also enables the seamless transfer of data and telematic communications services between discrete networks nationwide. MTT is a member of the International Group of GPRS Roaming Exchange (GRX) providers and offers GPRS roaming services. More than 25 major fixed-line operators in Russia use MTT to connect their traffic to mobile networks. Since 2001, MTT has been deploying local gateways in the key parts of its network as well as access nodes that increase the regional operators' ability to interconnect with the MTT network. Local gateways were in operation in Moscow, St Petersburg, Krasnoyarsk, and Samara as of mid-2003. A gateway was being established in Novossibirsk at that time. There should be 18 local gateways in service by the end of 2004. Access nodes were installed in 36 regions as of mid-2003; by the end of 2004, access nodes should be in service in all 89 regions of Russia.

The backbone of MTT's transit network includes seven gateway switching centres located in each of the seven federal districts of the Russian Federation and are interconnected by digital links. The MTT transit network is based on Common Channel Signalling System No.7 (CCSS No.7) solutions and a time synchronisation hierarchy system. Advanced data equipment installed in the network includes ATM switches and IP routers. MTT claims that its transit network has a total length of more than 80,000km and, through co-operation with the Svyazinvest companies and Rostelecom, interconnection with more than 270 operators in 114 countries is possible.

In 2002, MTT handled approximately 578 million minutes of traffic; this was expected to exceed 900 million minutes in 2003.

Operator

OJSC Rostelecom

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Russian Federation

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Web: www.rt.ru

Company Information

OJSC Rostelecom is 50.67%-owned by the Svyazinvest holding company, and its financial results are consolidated with those of the Svyazinvest group (*see later entry on Svyazinvest*). ING Bank/ING Depositary holds 25.70% of Rostelecom's shares, while the National Depositary Center owns 11.45% and other shareholders, including principal executive officers and directors, own 12.19%. Twenty-three shareholders were based in the US, as of June 2003 (latest data). ING Bank's shares take the form of American Depositary Shares, traded on the New York Stock Exchange. Rostelecom American Depositary Receipts (ADRs) are traded on major European stock exchanges, including London and Frankfurt.

Rostelecom is Russia's incumbent national long-distance telecommunications carrier, co-operating with the local/regional fixed-line incumbents controlled by Svyazinvest or independent owners, as well as fixed-line new entrants, mobile communications operators, satellite operators, and data/Internet service providers to act as a carrier's carrier. Rostelecom's 200,000km nationwide digital trunk transmission network is the largest of its kind in Russia. The network is structured around three fibre-optic backbone lines between Moscow and Novorossiisk, Moscow and Khabarovsk, and Moscow and St Petersburg; the network is principally based on synchronous digital hierarchy (SDH) transmission technology, but Rostelecom is now beginning to install dense wavelength division multiplexing (DWDM) solutions on new links and certain parts of the existing network are now being upgraded with DWDM systems. The network connects 88 digital automatic trunk exchanges in 77 regions of the Russian Federation via digital lines. There were eight high-capacity automatic switching nodes and 11 international gateways in service at the end of 2002, at which time the switching part of the network was more than 91% digital while the transmission platform was 76% digitalised.

In Moscow, Rostelecom provides fixed-line domestic long-distance (DLD) and international long-distance (ILD) services to end-users through the last-mile infrastructure of *Moscow Long-distance & International Telephone* (*MTT*, a company it had acquired in 1999), and bills customers directly. Outside Moscow, it co-operates with the incumbent fixed-line local/regional operators. Rostelecom claims it is the only Russian operator licensed to carry both outgoing and incoming international telecommunications traffic. The company has interests in 30 international cable systems and co-operates with 400 international operators.

Until January 2003, Rostelecom leased satellite channels from Lockheed Martin Intersputnik. It now relies on capacity leased from Russian Satellite Communications Company (RSCC, *profiled later in this section*). Rostelecom also leases satellite capacity from Teleport-TP (*profiled later in this section*) and the Federal State Unitary Enterprise Space Communications (FSUE). Rostelecom co-operates with Globalstar LP of the US to offer Globalstar-branded global mobile satellite services in Russia.

In 2002, Rostelecom handled 7,136.2 million minutes of DLD traffic, up by 15.5% from 6,178.9 million minutes in 2001. Outgoiing ILD traffic totalled 1,234.6 million minutes in 2002, up by 14.1% from 1,081.8 million minutes in 2001. Incoming ILD traffic totalled 973.3 million minutes in 2002, up by 12.0% from 869.0 million minutes in 2001. Based on its DLD and ILD traffic, Rostelecom estimates that it held an 87% share of the DLD market in 2002, 80% of the outgoing ILD market, 54% of the incoming ILD market, and 47% of the market for DLD and ILD services offered to Moscow end-users, alternative carriers, and mobile operators.

Rostelecom's current investment programme is focusing on the following issues:

construction of high-speed fibre-optic trunk connections that will provide Rostelecom with access to new international routes, link Russia's major cities to the company's network, and create a backup system for existing connections;
reconstruction and modernisation of existing trunk lines using dense wavelength division multiplexing (DWDM) technology aimed at increasing the network's throughput capacity by a factor of between 10 and 100, depending on future upgrade projects;
expansion of the existing automatic switching nodes, international switching centres, and automatic trunk exchanges;
construction of a modern flexible multiplexer-based network that will optimise operation of the trunk network and provide customers with the option to lease digital channels with optimal throughput capacity; and,
phasing out of analogue trunk lines concurrent with the expansion of the digital network.

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Some Rb2,696 million was invested in upgrading and extending Rostelecom's network during 2002. The four major projects that formed the core of this work were: construction of a new fibre-optic cable connecting Russia and Kazakhstan; construction of the first stage of the Baltic Cable System, connecting Moscow with St Petersburg and Kingisepp with a DWDM-based fibre-optic cable, in co-operation with TeliaSonera International Carrier; upgrading of the Moscow-Novosibirsk and Moscow-Novorossiysk cable systems with DWDM technology sourced from Huawei Technologies; and, the construction of the flexible multiplexer-based network.

Rostelecom expects to invest approximately Rb4,521 million in further upgrades and expansion projects in 2003. The main projects involve: completion of the Gatikha-Apastovo fibre-optic line; completion of the Kaliningrad-Gvardeisk fibre-optic line, plus a branch to the Lithuanian border; the completion of a cross-border fibre-optic line connecting the Russian network with international switching centres in Azerbaijan; and, the expansion of four switches in Moscow, construction of a switch in Pavlov Possad, and commissioning of an international switch in Kaliningrad. The creation of a centre for monitoring the Common Channel Signalling System No.7 platform is planned for 2004.

Rostelecom owns stakes in eight subsidiary companies and 63 other entities it refers to as 'associates'. Rostelecom owns 100% of the voting shares of **CJSC Westelcom**, which provides communications channel and telecommunications equipment leasing services and processes incoming traffic information via international switches. Rostelecom also owns 31.1% of the voting shares in **OJSC RTComm.RU**, which offers data and Internet services (*see separate entry on this company*). Rostelecom indirectly owns 100% of US-based **RTDC Holdings**, which is engaged in investing in and developing prospective projects in the Russian telecommunications market. RTDC Holdings indirectly owns: 92.3% of D-AMPS 1800/GSM 1800 digital cellular operator **AKOS**, which serves the Primorsky region; 42.5% of NMT 450 analogue cellular operator **Delta Telecom**, which serves St Petersburg, Leningrad, Novgorod, Pskov, and the Karel republic; 22% of **Moscow Cellular Communications** (**MCC**), a company that operates an NMT 450 cellular network in Moscow and which is now building a CDMA-based digital cellular network in the same region; and, 49% of **Uralwestcom**, a company that operates an NMT 450 cellular network in the Sverdlovsk region.

Rostelecom owns 51% of the voting shares of **CJSC GlobalTel**, the partnership with Globalstar of the US that offers Globalstar-branded global mobile telephone services in Russia. Rostelecom also owns 45% of the voting shares of **CJSC Telecom-Center**, a digital network operator, as well as 44% of the voting shares of **Teleport-TP** (*see separate entry*) and 15% of the voting shares of alternative fixed-network operator **Golden Telecom** (*see separate entry*); Rostelecom acquired its stake in Golden Telecom in 2002 through the sale of its stake in *EDN Sovintel* to the new entrant.

In 2003, Rostelecom submitted a bid to acquire a 51% stake in the incumbent national fixed-line telecommunications operator in the Republic of Kyrgyzstan, **Kyrgyztelecom JSC**. Its bid was ranked second to that of Sweden-based Swedtel AB but, when that company failed to pay the US$15.6 million asking price in December 2003, Rostelecom's bid was re-examined. It now seems likely that Rostelecom will secure the stake in Kyrgyztelecom.

For the year ended December 31, 2002, Rostelecom reported revenues of Rb28,141 million, down from Rb30,269 million in 2001 and Rb34,085 million in 2000. Substantial foreign exchange losses and income tax expenses drove Rostelecom's net profit down to Rb678 million in 2002, down from Rb2,460 million in 2001; nevertheless, this was still a significant improvement over the net loss of Rb2,460 million recorded in 2000. Rostelecom had 30,993 full-time employees at the end of 2002, down from 33,987 in 2001 and 36,595 in 2000. There were also 1,343 temporary employees at the end of 2002.

OJSC RTComm.RU
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Moscow
Russian Federation

OJSC RTComm.RU was established in 2000 and is owned 49.8% by RTC-Leasing, a subsidiary of long-distance operator Rostelecom, while Rostelecom itself owns a 31.1% stake. Svyazinvest owns 0.48% of RTComm.RU, while 4.98% is owned by CJSC KFP-Finance and 13.68% is owned by the Centre for Research and Development of Telecommunications.

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Web: www.rtcomm.ru

RTComm.RU supplies a wide range of telecommunications services, including Internet access, to corporate customers. RTComm.RU holds licences to provide: leased lines; data transmission services; Internet access and voice-over-IP services; and, security services.

Operator	Company Information
	In Russia, RTComm.RU provides services to more than 1,000 clients in over 100 cities; its customer base includes communications carriers, national corporations, and federal ministries and agencies. A node in London, UK, was put into service in October 2002. Other international nodes are active in Almaty (Kazakhstan) and Stockholm (Sweden). The company claims that its international channels have a capacity of 775Mbit/s, while its domestic channels have a capacity of 155Mbit/s. The company's backbone network is based on multi-protocol label switching (MPLS)/virtual private network (VPN) technology. Access is achieved through dedicated broadband connections or ATM/frame relay connections.
Russian Satellite Communications Company 12/5, bld 7 Kursovoy pereulok Moscow 119034 Russian Federation Tel: 00 7 095 730 0450 Tel: 00 7 095 730 0445 Fax: 00 7 095 730 0383 Web: www.rscc.ru	**Russian Satellite Communications Company** (**RSCC**) is Russia's leading satellite communications operator. The company operates six Gorizont satellites, three Express-A satellites, and the Ekran-M satellite, which provide coverage of two-thirds of the world, including Russia, the Commonwealth of Independent States (CIS), Europe, Asia, the Americas, and Africa. In October 2003, RSCC acquired the BONUM-1 satellite, which provides TV/radio broadcasting and broadband Internet access services to earth stations located in Moscow, Odintzovskiy, and Yekaterinburg.

RSCC operates the space communications centres known as 'Dubna' (Moscow region), 'Medvezhji Ozera' (Moscow region), and 'Vladimir' (Vladimir region) and the Shabolovka technical centre in Moscow. These are interconnected by fibre-optic links to Russian, Intelsat, and Eutelsat satellites, as well as to a 622Mbit/s international gateway and a 155Mbit/s international gateway. RSCC also co-operates with the Intersputnik satellite organisation.

RSCC leases satellite capacity to the majority of Russia's national state and domestic public networks, federal government agencies, and Russian and foreign businesses providing television, radio, telephony, data, and multimedia communications services, including Internet connectivity and very small aperture terminal (VSAT) networking.

RSCC claims that it has begun to implement a Program for Renovation of National Satellite Constellation; this will provide for the construction and launch of five next-generation Express-AM satellites into geostationary orbit in 2005. The satellites are being manufactured by NPO-Prikladnoi Mechaniki Association in co-operation with Alcatel Space and NEC/Toshiba Space Systems. |
| **Sistema Telecom JSC** No. 5, 1st Tverskaya-Yamskaya Street Moscow 125047 Russian Federation Tel: 00 7 095 105 7421 Fax: 00 7 095 105 7458 Web: www.sistel.ru **JSFC Sistema** 10 Leontievsky Pereulok Moscow 125009 Russian Federation Tel: 00 7 095 229 3683 Fax: 00 7 095 232 3391 Web: www.sistema.ru | **Sistema JSFC** claims to be one of the largest diversified holdings in Russia. It was set up in 1993 and is now owned by Vladimir Evtushenkov (78.1%) and managers and directors (21.9%). Sistema owns and actively manages a diversified portfolio of investments in enterprises in the electronics, insurance, finance and securities, real estate and construction, tourism, retail, and telecommunications industries. Sistema's strategy is aimed at the development of companies that could become leaders in their respective markets. Key aspects of this strategy include diversification of business portfolio, achievement of financial stability, and maintenance of investment efficiency, transparency of business, and a high level of corporate culture.

Sistema's telecommunications investments are managed by **Sistema Telecom**, a joint stock company established in 1998 that now manages more than 50 communications operators with sales for 2002 of US$483 million (up from US$421 million in 2001). These operators are active in all fields within the telecommunications sector, including fixed-line and mobile telephony, Internet access, data transmission, traffic transit, tracking, and paging.

Sistema Telecom has two core lines of business. The first is the mobile communications business embodied in **Mobile TeleSystems** (**MTS**), a joint venture with T-Mobile International of Germany (*see separate entry*). Besides MTS, Sistema Telecom owns stakes in a number of independent cellular operators, such as MSS, PeCom, SSS-900, and Uraltel, some or all of which may be acquired by MTS itself in the future. The second line of business focuses on fixed-line telephony, Internet, and data services, embodied in **Moscow City Telephone Network** (**MGTS**, *see separate entry*). In 2002, Sistema Telecom initiated an effort to group together all of its fixed-line telecommunications businesses in a single major operator. Companies such as **MTU-Inform**, **MTU-Intel**, **Telmos**, **Comstar**, and **Golden Lin**e would form the basis of this new entity, which would offer one-stop services over an integrated network infrastructure. The restructuring process was ongoing at the time of writing, according to Sistema Telecom. It is unclear whether MGTS would be contributed to the new fixed-line operation, given that rival Svyazinvest holds a sizeable stake in that company.

The Sistema Telecom group is rapidly expanding the geographic reach of its services. One of the group's goals is to make MTS a nucleus for a nationwide cellular network operator providing mobile |

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	services in each of Russia's regions and advancing the company's operations into all Commonwealth of Independent States (CIS) markets and into "economically rewarding" markets beyond this region. At the end of 2002, the Sistema Telecom group's companies had territorial operating licences in 58 Russian regions (serving 78% of the country's total population) as well as in Belarus and Ukraine, much of which is attributable to MTS. Excluding Moscow, the group's fixed-line operations had established networks and access points in nine Russian regions and in Ukraine. Sistema Telecom aims to develop fixed-line networks in all major Russian cities before moving on to enter the markets in "several other CIS countries, Eastern Europe, and Asia".
SkyLink **Delta Telecom** 22, B. Morskaya Street St Petersburg 191186 Russian Federation	Long-established cellular operators **Delta Telecom** and **Moscow Cellular Communications** (**MCC**) are operating under the common *SkyLink* brand name, following their joint adoption of the CDMA 2000-based IMT-MC-450 technology in 2002. The companies have a common ownership structure, with Rostelecom and its RTDC Holding affiliate having a majority stake. Other shareholders include Moscow City Telephone Network (MGTS) and Telco Overseas Ltd.
Tel: 00 7 812 115 0505 Fax: 00 7 812 115 0555 Web: www.skylink.spb.ru	Delta Telecom was the first cellular operator to be licensed in Russia and was among the first to launch analogue cellular services in the country. It has been operating its NMT-450i analogue cellular network since 1991. This network covers 100% of the territory of St Petersburg and 76% of the Leningrad, Pskov, and Novgorod regions as well as the Republic of Karelia. As of September 2003, the company was serving around 85,000 customers.
SkyLink **Moscow Cellular Communications** 18/20, Vorontsovskaya Street Moscow 109044 Russian Federation	Moscow Cellular Communications (MCC) was the first cellular operator to be licensed in the Moscow region, having been established in 1992. Its NMT 450 network covers 100% of the territory of Moscow City as well as 95% of the Moscow region. MCC served approximately 60,000 customers as of September 2003.
Tel: 00 7 095 746 5555 Fax: 00 7 095 912 3395 Web: www.mcc.ru	In December 2002, the Russian Ministry of Communications and Informatisation formally adopted the IMT-MC-450 standard to allow analogue cellular networks to be upgraded with digital CDMA 2000-based technology. Delta Telecom became the first of Russia's 63 licensed NMT operators to implement the new technology, with commercial services being launched in mid-December 2002 under the *SkyLink* brand. MCC was planning to launch its *SkyLink*-branded CDMA 2000 service in November 2003. Nothing had been reported at the time of writing. Delta Telecom and MCC plan to eventually upgrade all of their existing network infrastructure with the new technology, with MCC expecting to achieve full coverage of the Moscow region by the end of 2006. Delta Telecom's CDMA 2000 offering had attracted more than 30,000 customers by the end of September 2003.
	It was hoped that many of Russia's other NMT operators would upgrade their networks with the CDMA 2000 technology and offer services under the *SkyLink* brand name. However, few operators are intending to do so, with only 20 NMT operators having secured amended operating licences allowing them to use the new technology. Another blow was Svyazinvest's decision in late-September 2003 to cease developing its NMT businesses and to sell them off or close them down in favour of pursuing existing 2G/2.5G businesses operating GSM networks. Besides Delta Telecom and MCC, the only other Russian NMT operator to have launched CDMA 2000-based services to date has been Bashkortostan Cellular Communications, which launched its service in early-September 2003.
SMARTS Web: www.samara-gsm.ru	**SMARTS** (Middle-Volga Inter-regional Association of Radio/Telecommunication Systems) is the fourth-largest cellular operator in Russia, although it trails the Big Three (MTS, VimpelCom, and MegaFon) by a significant margin.
	SMARTS operates GSM 900/1800 digital cellular networks in 15 regions of the Russian Federation: Astrakhan; Penza; Ivanovo; Ulyanovsk; Volgograd; Yaroslavl; Saratov; Orenburg; Samara; the Republic of Tartarstan; the Republic of Bashkortostan; the Republic of Kalmykia; the Republic of Mordovia; the Republic of Chuvashia; and, the Republic of Mariy-El.
	SMARTS' networks reportedly served more than half a million customers at the end of 2002; it was estimated that this figure had risen to almost one million by the end of 2003. The company was contacted for the purposes of this report, but no response had been received by Espicom at the time of publication.
	In December 2003, SMARTS signed a contract with Marconi Corporation of the UK to roll out a mobile network across seven cities in the mid-Volga region. The agreement followed a contract signed with

Operator	Company Information
	Marconi in July 2003 for seven regional networks. The new network will include Marconi digital multipoint system (MDMS) equipment operating at 10.5GHz.
Svyazinvest Str 2, 55 Plyuschikha Street Moscow 119121 Russian Federation Tel: 00 7 095 727 0473 Fax: 00 7 095 727 0475 Web: www.svyazinvest.ru	**JSC Svyazinvest** is owned by the Russian Federal Ministry of Property Relations (50% plus one share), the Russian Federal Property Fund (25% less two shares), and the Cyprus-based George Soros-controlled consortium Mustcom Ltd (25% plus one share). Svyazinvest acts as a holding company for seven "mega" regional incumbent fixed-line telecommunications companies, as well as a number of minority-owned affiliate companies such as Moscow City Telephone Networks (MGTS) and Rostelecom *(both have separate entries within this section of the Russia profile)*. Svyazinvest was incorporated in 1995 through the consolidation of the Russian state's controlling stakes in 72 local and regional incumbent telecommunications companies, minority stakes in which had begun to be publicly traded between 1991 and 1994. The Mustcom consortium acquired its 25%
OJSC North-West Telecom 26 Bolshaya Morskaya Street St Petersburg 191186 Russian Federation Tel: 00 7 812 315 4706 Fax: 00 7 812 110 6277 Web: www.nwtelecom.ru	stake plus one share in Svyazinvest in 1997 for US$1,875 million. Between 2000 and 2002, Svyazinvest's disparate holdings were reorganised into the seven "mega" regional operators that exist today, each of which is at least 51% owned by Svyazinvest, as well as the various affiliates. The restructuring of Svyazinvest is an ongoing process, with the individual "mega" regional operators divesting certain non-core fixed-line and wireless assets, and negotiating the acquisition of certain businesses that have so far remained outside the influence of the main holding company. It was generally expected that a 25% less two shares stake in Svyazinvest would be sold by the government via a number of Russian and international stock exchanges by the end of 2003; however, with some scope remaining for further restructuring and consolidation within the holding company, these plans have been deferred until 2004/05. The Russian authorities have been hoping to make as much as US$1,000 million from the sale; however, advisers to the sale expect to achieve no more than US$350 million.
JSC CenterTelecom 6 Degtiarny Pereulok Building 2, GSP-3 Moscow 125993 Russian Federation Tel: 00 7 095 209 3434 Fax: 00 7 095 209 3007 Web: www.centertelecom.ru	The seven "mega" regional telecommunications companies are: JSC North-West Telecom; JSC CenterTelecom; JSC VolgaTelecom; JSC Southern Telecommunications Company; JSC Uralsvyazinform; JSC Sibirtelecom; and, JSC Dalsvyaz (Far Eastern Telecommunications Company). Svyazinvest also owns 51% voting control over national and international long-distance carrier Rostelecom, Moscow-based Central Telegraph, Leningrad-based Lensvyaz, Dagestan-based Dagsvyazinform, and research and development company Giprosvyaz.
OJSC VolgaTelecom M Gorky Square Post House Nizhniy Novgorod 603000 Russian Federation Tel: 00 7 8312 33 2047 Fax: 00 7 8312 30 6768 Web: www.volga-telecom.ru	The holding's operators own licences to offer local and long-distance telephony, data transmission, Internet, ISDN, wireless access, and cellular telephone services (the latter based on a mix of analogue NMT and AMPS and digital GSM and D-AMPS networks). Between them, the operators own more than 80% of Russia's telecommunications infrastructure and provide services to 90% of the country's telephone users. The installed capacity of the operators' networks stood at around 31.6 million lines as of September 2003, of which approximately 37.5% were connected to digital switches. At that time, Svyazinvest companies employed approximately 354,000 people. Some - but not all - of the Svyazinvest-controlled operators have their own cellular businesses. The most profitable of these are located in the Urals, Siberia, and Volga regions. Svyazinvest has been acquiring analogue and digital cellular assets from RTDC Holding (a Rostelecom affiliate) and has been considering how best to develop its wireless assets, especially its analogue NMT 450 operations.
PJSC Southern Telecommunications Company (**UTK**) 66 Karasunskaya Street Krasnodar 350000 Russian Federation Tel: 00 7 8612 53 2056 Fax: 00 7 8612 53 2530 Web: www.stcompany.ru	RTDC owns large stakes in a number of cellular operators, including Westcom, NCC, MCC, Delta Telecom/SkyLink, Dontelecom, Yeniseitelecom, Baikalwestcom, Uralwestcom, AKOS, and Sayan Telecom. The holding's companies own stakes in 25 NMT 450 cellular operators that serve more than 30 regions within the Russian Federation. Svyazinvest has been considering whether to convert the NMT 450 networks to the modern IMT-MS-450 standard (itself a variant on CDMA technology) but, in September 2003, said it would no longer be investing in its NMT operations and cease plans to develop a CDMA-based network from these businesses. Svyazinvest will aim to sell or wind-down its NMT 450 operations, including those still held by Rostelecom. Svyazinvest also owns approximately 40 GSM digital cellular operators. At the time of writing, Svyazinvest was unable to provide subscriber figures with respect to its cellular operations, but industry observers suggest that it has a little more than one million cellular customers.
OJSC Uralsvyazinform 68 Lenin Street Perm 614096	Historically, the local and regional operators sourced network infrastructure from a wide range of suppliers. It was not until the restructuring of the Svyazinvest holding company in 2002 that a programme to unify the selection of equipment vendors and equipment purchase procedures was

Operator	Company Information
Russian Federation	implemented. In April 2002, Svyazinvest held a tender for telecommunications equipment to be used by the newly-formed "mega" regional operators. The tender proposals were evaluated on the basis of the following criteria: cost, quality, reliability, warranty services, user feedback, financial terms, previous purchases of equipment from a given supplier, etc. The winners in the tender were: Siemens; NEC; Iskratel; Alcatel; Italtel; Ericsson; Huawei Technologies; Lucent Technologies; and, Nortel Networks. The tender allowed Svyazinvest to save up to 20% on euipment costs.

Russian Federation

Tel: 00 7 3422 34 1200
Fax: 00 7 3422 34 3336
Web:
www.uralsviazinform.ru
Web:
www.uralsviazinform.com

OJSC Sibirtelecom
53 Gorky Street
Novosibirsk 630099
Russian Federation

Tel: 00 7 3832 19 1014
Fax: 00 7 3832 23 5445
Web: www.sibirtelecom.ru

North-West Telecom is 50.84% owned by Svyazinvest, with foreign legal entities owning 9.93% and employees owning 5.86% of the company's stock. It was established in 2002 as the "mega" regional operator owning stakes in the local operators: JSC Petersburg Telephone Network; JSC Artelecom Arkhangelsk Region; JSC Electrosvyaz Vologda Region; JSC Cherepovetselektrosvyaz; JSC Murmanelektrosvyaz; JSC Elektrosvyaz Republic of Karelia; JSC Novgorodtelecom; JSC Elektrosvyaz Pskov Region; and, JSC Elektrosvyaz Kaliningrad Region. These operators serve an area with a total population of 14.3 million people. At the end of 2002, North-West Telecom's basic network had a total installed capacity of 3,612,301 lines and a switched capacity of 3,399,068 lines, supported by 2,786 automatic telephone exchanges. At that time, there were 3,344,728 telephone lines in service, while 39% of the urban network and 8% of the rural network was digitalised. North-West Telecom employed 30,040 staff at the end of 2002. The company had revenues of US$10,091.8 million and net income of US$327.3 million at the end of 2002.

OJSC Far Eastern Telecommunication Company (**Dalsvyaz**)
57 Svetlanskaya Street
Vladivostok 690950
Russian Federation

Tel: 00 7 4232 22 2384
Fax: 00 7 4232 40 8030
Web: www.dsv.ru

CenterTelecom is 50.69% owned by Svyazinvest, with 6.37% owned by foreign legal entities and 8.04% owned by employees and other individuals. It was established in December 2002 as the "mega" regional operator owning stakes in the local operators: Moscow Branch; JSC Bryansksvyazinform; JSC Elektrosvyaz Vladimir Region; JSC Ivtelecom; Tver Branch; Kaluga Branch; JSC Kostroma Telecom; Orel Branch; Ryazan Branch; JSC Smolensk Telecom; JSC Tulatelecom; JSC Yartelecom; JSC Belsvyaz; JSC Voronezhsvyazinform; Kursk Branch; JSC Lipetskelektrosvyaz; and, JSC Tambov Elektrosvyaz. These operators serve an area with a total population of around 36.5 million people. At the end of 2002, CenterTelecom's basic network had an installed capacity of 6,108,486 lines and a switched capacity of 5,645,676 lines, supported by 8,493 automatic telephone exchanges. At that time, there were 5,573,352 telephone lines in service, while 41% of the urban network and 9% of the rural network was digitalised. CenterTelecom employed 72,088 staff at the end of 2002. The company had revenues of US$16,389.3 million and net income of US$1,084.3 million in 2002. In January 2004, CenterTelecom announced that it had entered into an agreement to acquire alternative network operator **Russian Telecommunications Network** (**RTS**) for US$26 million. RTS holds licences to provide communications services in 31 regions of Russia. It had turnover of US$30 million in 2003. No further details were available at the time of writing.

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ul. Tverskaya 7
Moscow 103375
Russian Federation

Fax: 00 7 095 292 5152
Web: www.cnt.ru

JSC Kostroma GTS
6, ul. Gagarina
Kostroma 156026
Russian Federation

Tel: 00 7 0942 32 2722
Fax: 00 7 0942 31 2241
Web: www.kmtn.ru

VolgaTelecom is 50.67% owned by Svyazinvest, with foreign legal entities owning 6.68% and employees and other individuals owning 6.55%. It was established in 2002 as the "mega" regional operator owning stakes in the local operators: Nizhny Novgorod Branch; Kirov Branch; Mari-El Republic Branch; Mordovia Republic Branch; Republic of Chuvashia Branch; Samara Branch; Penza Branch; Saratov Branch; Ulyanovsk Branch; Orenburg Branch; and, Republic of Udmurtia Branch. These operators serve an area with a total population of 32.0 million people. At the end of 2002, VolgaTelecom's basic network had an installed capacity of 4,237,874 lines and a switched capacity of 3,884,705 lines, supported by 5,925 automatic telephone exchanges. At that time, there were 3,837,563 telephone lines in service, while 47% of the urban network and 10% of the rural network was digitalised. VolgaTelecom employed 51,164 staff at the end of 2002. The company had revenues of US$10,967.6 million and net income of US$1,471.6 million in 2002.

JSC Dagsvyazinform
3, pl. Lenina
Mahachkala 367012
Dagestan Republic
Russian Federation

Tel: 00 7 8722 68 0869
Fax: 00 7 8722 67 7690
Web: www.dinet.ru

Southern Telecommunications Company is 50.69% owned by Svyazinvest, with 3.73% held by foreign legal entities and 13.72% owned by employees and other individuals. It was established in October 2002 as the "mega" regional operator owning stakes in the local operators: JSC Kubanelektrosvyaz; JSC Svyazinform Astrakhan Region; JSC Sevosetinelektrosvyaz; JSC Volgogradelektrosvyaz; JSC Elektrosvyaz Republic of Kalmykia; JSC Elektrosvyaz Republic of Adygea; JSC Elektrosvyaz Stavropol krai; JSC Karachaevo-Cherkesskelektrosvyaz; JSC Rostovelektrosvyaz; and, JSC KabBaltelecom. These operators serve an area with a total population of around 18.1 million people. At the end of 2002, Southern Telecommunications Company's basic network had an installed capacity of 3,545,008 lines and a switched capacity of 3,311,848 lines,

Operator

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Fax: 00 7 812 311 4850
Web: www. lsi.ru

JSC Svyaz of the Komi Republic
60, Lenin Street
Syktyvkar 167981
Komi Republic
Russian Federation

Tel: 00 7 8212 21 6050
Fax: 00 7 8212 21 5040
Web: www.komitelecom.ru

Company Information

supported by 3,510 automatic telephone exchanges. At that time, there were 3,270,482 telephone lines in service, while 47% of the urban network and 11% of the rural network were digitalised. Southern Telecommunications Company employed 42,541 staff at the end of 2002. The company had revenues of US$10,532.0 million and net income of US$1,561.9 million in 2002.

Uralsvyazinform is 51.42% owned by Svyazinvest, with 3.02% owned by foreign legal entities and 12.93% owned by employees and other individuals. It was established in September 2002 as the "mega" regional operator owning the local operators: Perm Branch; Kurgan Branch; Yekaterinburg Branch; Chelyabinsk Branch; Tyumen Branch; Khanty-Mansilisk Branch; and, Yamal-Nenets Branch. These operators serve an area with a total population of around 15.5 million people. At the end of 2002, Uralsvyazinform's basic network had an installed capacity of 3,323,897 lines and a switched capacity of 2,978,803 lines, supported by 2,714 automatic telephone exchanges. At that time, there were 2,951,913 telephone lines in service, while the urban network was 60% digitalised and the rural network was 14% digitalised. Uralsvyazinform employed 35,625 staff at the end of 2002. The company had revenues of US$14,793.9 million and net income of US$909.2 million in 2002.

Sibirtelecom is 50.67%-owned by Svyazinvest, with 5.35% owned by foreign legal entities and 9.57% owned by employees and other individuals. It was established in 2002 as the "mega" regional operator owning the local operators: JSC Elektrosvyaz Novosibirsk Region; JSC Altaitelecom; JSC Elektrosvyaz Republic of Buryatia; JSC Gorno-Altaitelecom; JSC Elektrosvyaz Kemerovo Region; JSC Elektrosvyaz Omsk Region; JSC Tomsktelecom; JSC Elektrosvyaz Krasnoyarsk krai; Kharkassia Republic Branch; JSC Elektrosvyaz Irkutsk Region; and, JSC Chitatelecom. These operators serve an area with a total population of approximately 20.9 million people. At the end of 2002, Sibirtelecom's basic network had an installed capacity of 3,781,316 lines and a switched capacity of 3,437,228 lines, supported by 4,540 automatic telephone exchanges. At that time, there were 3,404,415 telephone lines in service, while 51% of the network was digitalised and 11% of the rural network was digitalised. Sibirtelecom employed 49,633 staff at the end of 2002. The company had revenues of US$12,210.8 million and net income of US$473.8 million in 2002.

Dalsvyaz is 50.56% owned by Svyazinvest, with 18.56% owned by foreign legal entities and 7.33% owned by employees and other individuals. It was established in 2002 as the "mega" regional operator owning the local operators: Primorsk Branch; Khabarovsk Branch; the Jewish Autonomous Region Branch; Amur Branch; Kamchatka Branch; Magadan Branch; and, Sakhalin Branch. These operators serve an area with a total population of approximately 6.0 million people. At the end of 2002, Dalsvyaz's basic network had an installed capacity of 1,191,227 lines and a switched capacity of 1,086,939 lines, supported by 1,356 automatic telephone exchanges. At that time, there were 1,074,774 telephone lines in service, while 44% of the urban network and 6% of the rural network was digitalised. Dalsvyaz employed 19,250 staff at the end of 2002. The company had revenues of US$5,331.5 million and net income of US$184.8 million in 2002.

Central Telegraph is 51% owned by Svyazinvest; foreign legal investors own 10.05% of the company's shares, while employees and other individuals own 14.46%. Central Telegraph is the main provider of telegraph services in the Moscow region. Services provided by Central Telegraph include: local telecom services, telegraphic services, telematic services, data transmission services, and channel/network leasing services. The company owns: 60% of JSC Briz Ltd; 50% of JSC VladimirTeleservice; 7.84% of JSC Rostelegraph; 74.9% of JSC Telegraph; and, 74.0% of JSC Centel. Central Telegraph had 874 employees at the end of 2002, down from 918 in 2001. The company had an installed capacity of 116,076 lines and a switched capacity of 100,230 lines at the end of 2002, supported by four telephone exchanges. Its network is fully digitalised. Central Telegraph had sales of US$1,261.4 million in 2002, up from US$727.8 million in 2001. The company recorded a net profit of US$23.3 million in 2002, down from US$81.4 million in 2001.

JSC Kostroma GTS is the incumbent fixed-line operator in Russia's Kostroma region. It is 37.29%-owned by Svyazinvest, while the remaining 62.71% is owned by employees and other individuals. The company provides basic telecommunications services in a region that has a population of approximately 288,100. Its main subsidiary is the 50%-owned JSC Koscom. Kostroma GTS' network had an installed capacity of 92,206 lines and a switched capacity of 77,850 lines at the end of 2002, supported by nine automatic telephone exchanges. Some 76,540 telephone lines were in service at the end of 2002. The network was 42% digital at that time. For the year ended December 31, 2002, Kostroma GTS employed 340 staff. The company reported revenues of US$160.3 million in 2002, up

Operator

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from US$106.9 million in 2001. The company had a net profit of US$29.7 million in 2002, up from US$29.6 million in 2001.

JSC Dagsvyazinform is the incumbent fixed-line operator in the autonomous Republic of Dagestan. It is 50.66%-owned by Svyazinvest, with 49.3% owned by employees and other individuals. The company provides basic telecommunications services in a region that has a population of approximately 2.15 million people. Its principal subsidiaries are: 51%-owned JSC Dagestan Cellular Network; 20%-owned CB Promsvyazinvestbank; and, 10%-owned Dagestan Paging Network. Dagsvyazinform's network had an installed capacity of 169,793 lines and a switching capacity of 142,953 lines at the end of 2002, supported by 280 automatic telephone exchanges. Some 142,592 lines were in service at that time. The network was 31% digital at the end of 2002. At the end of 2002, Dagsvyazinform had 2,762 employees. For the year ended December 31, 2002, Dagsvyazinform reported revenues of US$383.2 million, up from US$290.2 million in 2001. The company had a net profit of US$67.0 million in 2002, up from US$18.1 million in 2001.

JSC Lensvyaz is is the incumbent fixed-line operator in the Leningrad Oblast (county). It is 50.66%-owned by Svyazinvest. Foreign legal entities own 2.54% of the ordinary shares of Lensvyaz, while employees and other individuals own 3.13%. The company provides basic telecommunications services in a region that has a population of 1.67 million people. Its main subsidiary is the 2.76%-owned JSC Oblcom. Lensvyaz's network had an installed capacity of 427,977 lines and a switching capacity of 397,735 lines at the end of 2002, supported by 480 automatic switches. Some 391,037 telephone lines were in service at that time. The urban part of the network was 29% digital at the end of 2002, while the rural network was 15% digital. Lensvyaz had 3,972 employees at the end of 2002. Revenues totalled US$1,050.6 million in 2002, up from US$824.2 million in 2001. The company's net profit amounted to US$78.3 million in 2002, up from US$17.8 million in 2001.

JSC Svyaz of the Komi Republic is the incumbent fixed-line operator in the Komi Autonomous Republic. It is 25.34%-owned by Svyazinvest. Foreign legal entities own 22.64% of the company's shares, while employees and other individuals own 13.63%. The company provides basic telecommunications services in a region that has a population of more than 1.1 million people. Its main subsidiaries are: JSC Parma Paging (50%-owned); JSC Investment Company Svyaz (50%); Parma Telecom Ltd (34.18%); and, Parma-Inform Ltd (50%). The company's network had an installed capacity of 292,361 lines and a switching capacity of 272,886 lines at the end of 2002, supported by 364 automatic telephone switches. Some 270,136 lines were in service at that time. The urban part of the network was 60% digital at the end of 2002, while just 5% of the rural network was digital. JSC Svyaz of the Komi Republic had 3,785 employees at the end of 2002. Revenues totalled US$1,114.0 million in 2002, up from US$873.4 million in 2001. The company's net profit amounted to US$115.5 million in 2002, up from US$73.9 million in 2001.

JSC Giprosvyaz is the successor to the *State Design and Research Institute for Telecom Facilities*. Its designs were used to build most of the major telecommunications facilities and systems in Russia and in the former USSR (nearly all domestic long-distance and international telephone exchanges and connection points, local, urban and rural telephone networks, telephone lines, and post offices). Currently, JSC Giprosvyaz is preparing a unified plan for network development at Rostelecom and the "mega" regional companies for the period 2004-07. It is wholly-owned by Svyazinvest.

Svyazinvest also owns: 38% of the voting shares of **OJSC Ruslizingsvyaz**; 1.22% of **SvyazBank**; 12.09% of **Registrator Svyaz**; 25% plus one share of **Svyaz Finance**; 0.5% of **RTKomm.RU** (*see separate entry on this company*); 100% of **OJSC Mobile Telecommunications** (**MobiTel**); and, 25% of **OJSC StarKom**. **Rostelecom** and **Moscow City Telephone Network** (**MGTS**) are covered separately within this section on Major Operators.

For the year ended December 31, 2002, the Svyazinvest holding company recorded total revenues of Rb120,287.3 million, up from Rb92,188.2 million at the end of 2001. The company reported a net income of Rb10,852.3 million in 2002, up from Rb8,057.1 million in 2001.

Operator	Company Information
Tele2 Russia Telecom	During 2001, Sweden-based **Tele2 AB** acquired Millicom International Cellular (MIC)'s Russian mobile telephone business, *FORA Telecom BV*. FORA Telecom held majority stakes in GSM 900 cellular licences covering a total potential population of 48 million people in 12 regions of Russia: Belgorod; Chelyabinsk; Irkutsk; Kemerovo; Kursk; Moscow; Nizhny Novgorod; Omsk; Rostov; Smolensk; St Petersburg; and, the Republic of Udmurtiya. Eight of the FORA companies received GSM 1800 licences in 2001, while another three received GSM licences in early-2002. Tele2 sold its share of NMT 450 operator Moscow Cellular Communications (MCC) in November 2002. Thus, all of Tele2's Russian cellular businesses hold GSM 1800 licences. The remaining FORA Telecom businesses are now held by the **Tele2 Russia Telecom** subsidiary of Tele2 AB; the *FORA* brand name is used by most of Tele2's businesses in Russia but the Tele2 brand is being used in the newly-launched GSM 1800 markets. Tele2 increased its ownership of five of its Russian cellular businesses in September 2003 and will likely increase its ownership further still where it does not own companies outright.

B. Gnezdnikovsky Per, 1
stsr 2, 7tr
Moscow 103009
Russian Federation

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Web: www.tele2.ru

As of December 2003, Tele2 Russia Telecom had launched GSM 1800 in six of its licensed areas. Services were launched in Irkutsk and Rostov in April 2003; in St Petersburg in June 2003; in Kemerovo in July 2003; in Omsk in August 2003; and, in Izhevsk in September 2003. The company does not disclose data relating to its subscriber base in Russia. However, industry analysts suggest that Tele2 served approximately 500,000 cellular customers in Russia as of September 2003.

Tele2 owns:

100.0% of **Corporation Severnaya Korona** (Irkutsk licensee);
100.0% of **Kemerovo Mobile Communications** (Kemerovo licensee);
60.0% of **Siberian Cellular Communications** (Omsk licensee);
100.0% of **Personal Systems Network in Region** (Nizhny-Novgorod licensee);
65% of **Belgorod Cellular Communications** (Belgorod licensee);
100.0% of **Kursk Cellular Communications** (Kursk licensee);
60% of **Smolensk Cellular Communications** (Smolensk licensee);
86.0% of **Saint-Petersburg Cellular Communications** (St Petersburg licensee);
97.2% of **Oblcom** (Leningrad region licensee);
87.5% of **Rostov Cellular Communications** (Rostov licensee);
77.5% of **Cellular Communications of Udmurtia** (City of Izhevsk licensee); and,
100.0% of **Chelyabinsk Cellular Communications** (Chelyabinsk licensee).

Tele2 AB also owns GSM and 3G mobile network licensees in Sweden, Norway, Denmark, Finland, Estonia, Latvia, and Lithuania.

CJSC Teleport-TP
VVC Prospect Mira
Moscow
Russian Federation

Tel: 00 7 095 188 0856
Fax: 00 7 095 187 9211
Web: www.teleport-tp.ru

Teleport-TP is owned by Rostelecom (44%), Technocom Ltd (38.5%), Roscomm Ltd (10%), and LLC JV Tecnopark (7.5%).

Teleport-TP was established in 1992 to provide access to international satellite communications channels. The company is now the official Russian operator of the Intelsat and Eutelsat international satellite communications systems. It provides long-distance and international digital communications services, data transmission services, Internet access services, services involving the lease of communications channels, and corporate network services.

TransTelecom Company
7, Dolgurukovskaya Street
Moscow 127006
Russian Federation

Tel: 00 7 095 784 6670
Fax: 00 7 095 784 6671
Web: www.transtk.ru

TransTelecom Company (**TTC**) was founded in February 1997 by Russia's 17 regional rail operators to create a fully-digital network based on Federal Railroad Transport infrastructure. The rail operators currently own 100% of the shares of TTC.

The company's national long-distance fibre-optic backbone was completed early in 2002 and is currently over 45,000km long, making this the only alternative long-distance backbone operating in Russia in competition with that of Rostelecom. The network is built along railroad easements, includes more than 900 access points in 71 of Russia's 89 regions, and international gateways connecting Russia with Beijing (China), Ulan-Bator (Mongolia), Astana (Kazakhstan), Kharkov (Ukraine), Tallinn (Estonia), Riga (Latvia), Vilnius (Lithuania), Stockholm (Sweden), Helsinki (Finland), and London (UK). Connections to Belarus and South Korea are planned. A single network management centre is served by 16 regional centres.

TTC's services are aimed at multinational corporations and large Russian businesses and include: multi-service corporate networks; value-added services for corporate customers; Internet access; national and international private lines; and VoIP traffic transit and termination. TTC notes that its

Operator	Company Information
	multi-service corporate network facilities are based on synchronous digital hierarchy (SDH) and IP multi-protocol label switching (MPLS) virtual private network (VPN) technology. Consequently, many Russian Internet service providers utilise TransTeleCom's network to offer access to the global Internet.
OJSC Vimpel Communications 10, Building 14 8 Marta Street Moscow 127083 Russian Federation	**Vimpel Communications (VimpelCom)** was founded as a closed joint-stock company in September 1992 and was re-organised as an open joint-stock company in July 1993. VimpelCom operates mobile networks in the Russian Federation, primarily using the GSM standard, although some legacy AMPS/D-AMPS networks are still in service and are gradually being converted to GSM. VimpelCom offers a range of mobile communications services in Russia under the *Bee Line* brand name, including SMS, MMS, WAP, and GPRS services.
Tel: 00 7 095 212 4337 Fax: 00 7 095 725 0705 Web: www.vimpelcom.ru	VimpelCom holds GSM licences that permit it to operate wireless networks in areas populated by approximately 134 million people, or approximately 92% of the Russian population. The company holds GSM licences for the Moscow licence area, six large geographical areas, and six smaller regions within the larger regional licence areas. VimpelCom also holds 11 licences to operate AMPS/D-AMPS networks. VimpelCom received a GSM 1800 licence for the northwest region in September 2002. In March 2003, the Ministry of Communications amended the initial GSM licence for the northwest region to enable VimpelCom to operate a dual-band GSM 900/1800 network in St Petersburg and the surrounding Leningrad region. VimpelCom has also applied for a permit to operate a dual-band GSM 900/1800 network for the rest of the northwest region.

The company's regional GSM licences for the Central and Central Black Earth, North Caucasus, Siberian, Volga, and Ural regions are held by VimpelCom's subsidiary VimpelCom-Region (VimpelCom-R), through which VimpelCom provides wireless services in the regions outside of the Moscow licence area. However, in August 2003, the board of directors recommended a proposed merger of VimpelCom with VimpleCom-R and the related issue of new VimpelCom common shares in exchange for the 44.7% stake in VimpelCom-R that was owned by Eco Telecom Ltd, a company within the Alfa Group in Russia, and by Telenor ASA. If the transaction goes ahead as envisaged, Telenor would own approximately 26.6% and 29.9%, respectively, and the Alfa Group would own approximately 32.9% and 24.5%, respectively, of VimpelCom's total voting stock and total common stock. As of December 2003 (ie: prior to the completion of the merger), VimpelCom was owned by: Telenor, through its Telenor East Invest subsidiary (25% plus 13 shares of voting stock and 28.98% of common stock) and the Alfa Group, through its Eco Telecom subsidiary (25% plus two shares of voting stock and 13.05% of common stock). The remaining shares were held by public shareholders. VimpelCom was the first Russian company to list its securities on the New York Stock Exchange (NYSE) in November 1996. Its American depositary shares (ADSs) are traded under the symbol "VIP".

VimpelCom's GSM and GPRS networks are based on equipment supplied, variously, by Alcatel, Ericsson, and Nokia. These are integrated wireless networks of base station equipment and digital wireless switches connected by fixed microwave transmission links, fibre-optic cable links, and leased lines. At the end of 2002, VimpelCom had 1,721 GSM base stations, 76 base station controllers, and seven switches for the dual-band GSM 900/1800 network in the Moscow region, covering approximately 46,800 square kilometres. Network development in the Moscow region has focused on indoor coverage, more rapid adjustment of network capacity to meet changing market demands, and upgrading to allow the launch of new services. Network development in the regions has focused on significantly expanding network coverage in suburban areas, along key roads, as well as rapid adjustment of network capacity to meet planned subscriber growth and network quality targets.

VimpelCom's GSM and GPRS networks are in the process of being enhanced with EDGE technology supplied by Nokia; a US$70 million contract to deploy EDGE solutions in VimpelCom's central and northwest markets was signed with Nokia in December 2003.

VimpelCom's D-AMPS networks are based on a set of base stations connected to switches by a point-to-point microwave network and a fibre-optic network. The Moscow D-AMPS network comprised 314 base stations and covered 32,000 square kilometres at the end of 2002. In June 2003, VimpelCom entered into a series of agreements with Corbina-Telecom in order to utilise the excess capacity on VimpelCom's D-AMPS network in Moscow.

BeeNet is the name given to the fibre-optic transmission network that supports VimpelCom's cellular

Operator	Company Information

infrastructure. By the end of 2002, there were 200 nodes to which virtually all base stations were connected. The network comprised 2,230km of fibre at that time. Excess capacity is leased to third parties.

Interconnection agreements have been struck with wireline operators in Moscow and the other regions in which VimpelCom offers cellular services, including Combellga, Komet, Multiregional Transit Telecom (MTT), MTU-Inform, Rostelecom, RusSDO, Sovintel (a Golden Telecom subsidiary), TeleRoss, and Telmos. In Moscow, interconnection agreements enable VimpelCom to access the public switched telephone network of Moscow City Telephone Network (MGTS) and to provide domestic and international long-distance services. Interconnection agreements have also been established with telecommunications providers in the Central and Central Black Earth, North Caucasus, Northwest, Siberia, and Volga licence areas.

In early-November 2003, VimpelCom, its wireless rival Mobile TeleSystems (MTS), and fixed-line operator Golden Telecom agreed to jointly build a fibre-optic backbone connecting Moscow and Nizhny Novgorod. The expected total cost of the project is US$8.6 million; this will be divided equally between the three companies. The link is expected to follow the main highway between Moscow and Nizhny Novgorod, connecting the base stations of the three companies and potential customers along the route. The system is scheduled to enter service in the second half of 2004. The network will comprise three fibre-optic cables, each with 32 fibre-pairs. The operators will own their own electronics connected to the backbone. Upon completion, each company will have rights to one of the fibre-optic cables, as well as equal shares in the housing and access facilities that are part of the cable system. It has been suggested (by Golden Telecom) that the cable may be extended beyond Nizhny Novgorod to other high capacity routes in the companies' key markets at some point in the future.

At the end of 2002, VimpelCom served a total of 5,153,100 cellular subscribers in Russia (12.4% market share), up from 2,111,500 at the end of 2001 (5.5% market share). Of the 2002 figure, 3,712,700 subscribers were based in Moscow (72.0% of the total, and a 42.4% market share), while 1,440,400 were based in the other licensed regions (28.0% of the total).

By the end of September 2003, VimpelCom served a total of 9,299,200 cellular subscribers in Russia, of which 5,076,200 were based in Moscow and 4,183,000 were based in the regions.

UMTS licences in Russia have not yet been offered. The Russian Ministry of Communications and Informatisation indicates that it may offer four licences via a competitive tender process in the first quarter of 2004. VimpelCom would likely bid for any such licences when they become available; indeed, it claims that its existing cellular networks are well-placed to migrate to UMTS.

VimpelCom reported net operating revenues of US$768.5 million for the year ended December 31, 2002, up from just US$422.6 million in the previous year. The company's net profit for 2002 amounted to US$129.5 million, up from US$47.3 million in 2001. VimpelCom employed 2,912 people at the end of 2002.

MAJOR MANUFACTURERS

Major Manufacturers

Manufacturer	Company Information
Alcatel ZAO 5 Petrovska Street Moscow 107031 Russian Federation Tel: 00 7 095 937 0900 Fax: 00 7 095 937 0908 Web: www.alcatel.ru	Founded in 1997 as a wholly-owned subsidiary of Alcatel SA of France, **Alcatel ZAO** sells and distributes telecommunications equipment in seven areas: digital switching systems; GSM 900/1800 mobile systems; SDH microwave and line transmission systems; space systems; access systems; voice and data solutions for corporate networks; and, GSM mobile terminals. Alcatel has local manufacturing facilities for the production of switching equipment, and also offers technical support and training for local customers. Alcatel has not been able to disclose financial and operating results connected with its Russian businesses.
Alvarion Russia Office 707, Floor 7 Possession 15, bld 29 Quay of Academician Tupolev Moscow Russian Federation Tel: 00 7 095 783 8231 Fax: 00 7 095 287 9899 Web: www.alvarion.com	Israel-based **Alvarion** has a representative office in Moscow that markets and distributes the parent company's family of point-to-point broadband wireless access (BWA) solutions in Russia, both directly and through third parties. Alvarion's BreezeACCESS and WALKair products offer data rates ranging from 3Mbit/s to 34Mbit/s. WALKair products may also be used within traditional cellular networks to connect base stations to switches. A wireless local area network (W-LAN or Wi-Fi) product, BreezeNET, is also available, as is a range of network management solutions offered under the BreezeACCESS name. Alvarion has not been able to disclose financial and operating results connected with its Russian businesses.
Andrew AO 22/25 Bolshoy Strochenovskiy per Building 1, Suite 503 Moscow 113054 Russian Federation Tel: 00 7 095 232 9010/9012 Fax: 00 7 095 232 9099 Web: www.andrew.com	Established in 1991, **Anisco** is a wholly-owned subsidiary of Andrew Systems LLC and manufactures earth station equipment at its base in Krasnoyarsk. **Andrew AO** was established in 1996 and acts as a sales office for Andrew products in Russia. Andrew has not been able to disclose financial and operating results connected with its Russian businesses.
Anisco/Andrew Systems LLC 1, Televisornaya Street Krasnoyarsk 660028 Russian Federation Tel: 00 7 391 243 4961 Fax: 00 7 391 243 0436	
Avaya Russia 6 Kosmodamianskaya Moscow 115054 Russian Federation Tel: 00 7 095 363 6700 Fax: 00 7 095 363 6701 Web: www.avaya.ru	US-based **Avaya** has a Russian sales and marketing office in Moscow. Through this office and in co-operation with third-party distributors and resellers such as NELT, Avaya is able to offer a wide range of communications systems, applications, and services for businesses, government agencies, and other organisations. Avaya's product offerings include: IP telephony systems; traditional voice communications systems; contact centre infrastructure and applications; unified communications applications (including voice and multimedia messaging); and, structured cabling products.
CBOSS 62 Starokaluzhskoye Avenue Building 1 Moscow 117630 Russian Federation Tel: 00 7 095 755 5655 Fax: 00 7 095 974 6388	**CBOSS** develops software and application solutions for telecommunications services, such as billing and customer care, computer telephony, analytical systems, corporate management, network management and administration, Internet systems, data warehousing, and data mining. Established in 1996, CBOSS now claims to be one of Russia's largest indigenous software developers and system integrators. The company co-operates with its peers outside Russia, and its international partners include: Sun Microsystems; Oracle; Intel; Hewlett-Packard; Compaq; Lucent Technologies; Microsoft; Xerox; and, Avaya Communications. CBOSS claims that its solutions are installed in the networks of more than 80 operators in

Manufacturer	Company Information
Web: www.cbossbilling.com	seven countries. In Russia, its solutions are used in the mobile networks of Mobile TeleSystems (MTS) amongst others.

CBOSS' core product is the Convergent Business Operation Support System (CBOSS), which includes: billing; customer care; POS; customer registration and management; SIM card management; mediation devices; inventory control; settlement with service providers and dealers; and, management information systems.

CBOSS has not been able to disclose sales and staffing figures. |
| **Cisco Russia**
Riverside Towers
52 Kosmodamianskaya
Building 1, Block A, Floor 4
Naberezhnaya
Moscow 113054
Russian Federation

Tel: 00 7 812 320 3838
Fax: 00 7 812 320 3839
Web: www.cisco.ru | **Cisco Systems** of the US has a Russian sales and representative office in Moscow, which acts as a centre of co-operation with indigenous customers and third party resellers. The entire Cisco product line is represented in Russia. Cisco has declined to provide details of its Russian business' financial results. |
| **Ericsson Corporatia AO/**
LM Ericsson International AB
12, 8th March Street
Moscow 128083
Russian Federation

Tel: 00 7 095 247 6211
Fax: 00 7 095 247 6212
Web: www.ericsson.ru

LM Ericsson International AB
22 Liteiny Prospect
St Petersburg 191028
Russian Federation

Tel: 00 7 812 326 6600
Fax: 00 7 812 326 6601
Web: www.ericsson.ru | Although Sweden's LM Ericsson has been active in Russia since 1881, its wholly-owned subsidiary, **Ericsson Corporatia AO** (**ECR**), was only established in 1994. ECR now has offices in Moscow, St Petersburg, Nizhny Novgorod, Voronezh, Kursk, and Izhevsk. The company serves as a base for marketing and distributing Ericsson's public, radio, and business communications products in Russia. ECR also has a technical support centre in Russia, based in a separate building at the Moscow Technical University of Telecommunications. This building also houses the Ericsson Training Centre.

Ericsson has declined to provide details of its Russian business' financial results. |
| **Harris Russia**
15, Office 605
Bolshoy Cherkassy Pereulok
Moscow 103626
Russian Federation

Tel: 00 7 095 923 3169
Fax: 00 7 095 927 0939
Web: www.harris.com | Canada-based **Harris Corporation** has a representative office in Moscow, through which it markets and distributes the company's product, system, and service solutions. Its microwave radio solutions are of great use in reaching the more remote areas of Russia. |
| **Huawei Technologies Russia**
2nd Floor
10 Rozanov Street, Bld 1
Moscow 123007
Russian Federation

Tel: 00 7 095 234 0686
Fax: 00 7 095 234 0683
Web: www.huawei.ru

Huawei Technologies Russia
Office 32, Inform-Future Business Centre | China-based **Huawei Technologies Co Ltd** manufactures a diverse array of fixed-line and mobile communications solutions, including switches, transmission systems, access solutions, wireless local area network (W-LAN or Wi-Fi) solutions, and third-generation (3G) mobile communications products. During 2002 and 2003, the company secured large equipment supply contracts with a number of Russian cellular and fixed-line operators, most notably with the regional "mega" fixed line operators controlled by the Svyazinvest holding company. Increased sales prospects are likely in 2004.

Huawei Technologies has no manufacturing presence in Russia, but distributes its equipment through a number of third parties (identities not disclosed) and through two directly-operated sales offices, located in Moscow and St Petersburg, respectively. The company has not been able to disclose sales and staffing figures for its Russian activities. |

Manufacturer

Company Information

12 Tambovskaya Street
St Petersburg 192007
Russian Federation

Tel: 00 7 812 118 8190
Fax: 00 7 812 118 8191
Web: www.huawei.ru

Informtekhnika & Svyas
1, 2/1 V Krasnoselskaya
Moscow 107140
Russian Federation

Tel: 00 7 095 771 6731
Fax: 00 7 095 771 6732
Web: www.minicom.ru

Over the last 10 years, **Informtekhnika & Svyas** claims to have installed more than 4,000 corporate and private telecommunications solutions, based on hardware and software it has developed internally. The company's products are certified for use in Russia, Brazil, and many of the members of the Commonwealth of Independent States (CIS). Amongst its products are TETRA systems, DECT-based wireless local loop (WLL) systems, and radio dispatch systems.

Informtekhnika & Svyas has not been able to disclose sales and staffing figures.

Italtel AO
2, Bolshoi Smolenskij
St Petersburg 193029
Russian Federation

Founded in 1990, **Italtel AO** is a wholly-owned subsidiary of Italtel SpA of Italy. It designs, installs, and provides after-sales services in the switching, radio, and mobile sectors. The company is also involved in hardware and software design and research to complement the sales and installation and service operations.

Krasnaya Zarya

Web: www.krasnayazarya.ru

Privately-owned **Krasnaya Zarya** claims to be the largest telecommunications equipment manufacturer in Russia. The company manufactures secondary communications networks, data transmission facilities, and communications equipment for public networks, private networks, and maritime networks. It consists of two research institutes, three design organisations, and four factories. Although Espicom has been in contact with the company, we have been unable to confirm any further details.

Lucent Technologies Russia
63 Zhukovskogo Street
St Petersburg 193036
Russian Federation

Tel: 00 7 812 329 8500
Fax: 00 7 812 329 8510
Web: www.lucent.ru

With sales and representatives in St Petersburg and Moscow, **Lucent Technologies** has been present in Russia since 1992 (when it was trading as AT&T Network Services). The company undertakes sales and marketing activities and technical support for customers. The St Petersburg facility houses an R&D group for software development for SDH transmission equipment, a training centre, and a manufacturing facility for the 5ESS digital switch. The Moscow office includes a laboratory for software development for the 5ESS switch as well as a training centre.

Morion Inc
111 Shosse Kosmonavtov
Perm 614990
Russian Federation

Tel: 00 7 3422 20 8789
Fax: 00 7 3422 90 9840
Web: www.morion.ru

Morion claims to be Russia's largest indigenous telecommunications equipment manufacturer. Since it was established in 1957, the company has been designing and producing an ever-increasing array of telecommunications products, which currently include: digital transmission systems with a wide range of interfaces; pulse code modulation (PCM) equipment for applications in networks operated by companies active in the gas, oil, and railway sectors; subscriber loop multiplexers; last mile equipment based on high-speed digital subscriber line (HDSL) technology; SDH and PDH transmission systems both for private and corporate customers; and, other types of equipment. During 2003, Morion began producing wireless communications equipment and launched a family of GSM/GPS/GPRS user terminals for various telematic applications. All of Morion's equipment is certified according to ISO 9001 standards.

Morion has not been able to disclose sales and staffing figures.

Motorola Russia
7 Gasheka Ul Str 1
Moscow 125468
Russian Federation

Tel: 00 7 095 785 0150
Fax: 00 7 095 785 0160
Web: www.motorola.ru

Established in 1993, **Motorola Russia** offers the following products and solutions: personal communications devices (pagers and cellular phones); professional two-way radio systems; cellular network infrastructure systems; multiservice IP network access devices; and, semiconductor products and embedded electronic solutions. Motorola has three offices in Russia (Moscow, St Petersburg, and Novosibirsk), as well as a research facility in Moscow and a software development centre in St Petersburg.

Motorola does not disclose financial and operating information with respect to its Russian businesses.

NEC Moscow Representative Office
7/5 Bolshaya Dmitrovka Street
Building 2
Moscow 103009

Japan's **NEC Corporation** opened a representative office in Moscow in 1991. This office currently supports NEC's corporate activities in the CIS region with respect to supply of technologies and products, as well as information on its products and services. The office covers Russia, Ukraine, Belarus, Moldova, Uzbekistan, Kazakhstan, Kyrgyz Republic, Turkmenistan, Tajikistan, Georgia, Azerbaijan, and Armenia.

21st January 2004

Manufacturer
Russian Federation

Tel: 00 7 095 787 3100
Fax: 00 7 095 787 3101
Web: www.nec.ru

NEC Neva Communications Systems
102/2 Shosse Revolutsii
St Petersburg 195279
Russian Federation

Tel: 00 7 812 326 3999
Tel: 00 7 812 527 5392
Fax: 00 7 812 326 3995
Fax: 00 7 812 527 8911

NELT Group
13 Stromynka Street
Moscow 107014
Russian Federation

Tel: 00 7 095 796 9210/12
Tel: 00 7 095 787 4800
Fax: 00 7 095 796 9213
Web: www.nelt.ru

NEVA Cables Ltd
8th Verkhny per 10
PO Box 97
St Petersburg 194292
Russian Federation

Tel: 00 7 812 592 8479
Fax: 00 7 812 592 7779

ELKAT Ltd
2nd Kabelnaya ul. 2
Moscow 111024
Russian Federation

Tel: 00 7 095 273 8392
Fax: 00 7 095 274 0058

ZAO Nokia Networks
7th Floor, 3 Smolenskaya pl
Moscow 121099
Russian Federation

Tel: 00 7 095 771 7148
Fax: 00 7 095 771 7149
Web: www.nokia.com.ru

ZAO Nokia Networks
ZAO Nokia Mobile Phones
House 13 VO, Line 4
Abacus House
St Petersburg 199004
Russian Federation

Tel: 00 7 812 324 0200

Company Information

NEC Neva Communications Systems was established in May 1997 as a joint venture between NEC (45%), Sumitomo Corporation (10%), Mitsui & Co Ltd (10%), and JSC Telecominvest (35%). The company is involved in the manufacture, marketing, engineering, installation, and support of NEC's NEAX61E digital switching system. NEC Neva produces equipment for the Russian domestic market and focuses on the North-West, Central, Volga, Ural, and Siberia regions. NEC Neva claims that more than one million of its ports were in service by the end of 2002.

NEC has declined to publish information relating to the financial and operational performance of its Russian businesses.

Privately-owned **NELT** was established in 1997. NELT's main activity is the supply of electronic systems for intelligent buildings, including PBXs, key telephone systems, closed circuit television (CCTV) equipment, alarm and security systems, and systems for uninterruptible power supply. The company sells equipment through 28 main dealers and regional technical centres located throughout the CIS.

The company has partnership agreements with a number of international electronic equipment suppliers, including: Krone AG; Kaba Gallenschutz; Moser Baer AG; Oy ESMI Ab; LG Group; Avaya Communications; ABB; and, Bouyer.

Netherlands-based Draka Holding NV owns 51% of **NEVA Cables Ltd**, a company that manufactures jelly-filled telecommunications cables, with capacity ranging between 10 and 600 pairs. The facility has a production capacity of one million kilometres of wire per year. NEVA Cables has developed and certified a flame-retardent halogen-free cable. Draka Holding also owns 40% of Moscow-based ELKAT Ltd, which manufactures electrical cables.

Draka/NEVA Cables have declined to disclose information relating to the Draka companies' Russian financial results.

Finland-based Nokia Corporation is represented in Russia by three sales and marketing offices, two of which are based in Moscow and represent the company as a whole as well as its specialised Nokia Networks and Nokia Mobile Phones business units. The third office is based in St Petersburg and represents both Nokia Networks and Nokia Mobile Phones. Nokia has no manufacturing facilities in Russia itself.

Nokia Networks represents Nokia's IP Mobility products (from cellular, to wireless LANs, to third-generation mobile technologies), as well as fixed broadband solutions and professional mobile radio systems (such as TETRA). Nokia Mobile Phones represents Nokia's mobile handset products, covering a wide range of technology standards and applications.

Nokia does not disclose financial or operating results of its Russian businesses.

Manufacturer	Company Information
Fax: 00 7 812 324 0201	

ZAO Nokia Mobile Phones
9th Floor, 23 Ul. Profsyuznaya
Moscow 117292
Russian Federation

Tel: 00 7 095 795 0500
Fax: 00 7 095 795 0509

Nortel Networks
Ducat Place II
7 Gasheka Street
Moscow 123056
Russian Federation

Tel: 00 7 095 940 4580
Fax: 00 7 095 940 4581

Nortel Networks' Moscow-based representative office markets and distributes the full range of the company's access, switching, transmission, customer equipment, and multimedia solutions in Russia. No further details were forthcoming at the time of writing.

Siemens Russia Representative Office
98a ul. Dubinskaya
Moscow 113093
Russian Federation

Tel: 00 7 095 737 1000
Fax: 00 7 095 737 1001
Web: www.siemens.ru

Siemens AG of Germany has been present in Russia since 1855. Post-war operations were set up in the country in 1971, while the company's first branch office was opened in Moscow in 1991.

Siemens operates in the following business segments in Russia: Automation and Control; Power; Transportation; Medical; Lighting; Computers; Components; Household; Service; and, Information and Communications (I&C).

Within the I&C group, I&C Networks (ICN) offers complete solutions and services for voice, data, and mobile communications; I&C Products (ICP) offers a comprehensive range of IT and communications equipment and systems; I&C Mobile (ICM) provides mobile infrastructure technology and handset, organiser, and digital products; and, Siemens Business Services (SBS) specialises in IT infrastructure and implementing business processes for banks and other sectors.

ZAO Izhtel
90 ul. Gorkogo
Izhevsk 426006
Russian Federation

Tel: 00 7 3412 51 1397
Fax: 00 7 3412 51 1224
Web: www.izhtel.com

Siemens has two telecommunications joint ventures in Russia: **Izhtel** manufactures and markets EWSD digital switching equipment in association with Motozavod; and, **Kamatel** manufactures and markets digital transmission equipment in association with Morion (*see separate entry earlier this section*).

Siemens does not disclose financial or operating details in connection with its Russian businesses.

OOO Kamatel
111 shosse Kosmonavtov
Perm 614990
Russian Federation

Tel: 00 7 3422 23 3497
Fax: 00 7 3422 23 0939
Web: www.kamatel.ru

ZTE Russia
Office 412, Entrance 6
12 Krasnopresnenskayanab
International Trade Centre
Moscow 123610
Russian Federation

Tel: 00 7 095 299 1386
Fax: 00 7 095 258 1752
Web: www.zte.ru

China-based **ZTE Corporation** has established a representative office in Moscow that markets and distributes ZTE's mobile communications, data communications, optical transmission, and switching and access products in Russia, both directly and through third parties. Major contracts awarded to ZTE by Russian operators include a March 2003 contract from cellular operator SMARTS to expand its mobile switching centre and base station infrastructure.

ZTE has declined to provide financial or operating data pertaining to its activities in Russia.

INDUSTRY ASSOCIATIONS

Industry Associations

Association	Organisation Information
International Telecommunications Academy (ITA) 7a, 1st Parkovaya Street Moscow 105037 Russian Federation Tel: 00 7 095 165 0209 Fax: 00 7 095 165 1127	The **International Telecommunications Academy** (**ITA**) was established in Moscow in March 1996. The original aim of the association was the integration of the scientific knowledge of telecommunications experts worldwide. The academy now comprises more than 300 members from Russia and abroad including scientists, managers, and representatives from telecommunication administrations and government bodies, telecommunication operators, and equipment manufacturers. Most of the ITA's activities are related to the organisation of fora, conferences, and seminars. In the future, the ITA hopes to implement more initiatives to promote the development of telecommunications in Russia and worldwide.
Federal State Unitary Enterprise - Leningrad Telecommunication Research and Development Institute (LONIIS) 11, Warshawskaja st St Petersburg 196128 Russian Federation Tel: 00 7 812 389 3880 Fax: 00 7 812 389 7878 Web: www.loniis.ru	The **Leningrad Research and Development Institute of Telecommunications** (**LONIIS**) was founded in November 1918. Historically, the institute has been primarily involved in: the development of the first family of Russian digital switching systems, the ATSC-90; the design of local telephone networks; the design of ISDN, ATM, and IN networks; the design of telecommunications management networks for Russian local and rural networks; and, the preparation and execution of certification tests. Recent achievements include: creation of a network serving inter-regional communications operators nationwide; creation of a network serving St Petersburg; developing principles of PSTN transformation in packet-switched networks; and, developing rural communications through the use of packet-based systems. The company has developed the SAPFIR, a packet-switched system for analogue, digital, and packet terminal communication, which works on the principle of IP.NGN transformation.
Radio Research and Development Institute (NIIR) 16, Kazakova str Moscow 105064 Russian Federation Tel: 00 7 095 261 3694 Fax: 00 7 095 261 0090 Web: www.niir.ru	The **Radio Research & Development Institute** (**NIIR**) is the main research facility of the Ministry of Communications and Informatization. As well as being involved in R&D projects concerning radio, satellite, and terrestrial TV, and audio broadcasting, including mobile systems, NIIR undertakes testing and certification of telecommunications and broadcasting equipment, including consumer products.
Russian Agency of Control Systems (RACS) 42, Shchepkin Street Moscow 129857 Russian Federation Tel: 00 7 095 971 8235 Fax: 00 7 095 971 9980	The **Russian Agency on Control Systems** (**RACS**) is a federal government body and performs functions of state regulation of activity of enterprises and organisations that are involved in the development and production of specific control systems and radio and electronic complexes, general and specific telecommunications facilities, encoding systems and devices, electronic technology and elements, and radio instrumentation.
All-Russian Scientific and Research Institute for Certification (VNIIS) Tel: 00 095 253 7006 Fax: 00 095 253 3360 Web: www.vniis.ru	The **All-Russian Scientific and Research Institute for Certification** (**VNIIS**) is involved in the development of scientific, methodological, and organisational means for Gosstandart's certification systems for products, services, and quality systems. VNIIS has been involved in: developing proposals for legislation on certification systems in Russia; making recommendations as to which products should have mandatory certification; making recommendations on ISO 9000 series implementation; and, developing rules and procedures for certification bodies. In addition, VNIIS prepares documentation on procedures for certification bodies, inspection methods, rules for payment, and standards for services and personal protective equipment.

Association
Central Science Research
Telecommunication Institute
(ZNIIS)
8, 1-st proezd Perova Polya
Moscow 111141
Russian Federation

Tel: 00 7 095 304 5797
Fax: 00 7 095 274 0067
Web: www.zniis.ru

Organisation Information
The **Central Science Research Telecommunication Institute** (**ZNIIS**) was founded in 1918. ZNIIS provides joint co-operation services for companies wishing to participate in the development of the telecommunications industry in Russia. Basic areas of research and development activities include: design and research into creation and support of interconnected telecommunications networks; elaboration of the concept for mobile, cellular, and personal communications networks and services development; synchronous digital hierarchy (SDH) and asynchronous transfer mode (ATM) systems; copper and fibre-optic cable transmission systems; swiching systems including broadband and optical switching; technical facilities for cellular and PCN networks; and, intelligent network platforms and services.