

**NATIONAL INFORMATION AND COMMUNICATION
TECHNOLOGIES STRATEGY
FOR THE DEVELOPMENT
OF THE REPUBLIC OF AZERBAIJAN
(2003 - 2012)**

*Science and technologies are developing
very fast. That's why we in Azerbaijan
should also try to find our position in this
development, to speed up our growth
permanently to reach the level
of those in advance.*

**President
of the Republic of Azerbaijan
Heydar Aliyev**

1. Introduction

During the last decade of the XX century information and communication technologies (ICT) became one of the most important factors that influence the development of a society. Its impact covers State structures and civil society institutions, economic and social sectors, science and education, culture and people's whole way of living. Many developed and developing countries have derived benefits from the advantages of ICT. Now there is no doubt that the way to the information society is the way leading to the future of human civilization.

The following may be referred as the main features of the information society:

- ***establishment of global information environment;***
- ***mass usage of ICT, creation of new forms of social and economic activities;***
- ***conversion of information to a commodity, forming and development of information and knowledge market;***

- ***improvement of educational system, growth of professional and overall cultural level due to enhancement of information exchange systems in international, national and regional levels;***
- ***establishment of environment to ensure the right of citizens and social institutions such as to obtain, disseminate and use information, which is an important factor for democratic development.***

The level of application of ICT is one of the main indicators of every country's intellectual and scientific potential, state regulation transparency and democracy. The importance of electronic commerce in the world market is increasing and generally competitiveness of the countries will depend on their efficient use of ICT in future.

Global experience shows that broad usage of ICT serves the overall development of the country, and these technologies are effective means in reducing poverty and solving socio-economic problems of population.

Certain steps in utilization of ICT were taken in Azerbaijan recently, in several spheres these technologies are successfully applied and generally this activity category became one of the priorities of government's economic policy.

The following clearly indicates interest and willingness to apply ICT in Azerbaijan, as well as possibilities for its realization:

- The Government of Azerbaijan is willing to accelerate building the information society and on the other hand UNDP and other international organizations are ready to provide technical and financial support in this sphere;
- The State of Azerbaijan already has some positive experience on creating the legislative base of the information society;

- Modern ICT was widely used during admission process to the institutes of higher and vocational education, online knowledge assessment was applied, appropriate information resources were created. Wide information services have been provided to residents via Internet;
- ICT was successfully implemented in the admission process of judges and other state officials;
- The state automated “Elections” system was developed and ICT has widely been using in elections since 2000;
- The Research and Education network connecting a number of the research institutes and universities was developed;
- Project on establishment of regional Academy for training of ICT experts was implemented;
- Modern ICT was widely used in the project “National Passport System of Azerbaijan”;
- Projects of real time interbank electronic national payment system and automatic clearing system for small payments were implemented in the banking system of Azerbaijan;
- With the support of international organizations several regional information–education centers were established in the republic;
- National fiber optic telecommunication network was created in the framework of the TransAsiaEurope project and based on this most of the existing telecommunication channels of Azerbaijan were transferred to digital mode;
- The fiber optic telecommunication line along the Baku-Tbilisi

railway was installed in the framework of TRACECA project;

- “Data Transmission Network and Automated Control System” was created in customs system to improve management and procedures;
- The “Corporate Telecommunication Network” and the “Automated Control Systems” projects were implemented in the State Oil Company;
- Other significant projects on ICT were implemented in a number of state and private organizations, etc.

2. Main factors characterizing the present situation

Analysis of overall e-Readiness of the country including the existing telecommunication infrastructure, hardware and software, information resources and services, legislative base show that initial conditions exist for acceleration of building the information society in the country, at the same time there are still objective difficulties.

Factors characterizing the present situation positively

- high level of population's literacy and education;
- country-wide existence of appropriate conditions for use of Internet;
- existence of national private telecommunication operators and their growth;
- existence of the extensive experience in applications of ICT in national projects;
- existence of favorable business and investment environment and its recognition by international organizations including Organization for Economic Cooperation and Development, interest of foreign investors in the ICT sector of economy;
- favorable geographic location of Azerbaijan with international transport highways and communication channels passing through the territory of the country;

- stable development of economy and rich energy resources of the country;
- modernization of the computer park and software as a result of Y2K problem resolving activities;
- formation of cellular phone network covering overall republic and its permanent development;
- upgrade and expansion of wired phone network and digital communication channels development.

**Factors characterizing
the present situation negatively**

- expedient state policy defining directions for work connected with usage of ICT and its priorities, ensuring coordination of activities hasn't been fully determined;
- legislative base regulating the usage of ICT is not yet comprehensive;
- in connection with the transition period of the country and existence over one million refugees and IDPs as a result of occupation of 20% of the territory of the Republic of Azerbaijan by Armenian Republic, the government can't allocate sufficient financial means for ICT application;
- "brain-drain" to the developed countries in connection with the transition period;
- little awareness of the population about advantages and opportunities of the ICT;
- insufficient number of high level professionals in the ICT sector;

- the country-wide low level of computerization on the whole;
- the disciplines connected with ICT at all levels of educational process don't meet the up-to-date requirements;
- the “digital divide” between rural and urban areas of Azerbaijan;
- serious problems in broad usage of Azerbaijani in the ICT sector;
- insufficiency of the technical documentation in Azerbaijani on ICT;
- very slow process of nation-wide information resources formation;
- the republic does not participate actively in many international integration projects on ICT;
- telecommunication tariffs existing in the republic create serious obstacles to usage of ICT;
- existence of the government monopoly hampering the innovations and fair competition in the telecommunication sector.

The above-mentioned realities stipulate steps taken by the state in the direction of forming the information society in Azerbaijan.

3. Key Goals and Objectives of the National ICT Strategy

The National Strategy reflects state policy in usage of ICT and its broadening, determines key goals, objectives, priorities and main activity directions. The strategy takes into account the society's requirements, advanced global experience and facilitates democracy, development and Azerbaijan's integration into the world community.

The key goal of the National Strategy is to assist country's democratic development and to create favorable environment for the transition to the information society through widely applying of ICT.

The key objectives of the National Strategy are to:

- create and develop legislative base of the information society;
- develop human factor in the country, create favorable environment for the population to get adequate education and medical service;
- establish environment to ensure the opportunities to the citizens and social institutions to obtain, disseminate and use information;
- conduct effective, transparent and controllable state administration and local self-administration, create electronic government, form and develop electronic commerce;
- enhance country's economic, social, and intellectual potential, create competitive economy, create and develop

information and knowledge market;

- protect and popularize broadly people's historical, literary and cultural heritage;
- create advanced information communication infrastructure, form a common electronic information environment in the country, increase information and communication services;
- ensure country's information security;
- integrate country into the international information society;
- develop production of national software products, production of other ICT products (ICT industry);
- eliminate the "**digital divide**" in the country.

As a result of strategy implementation, transparency will be ensured in state administration, sustainable economic growth will be achieved, the living standard of population will be improved, a unified information exchange will be formed in the country, all citizens will get easy access to information, and the country will be integrated into the international information society in accordance with the national interests.

4. Role of the State in Building the Information Society

From the viewpoint of modern requirements the usage of ICT is one of the main indicators of the State's military-political and socio-economic potential. Azerbaijan is not an exception in this sense and creation of favorable condition for the transition to the information society is one of the main political objectives of the State of the Republic of Azerbaijan.

Building the information society is a complex process which includes organizational, socio-economic, scientific-technical, technological and mostly political factors. Its successful implementation requires effective use of the involved political-administrative, financial, human, technical and other resources, correct selection of priorities and directions of activities, control and coordination of all conducted work.

This makes highly necessary a national strategy and a plan of activities in the sphere of application and development of ICT for implementation of the policy, set out in the Law of the Republic of Azerbaijan on "Information, Informatization and Information Security".

The State plays the key role in creating favorable conditions for building the information society, and its main activities include:

- forming a legislative base and its regular modernization;
- analyzing and regulating the activities relating to information technologies in the country;
- creating the national and state information systems, forming the information resources, control activities of the state institutions in this sphere;

- creating admissible environment for new situation, which will serve for attracting foreign and local investments and for fair competition;
- creating equal conditions for all participants, using political, legal, economic and administrative mechanisms to attract and involve wide layers of the society in implementation of the strategy, and coordinating their activities;
- ensuring protection of civil rights and freedoms and security of personal and private information;
- creating for citizens opportunities of access to state information resources;
- ensuring the national information security;
- mobilizing financial resources required for implementation of the strategy, providing governmental support to the social oriented and national important projects and programs;
- creating favorable conditions for production national ICT hardware and software products, and stimulating their promotion at the world market;
- creating favorable environment for private companies, especially small and medium-sized companies acting in the ICT sector;
- creating favorable environment for ICT usage in all fields of economy;
- using modern ICT in state administration and local self-administration;
- carrying out regular activities on forming electronic government;

- enhancing international cooperation for ensuring national interests in ICT.

5. Key Principles of Informatization

Unlike to traditional conceptions and programs for dedicated spheres the National Strategy directed to informatization of the society is multifold and its scope covers state policy, socio-economic sphere, technologies, science and culture.

The Strategy and activities for its implementation correspond to the Legislature of the Republic of Azerbaijan, serve to defend national interests, take into consideration corresponding standards, requirements and recommendations of international organizations such as UN and Council of Europe, other international agreements important for the area and adopted by the Republic of Azerbaijan.

National Strategy determines the following key principles to ensure effectiveness of ICT application and development and create favorable and equal conditions for all participants (state structures, research and education institutions, private companies, NGOs, public organizations and citizens):

- **ICT awareness** – to gain public support, ensure effective activities and facilitate implementation of ICT, knowledge and information relating to ICT is made broadly accessible to population.
- **Transparency** – all the activities are conducted openly; rules and arrangements concerning activities are disclosed to community through all means; public discussions are conducted, the ideas of all parties are listened to and taken into consideration.
- **Equality** – irrespective of the position in society and type of ownership, interests of all participants are considered equally, social justice principle is carried out.

- ***Innovation*** – innovations of scientific and technical progress are taken into consideration, research activities are supported.
- ***Stepwise implementation*** – taking into account the ICT's rapid growth and to ensure effective use of financial resources, the implementation activities are conducted in stages. Programs and projects are prepared taking into account priorities and obtaining outputs in short times.
- ***International cooperation*** – the country takes an active part in preparation and implementation of the international ICT projects, the strategy implementation activities are tightly coordinated with the development of the global information society.
- ***“First leader” principle*** – the leaders of state administration and local self-administration, organizations and enterprises are interested in the activities to implement the strategy and control this process directly.
- ***Nation-orientated principle*** – development of national information resources, creation of Azerbaijani-supporting software are the considered priorities, creation of information resources of the national minorities is stimulated.

6. Priorities and Main Activity Directions

The key priorities of the National Strategy are to:

- meet information requirements of citizens, ensure comprehensive development of a person, raise intellectual potential of the country;
- create legal environment to ensure the transition to the information society, conduct effective, transparent and controllable state administration and self-administration;
- strengthen country's economic potential through ICT application;
- protect and popularize historical, literary and cultural national heritage via ICT usage.

National Strategy determines the following key activity directions:

- ICT and Modernization of Education, training national staff in ICT and providing minimal ICT literacy in the country;
- development of the social spheres using ICT;
- development of the telecommunication infrastructure;
- formation and development of the electronic government;
- creating and developing the legislative base relating to the informatization;
- formation and development of the electronic economy;
- formation and development of national information resources;

- strengthening scientific, technical and production potential in the ICT sector;
- ensuring national information security and personal and private data protection.

The main works to be conducted in activity directions are presented below.

ICT and Modernization of Education

- improved training of specialists in the country through ICT applications in science and education, carrying out education monitoring, implementing distance learning and lifelong learning;
- training national ICT experts, develop and apply ICT literacy standards for all levels of education;
- development of the computer network ensuring information and knowledge exchange in research and education;
- creating and developing regional and local information resources and training centers to enhance people's opportunities to access to the information resources, creating the environment for the poor to get ICT services free of charge;
- enlightenment of the population about the modern ICT and their applications, improving people's ICT literacy level.

***Development
of the Social Spheres Using ICT***

- using ICT widely in the socially oriented spheres;
- providing the social services via ICT usage, creating opportunities for the poor to get ICT services for free;
- the wide usage of the ICT in public health, providing to residents tele-medical services;
- helping invalids and disabled in their socio-cultural needs through ICT means.
- reduction of poverty and unemployment via ICT usage, creating opportunities for distance work (tele-work);
- using ICT in environmental protection;
- using ICT in solving gender problems.

***Development
of Telecommunication Infrastructure***

- creating and developing the modern telecommunication infrastructure, new telecommunication networks;
- development of the data networks in the country, including Internet, eliminating differences in this sphere between rural and urban areas;
- conducting the liberalization policy in telecommunication and creating the environment for fair competition, formation of the national level data operators and creating favorable conditions for their activities;
- conducting flexible tariff policy in telecommunication services.

Electronic Government

- broad usage of ICT in state administration and local self-administration bodies and organizations;
- creating the appropriate conditions for the participation of citizens and NGOs in public administration;
- improving cooperation between the components of the political system by using the ICT;
- wide usage of electronic documentation exchange;
- creating the automated data systems, thematic, national, regional information resources serving people;
- developing and realizing mechanisms for regular improvement of government officials' knowledge in ICT;
- developing applications of information technologies in the election process.

Legislative basis relating to ICT

- creating and developing ICT legislative basis to ensure the transition to the information society;
- development of the state standards relating to ICT;
- ensuring transparency in the activities connected with licensing in ICT taking into account international practice;
- creating the legislative database of broad coverage for public use.

Electronic Economy

- creating suitable conditions for carrying out electronic commerce, using electronic payment on a large scale;
- creating favorable environment for information services;
- stimulation of wide application of ICT in state and private sectors of economy;
- creating conditions for development of the knowledge based economy.

National Information Resources

- formation of common national electronic information environment;
- ensuring wide usage of the Azerbaijani language in electronic information exchange;
- ensuring wide use of ICT in protecting and popularizing the historic, literary and cultural heritage, including wide application of ICT in libraries, museums and archive work.
- creating conditions for forming information resources serving cultural development of national minorities;
- integration of the national information resources to the international information environment to provide international access to them;
- providing information support for Azerbaijani Diaspora;
- increasing Azerbaijan segment of Internet, developing national search engines;

- creating and developing software applications with Azerbaijani support.

Raise of Scientific-Technical and Industrial Potential

- developing sciences ensuring creation and wide application of ICT;
- stimulation of innovative activities;
- formation and development of ICT industry, and attracting investments to this sector;
- stimulation of ICT services, production of ICT products and their export;
- establishment of the pilot training-consulting centers, technoparks to popularize ICT;
- stimulation of establishment of small and medium-sized companies engaged in production in ICT area.

Information Security

- ensuring the national security in information exchange, struggle against electronic crimes;
- Taking into account the national interests, creating conditions to ensure rights of citizens and organizations to safely obtain and use of electronic information;
- creating an environment providing citizens' information security.

The complexity of the forthcoming work, large financial resources required and the rapid growth of ICT, stipulates stage-wise implementation of the national ICT strategy in Azerbaijan, economy of which is in the transition period.

As the National Strategy determines the main activity directions and their content conceptually, the action plans in every direction – **national ICT programs are** developed and concrete actions are conducted through projects.

The successful implementation of the strategy depends directly on its correct management. This process is coordinated, controlled and governed by state institutions conducting the Government policy in ICT usage and development.

To ensure implementation of the unified policy in the international relations of the Republic of Azerbaijan with other countries and international organizations in implementation of this strategy the activities of participants are coordinated by the Ministry of Foreign Affairs.

The implementation of information security activities is coordinated by the Ministry of National Security, because of the information security being one of the main factors influencing the national security and country's development.

The strategy is implemented on the scientific basis and conducted under democratic principles. The systematic and permanent activities, the support of broad masses, the national dialogue achievements, the open discussions and consultation, the impartial consideration of all proposals, participation of all parties in projects developments ensure the strategy's successful implementation.

In order to determine the level of progress of the country towards the information society, regular monitoring of the ICT usage level is conducted. With this purpose the national success indicators are developed on the basis of world practice. Regular monitoring of national ICT usage level and its assessment is one of the main objectives of the Government policy.

7. Financial Support

Successful implementation of the National Strategy, full achievement of its goals and objectives require large financial resources. This problem can be solved by mobilization of Azerbaijan's internal State finances and attracting foreign investments. In key administration and socially oriented spheres ICT applications may be financed by the Government.

To achieve long-term stable progress in this sphere effective financial policy meeting modern requirements should be developed. In general, implementation of the strategy is financed from the following sources:

- resources in state budget allocated for ICT;
- various local government and non-government funds;
- resources of central and local administrations, state organizations allocated for ICT;
- foreign and local investments, purpose loans;
- financial and technical support of international and foreign organizations, grants.

The following should be ensured in usage of allocated funds of the strategy:

- creating favorable conditions by the Government to attract additional local and international finances including investments to implement ICT applications;
- development and application of favorable financial, customs and tax mechanisms for ICT applications;
- preliminary assessment of economic effectiveness of allocated funds for the informatization, giving preference to self-financed

projects and programs, broad usage of tenders;

- conducting unified and coordinated policy by appropriate government institutions to attract foreign and local investments, assist for getting preferential credits and grants for the ICT development;
- allocation of the necessary finances for ICT applications in the projects and programs of the national level which are planned or being on the stage of implementation;
- creating economic mechanisms to attract finances for applying ICT in science, education, culture, public health and other socially oriented spheres.

Taking into account the role of the National Strategy in future development of the country, its national value, the Government of Azerbaijan ensures regular monitoring of effective and purposeful use of resources allocated to ICT and permanently informs citizens about it.

8. Expected Results

A favorable environment for the transition to the information society which will meet interests of government, social institutions, NGOs, private companies, overall society and its members will be established as a result of implementation of the strategy and the following strategic results will be achieved in 10 years period:

- The Republic of Azerbaijan will be among the leading countries of Europe in the sphere of ICT usage, will be in the position of the leader in South Caucasus and Transcaspiian regions in the ICT sector.
- Effective, transparent and controllable state administration and local self-administration will be conducted, participation of broad layers of the citizens in administration process will be ensured.
- Easy access to information resources and services will be provided for citizens.
- The country's economy will experience a considerable growth as a result of ICT applications, considerable progress will be achieved in eliminating poverty and unemployment.
- Favorable legal environment, intellectual potential, telecommunication infrastructure and national electronic information environment will be established for the transition to the information society.
- Internet segment of Azerbaijan will be developed, national information security will be ensured, the Republic of Azerbaijan will be successfully integrated into the international information

society.

- National information resources will be developed, the Azerbaijani language will be widely used in national information exchange, ICT will be broadly used to protect and popularize historical and cultural heritage of the Azerbaijani people and other peoples living in the country.
- Irrespective of the ownership all organizations and enterprises will use ICT infrastructure, telecommunication market with fair competition will be formed and function effectively, country will directly participate in world's electronic commerce and business processes.
- ICT part of the GDP (gross domestic product) will be considerably increased.

The relations between the government and citizens will permanently grow in the ICT epoch. The world experience shows that there has never been the complete harmony in relations between government and civil society. But the successful movement towards the information society is only possible on the base of mutual respect, mutual workmanlike activity and collaboration between the government and citizens. Azerbaijan makes its first steps on this long historical way.