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INTRODUCTION

No one can deny the role of telecommunications for society. Currently hundreds of millions of people use wireless communication means. Cell phone is no longer a symbol of prestige but a tool, which lets to use working time more effectively. Considering that the main service of a mobile connection operator is providing high quality connection, much attention in the telecommunication market is paid to the spectrum of services that cell network subscriber may receive.

DEVELOPING OF TELECOMMUNICATIONS

Late in the nineteenth century communications facilities were augmented by a new invention – telephone. In the USA its use slowly expanded, and by 1900 the American Telephone and Telegraph Company controlled 855,000 telephones; but elsewhere the telephone made little headway until the twentieth century. After 1900, however, telephone installations extended much more rapidly in all the wealthier countries. The number of telephones in use in the world grew at almost 100 per cent per decade. But long-distance telephone services gradually developed and began to compete with telegraphic business. A greater contribution to long-range communication came with the development of wireless. Before the outbreak of the First World War wireless telegraphy was established as a means of regular communication with ships at sea, and provided a valuable supplement to existing telegraph lines and cables. In the next few years the telephone systems of all the chief countries were connected with each other by radio. Far more immediate was the influence that radio had through broadcasting and by television, which followed it at an interval of about twenty-five years.

Telephones are as much a form of infrastructure as roads or electricity, and competition will make them cheaper. Losses from lower prices will be countered by higher usage, and tax revenues will benefit from the faster economic growth that telephones bring about. Most important of all, by cutting out the need to install costly cables and microwave transmitters, the new telephones could be a boon to the remote and poor regions of the earth. Even today, half the world’s population lives more than two hours away from a telephone, and that is one reason why they find it hard to break out of their poverty. A farmer’s call for advice could save a whole crop; access to a handset could help a small rural business sell its wares. And in rich places with reasonable telephone systems already in place, the effect of new entrants – the replacement of bad, overpriced services with clever, cheaper ones – is less dramatic but still considerable.

Global phones are not going to deliver all these benefits at once, or easily. Indeed, if the market fails to develop, it could prove too small to support the costs of launching satellites. Still, that is a risk worth taking. And these new global telephones reflect a wider trend. Lots of other new communication services – on-line film libraries, personal computers that can send video-clips and sound-bites as easily as they can be used for writing letters, terrestrial mobile-telephone systems cheap enough to replace hard-wired family sets – are already technically possible. What they all need is deregulation. Then any of them could bring about changes just as unexpected and just as magical as anything that Alexander Graham Bell’s telephone has already achieved.

SATTELITE SIRVICES

Our world has become an increasingly complex place in which, as individuals, we are very dependent on other people and on organizations. An event in some distant part of the globe can rapidly and significantly affect the quality of life in our home country.

This increasing independence, on both a national and international scale, has led us to create systems that can respond immediately to dangers, enabling appropriate defensive or offensive actions to be taken. These systems are operating all around us in military, civil, commercial and industrial fields.

A worldwide system of satellites has been created, and it is possible to transmit signals around the globe by bouncing them from on satellite to an earth station and thence to another satellite.

Originally designed to carry voice traffic, they are able to carry hundreds of thousands of separate simultaneous calls. These systems are being increasingly adopted to provide for business communications, including the transmission of traffic for voice, facsimile, data and vision.

It is probable that future satellite services will enable a great variety of information services to transmit directly into the home, possibly including personalized electronic mail. The electronic computer is at the heart of many such systems, but the role of telecommunications is not less important. There will be a further convergence between the technologies of computing and telecommunications. The change will be dramatic: the database culture, the cashless society, the office at home, the gigabit-per-second data network.

We cannot doubt that the economic and social impact of these concepts will be very significant. Already, advanced systems of communication are affecting both the layman and the technician . Complex functions are being performed by people using advanced terminals which are intended to be as easy to use as the conventional telephone.

The new global satellite-communications systems will offer three kinds of service, which may overlap in many different kinds of receivers:

Voice. Satellite telephones will be able to make calls from anywhere on earth to anywhere else. That could make them especially useful to remote, third-world villages (some of which already use stationary satellite telephones), explorers and disaster-relief teams. Today’s mobile phones depend on earth-bound transmitters, whose technical standards vary from country to country. So business travelers cannot use their mobile phones on international trips. Satellite telephones would make that possible.

Massaging. Satellite messagers have the same global coverage as satellite telephones, but carry text alone, which could be useful for those with laptop computers. Equipped with a small screen like today’s pagers, satellite messagers will also receive short messages.

Tracking. Voice and messaging systems will also tell their users where they are to within a few hundred metres. Combined with the messaging service, the location service could help rescue teams to find stranded adventurers, the police to find stolen cars, exporters to follow the progress of cargoes, and haulage companies to check that drivers are not detouring to the pub. Satellite systems will provide better positioning information to anyone who has a receiver for their signals.

INTERNET

The internet, a global computer network which embraces millions of users all over the world, began in the United States in 1969 as a military experiment. It was designed to survive a nuclear war. Information sent over the Internet takes the shortest path available from one computer to another. Because of this, any two computers on the Internet will be able to stay in touch with each other as long as there is a single route between them. This technology is called packet swithing. Owing to this technology, if some computers on the network are knocked out (by a nuclear explosion, for example), information will just rout around them. One such packet-swithing network which has already survived a war is the Iraqi computer network which was not knocked out during the Gulf War.

Most of the Internet host computers (more than 50%) are in the United States, while the rest are located in more than 100 other countries. Although the number of host computers can be counted fairly accurately, nobody knows exactly how many people use the Internet, there are millions worldwide, and their number is growing by thousands each month.

The most popular Internet service is e-mail. Most of the people, who have access to the Internet, use the network only for sending and receiving e-mail messages. However, other popular services are available on the Internet: reading USENET News, using the World-Wide-Web, telnet, FTP, and Gopher.

In many developing countries the Internet may provide businessmen with a reliable alternative to the expensive and unreliable telecommunications systems of these countries. Commercial users can communicate cheaply over the Internet with the rest of the world. When they send e-mail messages, they only have to pay for phone calls to their local service providers, not for calls across their countries or around the world. But who actually pays for sending e-mail messages over the Internet long distances, around the world? The answer is very simple: users pay their service provider a monthly or hourly fee. Part of this fee goes toward its costs to connect to a larger service provider, and part of the fee received by the larger provider goes to cover its cost of running a worldwide network of wires and wireless stations.

But saving money is only the first step. If people see that they can make money from the Internet, commercial use of this network will drastically increase. For example, some western architecture companies and garment centers already transmit their basic designs and refined by skilled – but inexpensive – Chinese computer-aided-design specialists.

However, some problems remain. The most important is security. When you send an e-mail message can travel through many different networks and computers. The data is constantly being directed towards its destination by special computers called routers. However, because of this, it is possible to get into any of the computers along the route, intercept and even change the data being sent over the Internet. In spite of the fact that there are many good encoding programs available, nearly all the information being sent over the Internet is transmitted without any form of encoding, i.e. “in the clear”/ But when it becomes necessary to send important information over the network, these encoding programs may b useful. Some American banks and companies even conduct transactions over the Internet. However, there are still both commercial and technical problems which will take time to be resolved.

ADVANCING ROLE OF TELECOMMUNICATIONS IN BANKING

Role of telecommunications in banking as in other businesses nowadays is extremely important. We can even say that this field is critical success factor for the modern bank or banking system.

There are two different approaches in terms of ownership to building banking communications in the world. One approach that is chosen for example by banking system of Russia and some other former Soviet Union countries is building of private banking networks from the start. This approach has certain benefits, mainly from security prospective. On the other hand building private banking networks requires permanent and serious involvement of banks in financing, support and development of telecommunications systems. Other approach is building banking communications over existing public services in the country. Some of main benefits of this approach are relatively low level of investments in communications and possibility of sharing achievements in this field with other businesses. At the same time in the future it will be easier for central bank to minimize it's involvement is this field then in the case of private banking communication systems.

There are number of most important banking systems and services that are based on communications.

Electronic Funds Transfer System - System facilitating electronic transfer of domestic interbank and intrabank (interbranch) payment instruments.

International Financial Telecommunications - Same as EFTS but for international operations.

National Money markets and auctions - System allowing electronic trading of financial instruments and stocks within the banking system.

Centralized accounting and analysis of available reserves and government budget across country

Centralized electronic processing of personal Credit-and-Debit card operations.

The importance of fast and reliable electronic information exchange between financial institutions grows with economy of country and requires deployment of modern technologies in the banking system.

RUSSIA'S TELECOMMUNICATIONS ROADS GET WIDER, MORE EXPENSIVE

In the last days of 2000 the government approved "in principle" of a draft concept for developing the market of telecommunications services, extending till the year 2010. What are the likely implications of that decision?

Under the approved project further efforts in the telecommunications market must be geared to meet the growing demand for communications services. According to the Ministry of Communications, 54,000 communities in Russia have not a single telephone. Communications networks development has been and still is the job of traditional operators. Bills paid by retail subscribers cover a mere 77 percent of local telephone communications costs.

According to the most conservative estimates, the development of the national telephone infrastructure will require an investment of $33 billion over a period of ten years. The number of ordinary telephones will grow from 31.2 million in 2000 to 47.7 million in 2010, and of mobile telephones, from 2.9 million to 22.2 million. The army of Internet users by 2010 will go up from 2.5 million to 26.1 million.

For communications operators to be effective control will be established of the fair access of one operator to the other operator's network. No operator will be allowed to refuse access to its infrastructure to another operator. And tariffs for all market participants should be the same.

Having examined the concept the Ministry of Communication, the Ministry of Economic Development and Trade and the Anti-Monopoly Policies Ministry ordered finalizing the document within a two-month deadline and present it in one package with a plan for implementation measures to the Cabinet of Ministers. In the meantime, the Russian communications market is booming. Investments in 2000 exceeded by far those witnessed by pre-crisis 1997. National industrial operators are in the growth phase.

For the past few years the telecommunications divisions of several giants (such as the Ministry of Railways, Gazprom and others companies) have stormed the domestic market, but none has gained full access to this day. The possibility remains, though, that these companies next year may gain the status of a full-fledged operator. However, before they can count on the right to provide communications services in the domestic market, the operators of corporate telecommunications networks must settle their debts to the government, Communications Minister Leonid Reiman told Vek. He believes that these operators may settle their liabilities by transferring part of their shares to the State Property Ministry.

The Communications Ministry has conducted negotiations with the Defense Ministry on using certain frequencies for civilian purposes. Reiman said four percent of the radio frequencies were used by civil services, 20 percent, jointly by military and civil services, and the others were exempt from conversion. The Communications Ministry does not dismiss the possibility of operators' financial participation in the conversion of frequency ranges to civilian uses altogether. The issue of licenses to use vacant frequencies through contests may prove a means to raise funds for the mobile communication sector. The government has approved of issuing contested licenses for frequency ranges above 1800 MHz, and for third generation cellular systems.

Of the main methods the government uses to control the telecommunications market, alongside technological policies and perfection of service provision principles, one should point to the control of tariffs, minimization of cross subsidies, optimization of tariffs structure by consumer and regional sectors, transition as of 2002 to limit pricing-based tariffs, and the introduction of a system of universal services. The effective control and operation of the industry should provide support for domestic producers and safeguard national interests during the restructuring of companies, including Svyazinvest.

Svyazinvest is in the process of enlargement and reorganization. Instead of the 89 regional operators it is creating a new structure uniting seven to fifteen communications operators. This measure is expected to make the company easier to control and increase its shareholder value. The General Director of OAO Nizhegorodsvyazinform Vladimir Lyulin and Managing Director of the investment bank Group Gamma Timur Khusainov in December signed a contract on the provision of information and consulting services within the framework of the unification of eleven regional communications operators in the Volga river area.

Nizhegorodsyavinform will be the base company in the Volga area, taking over ten other regional communications operators - OAO Kirovelektrosvyaz, OAO Martelkom of the Republic of Mari El,

OAO Svyazinform of the Republic of Mordovia, OAO Elektrosvyaz of the Orenburg Region, OAO Svyazinform of the Penza Region, OAO Svyazinform of the Samara Region, Saratovelektrosvyaz, Telecommunications Networks of the Udmurt Republic, Elektrosvyaz of the Ulyanovsk Region, and Svyazinform of the Chuvash Republic. The unification process is due to be completed by the beginning of 2003.

The number of trunk communication lines over the past two years grew noticeably. Rostelecom and Transtelecom have been discussing the possibilities of Asia-Europe traffic. Companies in the West have turned an attentive ear to this news. Some are drawing plans for doing business in Russia. The main conclusion is that the economy's drift from material production to information technologies implies the growing role of telecommunications . Those companies which fail to reorganize their policies and development priorities in time, will fail in market competition. A shift of the emphasis from the transmission of voice to the transmission of data is the mainstream trend in the telecommunications business.

Market economy development will give Russia convenient and high quality telecommunications roads. However, only those companies that have opted for new development models will make a rapid headway.

FUTURE OF DEVELOPMENT

Future is speed and power. New technologies in electronics continue to develop. Computers become more compact, fast and inexpensive. The smaller chips' size the closer it placed one another and electric signal goes much faster. Technology exert revolutionary influence on society only when it is universal. Real revolution in manufacture, accumulation, treatment of matter begins when first universal metal-working machines appeared and telecommunication systems were created. In ancient machines energy source was combined with machine itself, but in process of development, division of manufacture, transmission and consumption of energy took place.

Revolutionary modifications in use of energy connected with appearance of universal electric machines and power grids. Social changes to informational society take in all countries.

On base of analogy between matter, energy and information we can have ideas about future. Earlier, for example, number of manufactured metal played the strategic role and was the description of development. Now we save metal, energy and we think about energy saving technologies.

It is very difficult to predict many steps of informatization. Telecommunications changes world very much.

CONCLUSION

In each device developed by human, collection and processing of information take place. Even simple soda water apparatus when it receives money, this apparatus collect and analyze information about coin and then either return the coin or give glass of soda water. In that way telecommunications may change us and world in future.

Nobody knows what our future will be like. Some people say that big spacecrafts will be built and that people will visit distant planets and make their settlements there. Some people say that technology will be developed to such an extent that computers will control the world. Others think that there will be world disasters floods, droughts and earthquakes alike - and that they will destroy the human race. Christians believe that the end of the world is near and that the God will come to part the good people from the bad ones. There are people who believe that pollution will cause the decline and fall of the mankind and there are those who predict that a gigantic shooting star will crash into the Earth at the turn of the century. Some people claim that alliens are planning to attack and turn us into their slaves.

So, is there, after all, a slight chance that people will finally come to their senses and that there will be at least no starvation and wars?

I think that bright future is in front of us. Just take a quick glance through history and you will realize it too: in ancient times people killed each other in order to have meat for dinner, later in order to satisfy their own vanity and today without any reason at all. As you can notice, we are developing very fast! Neighbors are killing each other out of boredom; mothers are killing their newborn babies out of some little sick reasons. Isn’t it obvious that we are considerably improving species which is getting wiser every day?

If we try to make this world better we shall succeed. But, are we ready to do it now? Are we really environment friendly while not recycling but just piling rubbish in the middle of once green meadows, while shooting bears and foxes just because of their fur? Are we really worried about thousands of hungry people while we are throwing away fresh food in garbage bins? Do we really care about all those thirsty children while we are splashing about in swimming pools? Are we really concerned about dangerously polluted air our descendants will have to inhale while we are driving happily our flashy cars? Can we even try to imagine the ugliness of the desert we are going to leave to our grandchildren?

It could be estimated that an average person spends a minute a year thinking about the future of our planet and I do not know if I should compliment this or not. Is it an achievement after all?

I express my gratitude for devoting people’s lives to saving our future world by making other people aware that the appalling problems of poverty and arms build-up should be dealt with soon and that, among many other things, our seas and forests deserve more protection than they get. The only way we can show the Earth our respect is to change our attitude and behavior before it is too late. So let’s do it now.

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