

Republic of Albania

***National Information and
Communication Technologies
Strategy***

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Introduction

The goal of the Information and Communication Technologies Strategy project - co-financed by the Open Society Institute, the UN Department of Economic and Social Affairs, and UNDP Albania - is to facilitate efforts by the Government of Albania, in cooperation with other national and international stakeholders, to develop a National ICT Strategy that identifies mechanisms and legal and fiscal frameworks needed to implement e-government, e-education and e-commerce initiatives, and the continued development of ICT infrastructure. This Strategy has been developed within the context of the overall National Strategy for Socio-economic Development, the European Stabilization and Association Agreement, and sub-regional activities under the EU Stability Pact. The Government of the Republic of Albania has committed itself to the "eSEEurope Agenda for the Development of the Information Society". This agenda includes action items and a timetable for the development of an Information Society, which are in line with the actions and the roadmap defined in this National ICT Strategy, representing part of the regional process.

The Strategy builds on the many individual and sectoral e-initiatives already being implemented by other development organizations, such as the e-governance activities led by the Italian Government, World Bank, European Union, DFID and USAID, e-vocational and e-education and information activities led by the Open Society Institute and GTZ, as well as many other cross-cutting ICT activities supported by these and other donors. The strategy will build on all current ICT activities, identify linkages and complementary development approaches, as well as identify new areas of intervention.

The Government of the Republic of Albania considers the development of the information society and the use and deployment of ICT in the country as one of the highest priorities in achieving higher living standards and economic growth.

The goals of the National ICT Strategy are to exploit the potential of ICT in order to promote human development in the country, to support growth and sustainable development and to increase living standards for the whole population. ICT should be used to create employment, to improve working conditions, and to motivate highly educated individuals to stay in the country. National and local needs and circumstances will be an important factor to be considered for the development of the Information Society in Albania.

The Government of the Republic of Albania recognizes that the definition and implementation of this ICT strategy has to be performed with high urgency. A lot of similar initiatives are being carried out at the moment, both at national and regional level, but, compared with other countries of South East Europe, Albania is lagging behind, and risks falling further behind.

The political program of the Albanian government for the period 2002 – 2005 proposes several reforms towards achieving "*sustainable economic growth and development*". ICT is an underpinning technology for all reforms proposed in the government program, and this Strategy, along with its following action plan, will be an essential tool towards the accomplishment of this program. References are made in individual parts of the Strategy to the goals of the political program; those references are printed in italics.

This Strategy document describes the general goals of the Strategy and defines a number of strategic actions that serve to achieve these general goals. For this purpose, the strategy is subdivided into five sections, and fourteen individual goals. The sections describe the major strategic areas to be addressed, and are directed to different target groups in the country:

- Section I: Government as Promoter, Legislator and User of ICT, is directed at the government, and addresses the needs for suitable ICT institutional structures, policy definitions and introduction of e-government services.
- Section II: Use of ICT for Education, Research, Health and Social Services, aims at deploying ICT for the direct benefit of citizens.
- Section III: Building Infrastructure needed for an Open Information Society, addresses the need to deliver the infrastructure necessary for the information society.
- Section IV: Generating Economic Growth in the Private Sector, addresses the need to promote the private sector to embrace the tools of the information society.
- Section V: Ensuring Relevance of ICT Strategy within a Regional and European Context, focuses on the need to ensure ICT policy cooperation on a supranational level.

Each Section is subdivided into several goals, which constitute the lowest level of detail in this strategy document; however, they are not defined at such a level that they can directly be executed. These strategic goals will form the foundation for subsequent action plans for the implementation of the Strategy and evaluation of its results. These action plans will also be the base for donor support. This breakdown of the overall goals into two hierarchical levels and the order of goals do not imply any priority.

It is important to understand that the implementation of the Strategy should be based on internal national capacity and resources; donor assistance, while needed to support certain aspects of the Strategy implementation, will not lead to a dependency for ongoing implementation.

The Strategy is realizable in a timeframe that is not too long, with actions that can be implemented rather quickly, over the short-, and at most medium-term, timescale, with implementation taking place during the next eight to ten years.

Measuring the progress during the realization of the strategic actions will be important. Therefore, one of the goals is devoted to the definition and use of indicators that will be used to measure the status of development. This use of indicators will then also allow an international comparison of the situation of the information society in the country. A first set of indicators is included in the annex to this strategy. The annex to this strategy includes further a roadmap that is based on the strategic actions as defined in the strategy itself, which also provides a first indication of a time schedule for its realization.

This document requires the knowledge of specific acronyms, terminology and definitions. These terms are not explained within the Strategy text to make it read more easily; however, an annex is provided with all necessary explanations. This annex further provides an overview of current ICT indicators, as well as past, current and planned donor projects with an ICT component, and a list of proposals for projects that should be implemented in Albania and for which more detailed action plans should be developed.

Section I: Government as Promoter, Legislator and User of ICT

The Government of the Republic of Albania has recognized the need to widely introduce ICT in the country to achieve higher living standards and economic growth. The government will promote the use of ICT, by taking over a role as champion and visionary to drive forward the process for creating the information society. Government will have to set the example, provide the right legal and judiciary frame, and, as a user of ICT, stimulate investment in ICT. Government will have to give priority to the deployment of ICT solutions in all parts of government policy and corresponding public sector programs and in all sectors of the economy, observing the need for ubiquity and a socially inclusive society.

Through e-government applications, the government can transform its own operations and the way of interacting with citizenry and businesses. Investment in new infrastructure and related services along with the government's procurement decisions will influence and stimulate the private sector supplying goods and services to the government that the government will later use to provide government's services to citizens and businesses. In this way, conditions for wider uptake of ICT are created.

Introduction of ICT is not a goal in itself. The use of ICT, together with applications, supported by a legal and policy infrastructure, is embedded in a process that is being driven by the promotion of good governance goals such as judicial reform, human rights, accountability, by public sector reform, empowerment and participation in the governing process. Technology can be catalytic, but the process means a re-orientation of government services towards serving citizens and businesses, which implies a change of work procedures, and of attitude of officials. The government's political program states that Albania is in "*the process of placing the state at the service of the citizens*", confirming the goals of the ICT strategy. ICT will thus contribute to the "*consolidation of the public administration and the state's fundamental institutions*", and be a decisive factor in the government's process of "*decentralization of power toward the local government*". ICT will play its role only if integrated within processes of institution building and administrative reforms.

The precise goals of this first Section are to prepare the government on national, regional and local levels for the Information Society, in

- creating the organizational structure that enables the government to assume the role of a champion for the Information Society;
- creating the legislation for an Information Society;
- carrying out steps towards the creation of an electronic government serving the citizen.

Goal 1: Pro-Active, Well-Coordinated National ICT Policies

To successfully introduce and deploy ICT, government will have to assume a role as a champion and driver. This role will be institutionalized and embedded in government services to have a lasting effect. The nomination of a champion and the creation of proper organizational structures is a fundamental action for the introduction of ICT, as demonstrated by examples of other countries in the region.

The first goal aims at defining responsibility for ICT for and within the government by creating a national Cabinet-Level State Body for Information Society, which will be in charge of the overall coordination of ICT policy within the government and with other bodies. Follow-up of the strategy and its implementation, coordination and general awareness creation are also defined in this first goal.

List and description of Strategic Projects/Activities

- Institutionalizing the role of the government as ICT champion.
The government will have to take the lead in defining and implementing ICT strategy. Following the "eSEEurope Agenda for the Development of the Information Society", the government will nominate the Minister of State under the Prime Minister as the minister responsible for ICT and will establish under his supervision a permanent unit for Information Society, (hereafter in this material to be called the Information Policy Unit), which will be responsible for the coordination and monitoring of the implementation of the national ICT strategy, including those issues pertaining to e-governance based public administration practices and which will co-ordinate introduction of Information Society curriculum, and standards between the ministries and relevant regional and international participants.

This body will assume a horizontal function within the government. It will promote and ensure the use of ICT, prepare the planning and implementation of the ICT strategy, coordinating the use of ICT within the whole government, and will recommend future actions.

As part of this organizational measure, a special item on ICT will be created in the state budget. Further, it will be the prime interlocutor for the private sector and will be in charge of public-private-partnerships, from the side of the government. It will also be involved in "setting up an integrated network of specialized public and private agencies", foreseen by the political program. It will also be in charge of relations to and coordination with the donors.

This State Body will be supported by a Forum for Information Society, composed of government representatives, civil society, business, and academic community. Wider issues will be covered by Parliament. In setting up these entities, their role and functions will be more precisely defined.

- Action plan for realizing the ICT strategy
An action plan will be derived from the national ICT Strategy and serve as the base for implementing the Strategy. It will be defined under the responsibility of the government, in collaboration with all actors, in particular in public-private partnership. It will integrate ICT implementation and deployment within the framework of institution building.
- Coordination and Follow-up of ICT Strategy
Having defined the ICT strategy and the action plan, it will be necessary to coordinate its implementation within the government, and together with the other actors.
- Promotion of the information society in the public sector
Awareness creation activities have to be planned and executed to inform all civil servants about the information society, and the plans for deploying ICT in the public sector. Awareness creation will enable civil servants to better understand the value of these technologies in their work.

Goal 2: Creation of ICT-Supportive Legislative Environment

The proper legal and regulatory framework will facilitate the use and adoption of ICT, and create trust and confidence in the use of technology. It will build an open information and telecommunications market that will be internationally competitive, stimulating investment and employment, and Albanian companies producing more and better goods and services. First steps towards defining the legal framework for the information society have been made, but the legal and regulatory framework has to be developed much further to eventually embrace all information society aspects.

Regulatory mechanisms aim at supporting the ICT sector as well as the application of ICT in other sectors, and at protecting citizens and businesses. The risk is over-regulation: too much regulation may slow down the efficiency of the private sector and of the further deployment of ICT in the country; the political program envisages indeed "maximal simplification and elimination of unnecessary procedures". Therefore, the interests of the private sector should be considered in defining or adapting legislation. Private sector should advise the government on new legislation and it must be actively involved in the process of the preparation of the legislation.

Under goal 2, e-Legislation – legislation for the information society – will be defined and developed, with the aim to remove barriers to competition, innovation, and the development and deployment of advanced services, taking into account the global trend toward convergence of voice, data and video technologies. This will include the modernization of Albanian legislation, and introduction of new laws necessary for the information society. The legislation to be created will adapt European legislation and directives to Albania. Experiences from other countries will be considered. Any activity under Goal 2 needs to be aligned with the government's plan "to intensify and accelerate the reform in the justice".

List and description of Strategic Projects/Activities:

- Structural measures for ICT legislation
The responsibilities and functioning of the regulatory agencies will be reconsidered, with the objective of compliance of their duties and supervision of the communications and information operations on the basis of EU principles.

Giving concessions to operators and service providers should be subject to investments in the development of information and communication infrastructure for general accessibility, and in compliance with world standards.

- Development of relevant e-legislation

Existing laws will be examined in view of the needs of ICT deployment, such as patent laws or copyright law, and new laws will be developed, in accordance in particular with EU directives. Such laws are those for e-signature, e-contracts and e-documents, access to public information, data protection and privacy, consumer protection, Intellectual Property Rights legislation for copyright, databases, patents, software and semiconductors, and others .

Harmful, offensive or illegal Internet content will be taken into account and measures introduced to protect in particular children from such content.

Relevant banking laws will be amended to accommodate ETF (Electronic Funds Transfer) and payment through credit/debit cards, for both domestic and international e-commerce. Minimal technical standards and procedures will be defined.

- Regulatory mechanisms

Regulatory mechanisms concern those that could stimulate the growth of the private sector in this area, such as tax or VAT incentives, depreciation, procurement, and competitiveness policy. For example new ways of work, like tele-work, could be encouraged through tax incentives, Internet usage or e-commerce activities could be exempt from taxes, or provision could be made for ADR (Alternative Dispute Resolution). Measures for law enforcement will be considered.

These kinds of mechanisms will be proposed by the responsible state body in cooperation with the Cabinet-Level State Body for Information Society, and made effective by the responsible government body.

Goal 3: More Effective, Transparent, Responsive Government and Public Services

Implementing e-government implies the reorientation of government focus from government procedures towards citizens and businesses, as customers of the government. A fully functioning e-government cannot be built in one step; It involves subsequent building of several types of such services going from information provision to a fully-fledged interactive government. Customer orientation, along with the use of ICT tools will then lead to more efficient working and streamlining of work processes.

E-government services must not abruptly replace traditional services. Both the traditional means of communicating with administrations and the electronic means will co-exist for a certain time to assure a smooth transition. There are two reasons for this. First, the users have to accept the new ways of communicating, and to learn how to use them. Second, electronic services require the existence of a networked infrastructure, which will also be built gradually.

The third goal will plan and establish e-government services in Albania, in transforming traditional administrations and government services. Corresponding actions will deal with information systems and their use in the government; those systems would be planned and used in an integrative way, and with higher efficiency of government services in mind, as well as delivering higher quality services to citizens and businesses.

The public sector consists of many autonomous and half-autonomous organizations. Therefore, implementation of ICT would go through a process of coordination to assure the interoperability of independent information systems. The role of the responsible Minister and Information Policy Unit is to assure this interoperability rather than taking direct control over development processes.

Care should be taken that government services are made available not only in the major urban areas, but that they are also accessible in rural areas and remote places. The realization of the Strategy will indeed put priority on local government services. These services will be defined taking into account the National Strategy for Social and Economic Development and other policies and strategies defined in eSEE and the EU policies.

The following description makes a distinction between government services at central or national level, and on regional/local level. Further, the development of e-government systems assumes the availability of networks, which is addressed in greater detail by Goal 9.

Sub-Goal 3.1: E-government services of government institutions at central level

List and description of Strategic Projects/Activities

- Overview of e-government in other countries and description of its applicability in Albania
Study of the concept and statistics of e-government in countries that are similar to Albania or that are exemplary in the use of e-government services (Bulgaria, Croatia, Estonia, Ireland, Portugal, UK, EU, Australia, etc.)
- Development of an overall concept and plan of government information systems and e-government services
This will set the main directions and priorities in the area of electronic administration. Based on this, a conceptual model will be developed, which includes networking, models for public data, standardization of hardware components, software, databases, GIS, etc., types of information systems, organizational models for using and working with information systems, planning of e-government services, feasibility studies, specifications. The result will be a basic specification for services in the electronic administration, and a complete architecture for countrywide connected information systems as the base for e-government services.

Existing solutions, databases and information systems will be analyzed, and possibilities for their integration defined.

Procedures will be developed for monitoring and updating the specifications to the evolution of the use of ICT.

- Organization of ICT services within government administrations
ICT policy units and services will be established in the ministries and other government services, in order to define organizational models for the use of ICT considering various parameters, such as outsourcing, remuneration, etc.
- Definition and implementation of selected services
Some services will be selected and implemented throughout the country according to the standards developed in the overall concept.

The implementation will start with pilot projects, which, if successful would be extended to general use. Such services could include e-procurement, development of civil registries, company registration, tax collection, customs information systems, information systems covering goods traffic, free movement of citizens, measures against contraband and terrorism, etc. Priority should be given to electronic procurement because of their large impact on the total development of electronic business. E-government services would use electronic payment mechanisms and possibly also payment cards.

A National Civil Registry will gradually contain data to be used by government and private users, making possible the direct distribution of information for those institutions that use this information as a key source in statistical, social insurance, education, public order, justice and other fields.

Gradually, companies will be required to use the electronic services in order to work with the government services.

- Development of interactive web-based access to public information
All ministries and government administrations will develop a web presence, in order to provide information about the service to citizens, and establish a means to interact with the citizen, via e-mail or world wide web forms for certain administrative processes. This will involve the definition of guidelines for preparing the government's web presence, and the definition of a policy for making public information available to citizens and businesses, based on the European Union's directive on public access to information.
- Civil Servant Training
All activities will be accompanied by appropriate training of civil servants. Training will not only consist of basic training in computer use, but also aim at the reorientation of government services

towards e-administration. Civil servants will be trained in new organizational procedures based on ICT, and the use of information in e-government services.

Part of this training could adopt ECDL (European Computer Driving License) as one criterion of the efficiency of employees in administrations.

Sub-Goal 3.2: E-government services of administrations at regional and local levels

The primary contact point for citizens and businesses is not the national government, but local administrations. Therefore it will be important to introduce supporting ICT services in municipalities and other administrations, especially in remote areas, since long distances and lack of transport infrastructure makes the direct contact with administrations more tedious than in the cities.

The particular goal will be to render the contact between citizens, businesses and local administrations more efficient and user friendly through the introduction of ICT, and in particular allow participation of people in remote areas in governing. This will be made possible by e-government services, together with promotion, awareness creation and training.

List and description of Strategic Projects/Activities

- Scenarios of use
Develop scenarios how ICT and e-government could be used in local administrations and, with an emphasis on remote areas for the benefit of businesses and of the citizen, based on the general e-government strategy and concept developed in sub-goal 3.1. A separate sub-strategy may have to be elaborated if some of the challenges at the local level are different.
Based on such scenarios, pilot projects will be defined. Such scenarios would probably first be addressed to businesses since they have a stronger interest to use such e-government services which will enable them to work more efficiently.
- Regional Informatization – connectivity for local governance
Local administrations will be equipped with computer and network infrastructure. This will be done in several phases. The first phase would be to deliver computers to administrations and install local area networks, along with appropriate applications. The next phase would be the establishment of a country-wide networked infrastructure and the set up of a national state network, which in itself could be built in several phases.
This will enable the exchange of information country wide in support of the citizen. Mobile or wireless connections would be used whenever necessary and useful.
- E-services to citizens and businesses
Piloting of e-government services to businesses and citizens will include services such as electronic registration of companies, electronic tax declarations and collection, information kiosks for the citizens, electronic payment, mobile database access for police forces. Internet cafes could be financially supported if they provide government services.
- Promotion of e-government and the information society in remote areas
An awareness campaign will be launched to inform businesses and citizens outside of the major urban areas about the information society, and the advantages of using ICT. For this purpose, regional governments, in collaboration with local administrations will establish special road shows to inform the population about ICT and the information society.
- Training
All civil servants in local administrations will be trained in using the new information systems. This will not only include basic computer training, but in particular training in work procedures aiming at more efficient working of civil servants. They will also be educated to help businesses and citizens to better use e-government services.

Section II: Use of ICT for Education, Research, Health and Social Services

ICT allows people to access worldwide knowledge networks promoting new ways of education, working and enjoying leisure activities. It is one of the ideals of the information society to allow for more time for education and life-long learning as pre-condition for a higher living standard.

Computer literacy depends obviously on general literacy, practically also knowledge of English, since there is a lack of web sites in Albanian language. After the changes, the educational system in Albania has suffered a lot, and Albania has still a relatively high illiteracy rate. The achievement of the goals of section II are therefore linked to improvements in the general educational system, which is now very well developing.

This section deals with the use of ICT within society for the benefit of the whole population, addressing public services, such as social services, health services, research and education, from elementary up to academic education: *"Education will be one of the main priorities of the Government"*. Any action in support of research and university education in the ICT sector must conform to any general reform undertaken by the Ministry of Education and be aligned with the planned modification of the law of education.

Collaboration with donors and with the private sector will be essential to promote research and education in ICT throughout the country. Private organizations that participate in achieving these objectives could be supported by special measures of the government.

Goal 4: Promoting Basic Computer Literacy – ICT Education for all

Literacy is obviously a prerequisite for use of ICT - activities carried out within this goal have to assume basic literacy and even basic knowledge of English. The Ministry of Education has developed plans for equipping high schools with computers and Internet access by the end of 2003, as well as for establishing the Albanian academic research network. The activities described underneath will integrate and, where necessary, revise the existing plans of the Ministry of Education.

This goal aims at a broad education about ICT, use of computers and the information society throughout the whole population, with as broad a reach as possible, in order to achieve a wide computer literacy. Although the emphasis is on delivering ICT education, the government will provide the necessary legal and regulatory framework to stimulate ICT education, oriented at European Union legislation, and in particular at the Bologna Declaration for Education. Experiences from other countries will be taken into account.

Education will on one side be directed at pupils and students in schools, and on the other side to adults. In particular, adults working in a business environment will benefit from education in basic computer literacy, as for example owners or managers of small businesses such as restaurants, craftsmen, farmers, etc.

In order to achieve this goal, other economic policies can be applied that aim through different incentives to reduce computers prices and provide free internet access for University pedagogic staff.

List and description of Strategic Projects/Activities

- ICT Education in schools
Courses will be developed for both primary and secondary schools, however with priority to secondary education. The activity comprises the provision of computers and connectivity of schools in urban and also in rural areas, training of the teachers and developing curricula for informatics education in schools. The legal and regulatory framework will be adapted to the needs of ICT education; for example, schools will be allowed to obtain self-financing to run computer laboratories, and will receive tax benefits. This framework will also consider and encourage private use of computers at home.

In this framework an awareness campaign will be undertaken to encourage parents to finance their children with personal computers.

- Adult Education and training in basic computer literacy
Curricula for adult education will be developed and offered by the state based on available infrastructure in schools. Business associations, chambers of commerce and the private sector will be encouraged to offer courses to adults, through incentives from the government. For adult education, specific training centers could be opened. Courses could be held during the day or in the evening, and they should be offered in English and in Albanian. Television and other public media should play a role in providing basic computer literacy, especially in remote areas without easy access to Internet and computer networks.
- Certification, ECDL
The provision of training by private organizations requires the development of certificates by government or independent organizations. An example for a European-wide certification is the European Computer Driving License (ECDL), which is successfully applied in several countries. It could also be envisaged to work together with industry to accept industry specific certification.
- ICT for training in non-ICT related subjects
Based on the existing training infrastructure training courses will be developed and delivered in other subjects than ICT. In schools, subjects such as language education, geography, biology and many others can be taught using ICT. Further, ICT can be used to deliver more efficient or personalized adult training in subjects like business management, accounting, or human resources. Existing curricula from abroad can be adapted to Albanian circumstances and courses should be delivered in Albanian. Technology used could be multi-media or E-Learning. TV broadcast could be used as well.
- General awareness creation among the population
It will be necessary, in addition to the educational and training actions, to carry out awareness creation on a broad basis with the goal to inform everybody about the information society and to reach the whole population. Provide information on liberalization, regulatory framework, privatization of the incumbent telecommunications operator, information services sector, electronic communications networks and next generation networks through conferences and seminars.

Goal 5: Creating well qualified staff in ICTD field.

Education of professionals is particularly related to the problem of brain drain - highly educated ICT specialists are most inclined to leave the country, since they have the best chances to find a well-remunerated employment abroad. Therefore, additional strategies will have to accompany the education of ICT specialists, which are the creation of attractive working conditions in Albania, a market for ICT products in the country, and in particular opening up the Albanian ICT market to the international market. Also, salary levels in the ICT sector in Albania could increase to value the merit of such additional education. These issues are addressed in Goal 10.

This goal is focusing on ICT specialists, such as: 1) those who already have an education at universities or engineering schools; and 2) ICT technicians or programmers, who have specialized in ICT without a university degree.

The aim is to improve and extend professional education of ICT specialists and to provide more thorough and specialized ICT knowledge oriented to the needs of the market. This includes in particular research, since through research advanced and innovative knowledge is made available in the country.

This Goal deals with higher level ICT education in a general sense, provided in universities, vocational training institutes, specialized courses, in-house training, training centers, research organizations, etc. ICT courses could be delivered by the public and also by the private sector. Collaboration in public-private-partnership will be essential to define the necessary curricula. The promotion of the participation of ICT specialists from public organizations in ICT training and education will have a priority.

List and description of Strategic Projects/Activities

- **Certification of higher level ICT education**

Two different types of certificates exist, one provided by industry, the second one provided by the state for degrees such as diplomas, for which the Ministry of Education is responsible. Industry certification will be recognized and promoted, alongside with state certificates. State certificates will be adapted to market needs, for example certificates for specialized training in ICT will be introduced.

Albanian ICT certification can only be defined according to international and European standards and regulations, such as those defined by OECD, and it will be important to comply with such international regulations.

- **ICT education in Albanian universities**

The Ministry of Education will introduce measures to increase the level and quality of the education of ICT professionals in Albanian universities, both under- and post-graduate. This could mean changes in the structure or curricula of universities, as well as encouraging joint operation with similar foreign institutions with the purpose to obtain mutually recognized diplomas. The knowledge level of university teachers has to be raised to the highest international level.

Incentive schemes for university teachers will be developed with the purpose to stimulate self initiative of teachers to increase their knowledge and gain international reputation. Schemes for raising fees for university education will be considered.

Other measures will include mobility schemes not only for university staff, but also for students. Exchanges with universities abroad will be supported, so that Albanian professors can work at renowned universities abroad and foreign teachers teach in Albania.

The creation of private universities will be supported, since private universities provide another alternative for high-quality education.

Collaboration between universities and the private sector should be encouraged since this would enrich education by understanding the needs of the private sector and prepare students for their jobs.

- **Research in ICT**

Science and research are fundamental for the further advance of technology. Therefore, measures will be defined to stimulate high level research work in universities and research organizations. Such measures will not only include the improvement of the technical infrastructure, as planned in Goal 9, but also the legal environment and in particular the human potential.

Particular measures envisaged will be an increase of the R&D part in the state budget, certain legal and tax incentives, or the promotion of the collaboration between science on one side and the public and the private sector on the other side. This will also include changes to the legislation so that for example researchers are permitted to work in industrial projects, or together with public institutions.

Participation in international research programs will be supported, as well as the use of research networks for national and international collaboration in science and research.

- **Distance Learning in ICT**

Distance learning has a high potential to stimulate ICT knowledge, and to support education and research, in particular in remote areas. Development of content and tools for distance learning, collaborative working or E-Learning in universities will be supported, focusing on ICT education and training. In particular, distance learning courses provided by famous universities abroad should be made available. As a long-term goal, the creation of a virtual university will be envisaged.

Corresponding supportive legislative measures will be introduced to grant the same legal status as to other forms of education and to allow market-led expansion.

- **Vocational ICT Training for ICT technicians**

Non-university degrees in ICT will be created for ICT professions such as technicians or programmers. Several different degrees will be envisaged, as well as life long learning offered.

Such programs should be prepared for specialized ICT training, but should also be open to ICT professionals to obtain further education. Retraining or re-education should be included for professionals of other sectors.

Both the public and the private sector will offer ICT training. Government incentives and support will facilitate the delivery of specialized ICT courses and vocational training. One requirement for the private sector to deliver such training might be the compliance with agreed certification.

Goal 6: ICT in Health and Social Services

Most health and social services are public. Therefore the government will take the first initiative to equip more extensively such services with ICT. Public services in health and social services should be enabled to use ICT as a tool, allowing them to work more efficiently and deliver their services with higher quality, thus contributing to increasing the standard of living in Albania. However, development of computer infrastructure and applications in the health sector should take into consideration future decentralization and privatization.

ICT tools would mainly be used by the professionals in this sector, but the benefit would be for the user of such services, and especially for the disadvantaged, handicapped, unemployed or elderly, who depend on others or on government's care.

ICT has to be introduced with those beneficiaries in mind. Orientation at users and at work processes will be indispensable when defining information systems in this sector. It is expected that health will be a high priority topic.

The strategic activities defined underneath may depend on the availability of a basic infrastructure as defined and realized under Goal 9. A link is further seen to the definition of government activities in section I of this strategy, where the general policy is defined and maintained by the Information Policy Unit for Information Society, where the legislation of the information society is developed and where the general concept of e-government services is defined. Any concept and implementation brought forward under this goal will be aligned with these activities.

List and description of Strategic Projects/Activities

- Definition of ICT policy issues for health and social services
The ICT policy group, established as part of goal 3, in the Ministry of Health, and in the Ministry of Labor and Social Services will define the ICT strategy for this area compliant with the special requirements of this sector. This sector specific ICT policy group will closely work together with the Information Policy Unit for Information Society established as part of goal 1.
- Country-wide health and social services infrastructure
Services provided via electronic networks in the health and social services sector require interconnection between various organizations and access to many databases in the country. Such an infrastructure for health and social services will be defined and planned. In implementation terms it will rely on existing networks. Issues like data protection and information security will have a high priority. Definition of the infrastructure will also include services made available as well as definition of the data that is used in the services. For instance, national standards will be defined for the medical record, as well as other socially relevant data, taking into account international agreements and standards (WHO, ISO, etc.).

Building a country-wide health and social services network requires an overall concept, but the network itself will be realized in a phased approach.

The network will also include the collection of statistical data, and hence a link to the national statistical institute (INSTAT).

- ICT for health professionals

ICT tools will be made available to health professionals enabling them to work more efficiently and to increase the quality of their service. Services and tools will be defined and deployed to support the work of health professionals, according to their needs. These could be tools like telemedicine, tools for the administration of hospitals or of GP cabinets, tools for specialized services such as diagnosis support, or analysis tools. The use of such tools may require a network connection between hospitals, specialized laboratories and general practitioners.

Pharmacies and delivery of medicaments could benefit from the use of ICT tools. Here, e-business tools could be used between producers, wholesalers and pharmacies. Development of such tools will be done in compliance with international standards.

- ICT for the social services sector

ICT tools will be made available to professionals in the social services sector enabling them to work more efficiently and to increase the quality of their service provided to socially disadvantaged people, to handicapped or elderly people. Services and tools will be defined and deployed to support their work, and according to their needs. These could be tools for administration, or those to assist in approval of request for social aid.

The use of such tools will require a network connection between various departments of government and local services, between requesting and monitoring units or statistical offices. Development of such tools must be done in compliance with international standards. The definition of such services should take into account the advanced technology such as location-based services for the monitoring of handicapped people for example.

- Information provision in the health and social services sector

Public services, local administrations or associations active in the health and social services sector will establish web information services to inform disadvantaged people and their akin to obtain information about possibilities to improve the situation of disadvantaged people, to obtain social care and support, or provide general advice.

Health related web sites could be established by independent organizations or by the private sector with government or donor support, where people can get information about health problems, diseases, and their cures.

- End-user devices to support medical and social care

Technology today, paired with the right user interfaces, can be used by socially disadvantaged people, by impaired or handicapped people to facilitate their life and also be connected to the appropriate service in case of need. The definition of the right user interface will be essential for a proper use of such tools.

The government will support the use of such tools and devices and in particular promote the private sector to deploy such technology. Compliance with standards and interconnection with the networks defined as part of this goal will be indispensable. Methods will be needed to introduce such tools to users that they get accustomed to them, and will be able to use them in the right way.

- Training of professionals in the health and social services area.

It can be assumed that professionals and service providers in this sector have a basic understanding of ICT, but they need special training in the use of highly complex computer systems in this area. Most computer systems will be adapted to the special need of the users, and therefore training has to be integral part of the delivery of such systems. In particular, public services have to consider this when developing public tenders for the deployment of information systems for this sector.

Goal 7: Supporting Development of Locally Relevant Content and Applications

Albanian content on the Internet is growing, mostly from newspapers, magazines and broadcasters. E-publishing has become attractive, although the on-line audience is still small. Nevertheless, little content is available in Albanian language, and in some cases online content is kept on servers outside the country.

Goal 7 aims on the one hand at promoting content development in Albania and in Albanian language, making Albanian values and culture available on the Internet, including information about the country and recent developments. On the other hand, software and the Internet should be made more accessible with Albanian user interfaces or special options for people with disabilities.

This goal is firstly addressed at content providers such as newspapers, broadcasters, media groups, secondly at intermediaries such as ISPs or Internet access points to make the contents available, and thirdly at the population as end-users, or specific groups in the population. These could be local businesses, young or elderly people, minorities or marginalized groups, special professional groups, Albanians living outside the country, or tourists.

List and description of Strategic Projects/Activities

- Internet content and web portals
Development of content to be made available on the Internet for different target groups will be promoted and supported. This could include travel information for business travelers and tourists, information for particular target groups like people in remote areas or minorities. Content should be developed on Albanian heritage, culture, traditions and history. Government services will promote Albanian content, for example by developing an Albanian government web portal, and thus support a diversity of content beyond government and business information. However, care should be taken about possible harmful, offensive or illegal content on the web. Such services should also be made accessible to mobile, handheld devices.
- Software accessibility
Off the shelf software that is used in the country will be made available in Albanian language. To localize software, use of open source software will be encouraged. This further needs the preparation of an Albanian font, e.g. the inclusion of Albanian font in Unicode. Possibilities for automatic translation should be prepared, and software made available that everybody, for example people with disabilities can access computers and the Internet.

Section III: Building Infrastructure needed for an Open Information Society

The Open Information Society is based on the general and ubiquitous availability of information. Information as well as basic services are made available via the information infrastructure, which is a fixed and mobile network connecting computers and databases, practically the Internet. The importance of the infrastructure has been widely recognized. For example, the European Union's strategy "eEurope" considers it as one of the main pillars for the establishment of the Information Society.

This infrastructure is the basis of the functioning of the Information Society, but is expected to co-exist for a long time with the traditional means of information access, such as print, television and radio, which will remain important to many people. The use of the traditional technologies will only gradually be replaced, which is less a matter of the infrastructure but of the existence of applications, services offered and of user acceptance.

The information infrastructure needs further an appropriate business environment and a business models for building and using it. The business models depend on the national and local circumstances, and require especially a competitive telecommunications sector, where private and liberalized operators compete to provide high quality at affordable and justifiable prices to users. New technology and pro-competitive regulatory frameworks should decrease access prices and increase the availability of high-speed multi-media Internet access. Before achieving full liberalization, reduced prices for voice or data services can be achieved on the basis of price regulation of government controlled entities.

The goal of Section III is to build a countrywide infrastructure providing access for all to the Internet on the basis of a market economy, taking into consideration gender, age, and other special needs of targeted user groups. This requires in particular progressing with the liberalization of the telecommunications sector. New technology such as multi-media, broadband, xDSL, cable, digital TV, radio technologies and third generation mobile services will provide access to multi-media services be considered on the basis of which competitive service provision. Eventually, a global, seamless information infrastructure will be available allowing quality access to global markets as well as attract investments, particularly from economic sectors, which rely on such an infrastructure.

Goal 8: Creation of a competitive, liberalized telecommunications sector

Fixed line voice telephony is provided by the incumbent Albtelekom, whose privatization has been prepared. However, the process is delayed. There are two private mobile operators in the country. The growth of both fixed line and mobile connections demonstrate a high demand for affordable voice services. The growth of Internet cafes and number of ISPs shows further an increasing demand for data and Internet connections.

A liberalized and competitive telecommunications sector will have a strong influence on the development of the infrastructure and related services, including quality of service, on the costs of access to the infrastructure, and thus on the general economy in the Information Society. This needs not only the privatization of Albtelekom, but also liberalization, competition by several operators and consideration of licensing schemes.

Goal 8 aims to create an open information and telecommunications market that is internationally competitive and that is stimulating for investment and employment. Albanian companies should possibly produce products and services necessary.

The activities of goal 8 are primarily addressed to fixed line and mobile telecommunications operators, Internet Service Providers (ISPs), and to a certain degree also to Application Service Providers (ASPs). The goal will be to create a fully competitive telecommunications sector, including Internet access, with private and competing operators following the model of the US and the EU. Competition in this sector will lead to improving the offer of services, both in number and quality, to reduction of prices, and to making Internet access affordable. Condition will be universal accessibility of the services, which will be guaranteed by the regulatory environment.

List and description of Strategic Projects/Activities

- Privatization of AlbTelecom

The goals of the privatization of the incumbent operator have been described in the telecommunications policy paper from 1999. The privatization of AlbTelecom will now be completed with urgency, and it is considered as a condition for creating a competitive telecommunications market.

The privatization will be done in accordance with the principles of the EU, as already expressed in the telecommunications policy paper.

- Establishment of a Liberalized and Competitive Market and Licensing for Independent Operators
A competitive market will be created by establishing several independent private operators competing with each other. Because this may be a long process, Internet access and telephone prices could be reduced by price regulation.

Liberalization has to be considered independent of the privatization of Albtelecom. New licenses for further operators will be awarded for both fixed line and mobile telephony. Liberalization will also define carrier selection facilities and number portability, which should be available from the same date as the liberalization, or as soon as possible thereafter. Unbundling of the local loop is further one of the activities to accomplish for a liberal telecommunications market.

This does not only concern operators of voice, but also of data communications. Licensing schemes for ISPs (and also ASPs) should be considered.

Licenses to operators and service providers should be subject to investments in the development of the communications and information infrastructure in compliance with world trends and international standards, and subject to provision of universal service, i.e. investments in rural areas.

- Creation of a regulatory authority for the Information Society in Albania
Examples of other countries will be studied in order to understand the best way how regulatory authorities in the Information Society operate, before making any decision on the Albanian regulatory authority.

The regulatory authority will implement the policies and legal framework as defined by the government, following proposals by the Ministry of Transport and Telecommunications.

The responsibility of the Regulatory Entity of Telecommunications (ERT) in Albania will be strengthened and further be extended beyond the telecommunications sector, to cover also aspects of the information market.

The regulatory authority will supervise operations in the information market based on EU rules and principles, in an independent way. This might include licensing for certificate authorities in the country and the use of digital signatures.

- Planning and introduction of 3rd generation mobile services
Government, along with the private sector, has to take care that new technology is introduced in the Republic of Albania. In the telecommunications sector, the introduction of new mobile technology has to be planned as early as possible, together with the definition of services, their usability and business model. It is recommended to license third generation frequencies as early as possible and allow the establishment of corresponding operators, which could turn Albania in one of the most advanced countries.
- Incentives for new ICT players in the regions
To promote the use of telecommunications and information services in rural and remote regions, government will allow for special incentives or favorable conditions for operators and service providers that establish their business in those regions. Particular attention should be given to financial policies for both equipment and service providing, to facilitate the access for the whole society.

Goal 9: Development of inexpensive, fast and secure ICT infrastructure throughout Albania

It is vital that citizens, businesses, and government administrations have access to modern communications networks, which are the base for the provision of information and related services.

Goal 9 aims at building a country-wide infrastructure providing access to the Internet and basic services. Emphasis will be given to access in remote areas that eventually the whole country will have Internet access coverage. Universal access will be a major aim and government measures will promote the universality of networks and services. The infrastructure to be created should be cheap, fast and secure and should provide to the end user interoperable and seamless access to data and services. Infrastructure building and roll-out need to be speeded up in order to provide the basic backbone for the Information Society. Advanced technology should be deployed as quickly as possible to give Albania a strong position with respect to technology development.

The government, supported by donors, will be the promoter of infrastructure building. The final and essential role will however to be assumed by the private sector, in an information and communication technology market with competition in the provision of all services. The private sector should build and manage the networks and then also obtain the revenues in a competitive environment.

List and description of Strategic Projects/Activities

- **Concept for a country wide information infrastructure**
The Information Policy Unit for Information Society, in collaboration with other government services the donors and research organizations, and in public private partnership, will develop a concept for a country wide networking and Internet infrastructure that will partly be developed with donor funding. This will include principles for interfacing and integration in a national system of networks that could be developed independently from each other.

This concept will allow the specification of terms of reference for calls for tenders for donor financing. It will not be excluded that other parts of such a network, or parts outside of the conceptualized structure could be realized completely on a private basis.

The concept will include the definition of standards for networks according to international standards and agreements and considering the latest technological developments.

Where necessary and without distorting competition, public financing instruments will give increased priority to supporting the development of information infrastructure and projects, especially in remote regions.

The concept will have to consider concepts and guidelines developed as part of goal 3, as well as infrastructure development that is planned or has already led to infrastructure implementations. The reorganization of the DNS system in Albania has to be part of infrastructure measures.

- **Academic Networks**
High speed networks linking academic organizations will open up possibilities for collaborative learning and researching and offer substantial potential for innovation. It will offer Albanian universities and research institutions the possibility of playing an effective role in research projects in the country and internationally. It will also allow for interactive multi-media courses world-wide, experimentation with new forms of services and the development of new applications. The existing national academic network should be upgraded, and high speed and broadband academic network access developed with high urgency. Links will be built to academic or research networks in the US and the EU, and collaboration established with the European project GEANT.

Implementation will be achieved using a phased approach, starting with the universities and research organizations in Tirana, and then linking the other universities in the country.

- **Network Infrastructure for ministries and public administration, both on central and regional level**
Based on concepts developed in this section as well as in section I, the infrastructure will be built linking national, regional and local government administrations. Any new infrastructure to be built will have interfaces to existing infrastructure in order to achieve co-existence between new developments and existing networks.

The Albanian Post Service is considered as another alternative to offer services to the communities, and as such will be an important infrastructure component in support of the implementation of the strategy, especially in the remote areas characterized by low income.

- **Network connection to schools**
ICT education in schools, as foreseen in goal 4, requires Internet connection of schools. This will in a first phase be achieved by linking the schools to an ISP, which offers services in the area, via a dial-up connection or via a leased line. The second phase would build a dedicated school network, which will however be difficult and costly to realize. The better solution might be to link schools to the academic research network of the country. Implementation will start in areas where networks exist, and then proceed to connect schools in other areas.
A firm plan with fixed milestones will be defined.
- **Public Access Points (PAP): Cheap and Reliable Internet Access for All**
Home Internet connection is very rare in Albania, and practically non-existing in rural areas. Only a very slow growth in the number of PCs and home Internet connections can be expected. On the other hand, Internet cafes are strongly growing in the country and are well frequented.

This phenomenon should be supported and will be the first possibility to reach the whole population with the Internet. Public access points such as Internet cafes, Information kiosks etc. should be built in the whole country, and in particular their set up in remote regions be supported. Content and applications, or e-government services will be made available via such public access points; pilot projects for PAP in communes using wireless technology would extend the number of connections.

- **Introduction and Deployment of Advanced Technology**
Network infrastructure and information access can be considerably enhanced with the latest technology. At the moment, the technology that seems most promising for introduction into Albania is third generation mobile technology (see goal 8), electronic payment and public key infrastructure, Digital TV Networks and Internet Protocol version 6 (IPv6). These issues are widely discussed in EU and US, and partially deployed. In using such technologies – and maybe others – Albania can become one of the technologically advanced countries.

With the regulatory environment in place, operators need to proceed with implementing the infrastructure of 3rd generation mobile services, and work together with content providers that the services can be deployed.

Digital television services, enhanced with Internet capabilities can be a further channel for world-wide information access. It will be important to consider the work that is done in the EU, as well as international standards.

The introduction of IPv6 will allow higher quality of service, reliability and security. However, its introduction in Albania depends very much on its international availability. Preparatory steps should be taken that Albania can quickly move ahead towards its introduction as soon as its international availability makes it feasible. Then, conversion towards IPv6 could be achieved through pilot implementation. Research institutions, telecommunication operators, ISPs and Albanian ICT companies should work together with service providers and users to prepare the introduction and implementation of IPv6.

Section IV: Accelerating Economic Growth in the Private Sector

ICT leads to substantial efficiency gains in production, distribution and markets, also reducing radically transaction costs for digital products. New business models and new value chains for the creation of products or services lead to higher competitiveness of the businesses concerned. Traditional distribution channels are being replaced by innovative and interactive new industries, new intermediaries and consumer producer relationships.

The SME sector is very strong and the most dynamic sector in Albania. Government action will be focused on exploiting this opportunity, with both promotional and educational measures. Educational measures will develop the entrepreneurial spirit of businessmen.

This fourth Section aims at stimulating growth in the private sector, by deploying ICT. It is therefore directly related to the *‘encouragement of private business and formalization of the economy’* of the political program of the Albanian government. Higher efficiency and productivity will lead to increase of sales of Albanian ICT companies. ICT and e-business tools and solutions will influence any business in any economic sector, not only in the ICT sector itself. The ICT sector, however, will provide the preconditions that ICT can be deployed in other sectors. In a more general sense, deployment of ICT will contribute to raising employment, to improving working conditions, to supporting Albanian companies to participate in the global market, and to creating an investment climate in the country.

The main roles in achieving these goals would be assumed by both the private sector and the government. The government will promote and support the private sector in stimulating a sustainable market, but the main actor would be the private sector. In particular, the private sector has to organize itself, by creating business associations, working together with chambers of commerce, and donors.

Also this Goal depends on the progress and achievements of several other Goals. These are firstly those of Section I, since overall policies will have an influence on the economic situation of specific sectors. The legislative environment to be developed in Goal 2 will obviously determine the context of the achievements in this section, and goal 3 deals specifically with government as a user and investor of ICT and will therefore have the potential to boost the ICT sector. Education and training, in Section II, will determine the level of knowledge and preparedness of potential entrepreneurs and developers, and an enhanced infrastructure (section III) will enormously facilitate the possibilities of the ICT sector, and the use of ICT in other sectors.

Goal 10: Development of the ICT Sector as a Production Sector

This goal aims at promoting the ICT sector in Albania to enable it to better use ICT in the production process, increase efficiency and productivity and further to achieve market growth that more Albanian ICT products and services will be sold in Albania and on the world market. This would also increase the value of production. The advantage of lower salaries can only be a short term advantage for the production of ICT goods, where Albania would be in competition with many low income countries. At the long term, competitiveness of Albanian software and hardware industry can only be achieved by the creation of value added products, which means high value and quality of products and services for the global market. Internationally, collaboration between foreign manufacturers and Albanian companies will be stimulated. For the national market, a major part of the production could be the development of products and services according to local needs and the localization and customization of software products. Private sector would be encouraged to produce for the whole country, with government and donor support focusing on the development of a market in remote regions of the country. Government action will attract foreign direct investment to Albania, by both promotional and regulatory mechanisms.

A further focus will be on the small business environment and on the development of an entrepreneurial spirit, which determines more than knowledge about technology the growth of the ICT sector. Young company founders and directors must be capable to manage ICT development, to understand the market, economy, sales, marketing, business and accounting practices. Cooperation with education and research will support the development of private sector.

List and description of Strategic Projects/Activities:

- Creation of a favorable climate for the Albanian high-tech sector.

The government helps the ICT private sector in creating economic and political stability that is required for investments in the country. Government action will aim to secure the flow of both local and foreign investments in the country. The creation of a favorable investment environment for foreign investments can be done by limiting the entry barriers for foreign companies, assisting them in establishing their business in the country, and providing some tax reductions for a certain period. Government will also start negotiations with a major strategic investor in the country.

Albanian ICT companies will be included in the political and economic programs of the government, which will encourage them to develop solutions for various sectors such as *finance, tourism, real estate, registration of land and property, utilities, transport*, environment, and others, and which will guarantee that solutions deployed in Albania conform to local needs.

Government itself is a major investor in and user of ICT, and Albanian companies should have an advantage in the supply of goods and services to the government. This is already expressed in goal 3; it is expected that the establishment of e-government services will boost the ICT sector in the country.

- Creation of a permanent business forum for the ICT sector

Appropriate measures for the ICT sector can only be defined in partnership with all actors. In private-public partnership, strategic actions, regulatory or legal measures, or the implementation of ICT Projects will be defined. Priority areas and specific technical areas, including the requirements of remote regions, where government involvement might be beneficial will be defined; these could be areas such as telework. Further, the government together with the private sector and donors will define programs for funding by donors.

Such actions will be performed by a permanent ICT business forum, with members from the private sector, the academic community, the government, business associations, donors, and others. For its establishment, experiences from other countries will be taken into account. This forum will organize regular working meetings, ICT conferences, and may request special expertise, funded by the private sector itself, or by donors.

The forum will establish contacts and permanent relations with Albanians living abroad, in order to use their relations to expand international relations, trade and collaboration, and work together with government to *'study the possibility for the integration of this potential with considerable values for the country'*.

The forum will work closely together with the Forum for Information Society, established as part of goal 1.

- Technology parks and business incubators

It is widely known that technology parks and business incubators offer many advantages to companies and the concept is adopted world wide. Technology parks are a very suitable environment to stimulate growth of companies and also to attract foreign direct investment. Shared infrastructure and common services lead to efficiency gains and reduce the cost of running a company. Training and sharing of experience is done on-site. However, a high initial investment is necessary and revenues cannot be expected in a short term.

- Education and training to the ICT sector

The ICT market cannot grow without having the necessary human resources, and human resources, in particular entrepreneurs, need to understand new technology, business management, sales, marketing, economy and accounting. Educational measures will be envisaged and implemented that create an entrepreneurial spirit founded on a sound knowledge of running a business.

Links to universities and research centers will be promoted, and the private sector should be encouraged to use distance learning services.

The private sector should be in charge of the training, although it will be supported by the government, by academia and by donors.

Goal 11: Supporting Electronic Business

Government will facilitate and promote the adoption of ICT in various economic sectors that are of economic importance or that have a high growth potential. In general, every economic sector would benefit from the use of ICT, although some sectors could be prioritized, for example the tourism and hospitality sector, finance, agriculture or transport. Eventually, the further deployment of ICT will increase competitiveness of the Albanian industry.

Goal 11 includes several promotional measures to enable the private sector in various economic sectors to embrace ICT and its innovative applications such as electronic business and telework. Businesses will be encouraged to apply ICT solutions to improve their business and production processes, as well as to enter into new business relations, and to carry out trade on a national or international scale.

List and description of Strategic Projects/Activities

- **Development of business trade portals**
A business trade portal implemented over the World Wide Web will provide access to information about Albanian companies that is directed at establishing business relations and trade opportunities nationally and internationally. Government will support the definition and implementation of such a portal for the whole country.
- **Affordability of ICT equipment and tools**
ICT hardware and software are generally expensive for a transition country as Albania and therefore ways should be defined to make necessary hardware, software and applications available at prices that are affordable to Albanian companies and end-users.
Examples are the use of freeware software, software versions with reduced functionality, or hardware leasing.
- **Public-Private Partnerships**
Specific industrial sectors should discuss with the government how to optimally use ICT in order to increase their performance and competitiveness to define issues of ICT use and guidelines for the private sector. Such guidelines might include recommendations for cooperation with international organizations, or for the use of standards.

This process should be supported by the research sector. Also, special sectors could be selected that are most suitable to using ICT.

- **Electronic labor exchange**
Establish a regional skills-based labor exchange to promote regional distance employment of knowledge workers through Internet and other electronic communication mechanisms.
- **Training and awareness creation**
Use of ICT requires an understanding of the possibilities to use this technology, its advantages and drawbacks. Awareness creation will firstly provide a basic understanding of ICT. Secondly, special courses organized for general managers and for IT managers will provide in-depth training about ICT and electronic business, the process of implementing information systems, integration with business processes, and about the economic, business and human aspects.

Government and donors will initiate and support such training. The final responsibility for such courses is seen with industry itself, possibly in collaboration with universities, research organizations and private training organizations.

Section V: Ensuring Relevance of ICT Strategy within a Regional and European Context

The definition of the ICT strategy for Albania coincides with the start of the accession process of Albania to the European Union. Therefore, collaboration with other countries, in the region of South East Europe, in Europe and the accession states, must be part of this strategy. It will be necessary to define the relation to other National Frameworks (the National Strategy for Social and Economic Development) and to regional initiatives (e-SEE). Important will further be the relation to over-regional policies, in particular those defined by the European Union (eEurope+).

The national strategy is also following up recent regional conferences, which are the E-Europe Ministerial Conference, 4-6 June of 2002, Ljubljana, Slovenia, and the first high-level eSEE working meeting in Sarajevo, having taken place on 25 June of 2002.

This last section deals with such over-regional activities. Participation in ongoing international activities, in strategic and also practical projects will be continued, but more so, regional and international experiences, needs, on-going projects and strategic programs will be considered. This will ensure coherence within the region, and help to align the Albanian strategy with the regional and European ones, as well as prepare European accession with respect to ICT. There may be several levels of cooperation, in the region itself, on European level, and then on world-wide level, which include the US.

The main participants in this section will be government officials. Activities will be overseen by the Forum for Information Society and be performed in collaboration with the private sector, assuming that the private sector has its own interest in the development of the regional strategy. Some activities, such as participation in workshops or meetings could be delegated to members of the private sector, for example those of business associations.

An important activity will be monitoring and evaluation of the progress of the implementation of the strategy. Also this should better be done in an international context, allowing comparisons with other countries. The EU's eEurope action plan for example foresees such a monitoring on European level, which is there called benchmarking.

Goal 12: Active participation in SEE regional Initiatives

At a conference in Ljubljana, Slovenia on 4-6 June of 2002, the Ministers responsible for the development of the Information Society or their authorized representatives of Albania, Bosnia and Herzegovina, Croatia, Federal Republic of Yugoslavia (Serbia and Montenegro), Republic of Macedonia, Republic of Moldova, have declared their commitment to:

- introduce rapidly a new legislative and policy framework for the Information Society, in particular in the area of telecommunications;
- improve the capability of the region to apply Information and Communications Technology for better governance, economic development, social cohesion, and cultural diversity;
- cooperate closely on regional and international scale with the aim to integrate the countries of the region into the global knowledge-based economy.

The Governments in the region further agreed during the eSEE working meeting in Sarajevo to adopt a National Information Society Strategy and Action Plan, based on the eSEE Agenda and National Information Society Policies, with clear goals, responsibilities and timelines for implementation.

This part of the ICT strategy aims at tightening the links between the ICT development and promotion in Albania and the regional activities to achieve a coherent strategy in the region positively influencing the developments in Albania.

List and description of Strategic Projects/Activities

- Participation in e-SEE Europe and the e-SEE Europe action plan
Government representatives will collaborate on the planned eSEE AGENDA, which has been signed on 27 September 2002, and which will be the cornerstone for the development of regional policy. This requires participation in regional meetings, and hosting of such meetings. Elements

of the action plan are introduced into the Albanian strategy, and one of the tasks will be to watch coherence and coordination between the eSEEurope Action Plan and the Albanian one. On the other hand, Albania will contribute to the e-SEE Europe strategy and action plan.

The government of the Republic of Albania will provide budgetary funding as a contribution for the functioning of the eSEE working group. The government will further negotiate with donors to obtain donor funding for supporting projects.

- Participation in regional projects
The Republic of Albania will support and facilitate the participation of Albanian partners in regional studies, investigations or research projects. Concrete projects, in particular those that contribute to the realization of this strategy, sponsored by national or donor funds, will be planned and initiated. Follow-up and co-ordination of these initiatives will be foreseen.

Goal 13: Active participation in EU Initiatives

Integration with the European Union is one of the long term goals of the Republic of Albania. Consequently, collaboration with the EU is a high priority topic, even more so since the information society is very highly rated by the EU for achieving growth in Europe. With respect to ICT, the most important EU initiative at the moment is eEurope, and its version adapted to the candidate countries, eEurope+, an action plan to implement the information society in Europe.

Albania is encouraged to closely follow developments in the EU, collaborate on strategic level and participate in EU projects. However, also relations with other countries, especially the United States need to be maintained.

List and description of Strategic Projects/Activities

- Participation in eEurope+, and contribution to the strategy for Central and Eastern Europe
Representatives of the government of Albania will participate in meetings with the European Commission on eEurope+ and similar strategic initiatives. The degree of their participation will be negotiated with the European Commission.

Regular information will be provided in the country on the status of development of eEurope+, and possibilities of funding for Albania.

- Participation in the ICT related funding (R&D) programs of the European Commission
Representatives of the government of Albania will negotiate with the European Commission possibilities for participation of Albanian organizations in their R&D programs.

The government will define a contact point to inform Albanian companies about the possibilities of participation in EU programs. This organization will also be in charge of the organization of information days about these programs.

Goal 14: Monitoring of Albanian ICT Developments in Regional and European Context

The implementation of the strategy and subsequent action plan requires a permanent monitoring of the goals of the strategy in order to ensure that the goals can be achieved, and to observe any obstacles or hindrances during the implementation of the strategy. This in turn necessitates the definition of precise goals, including intermediary goals and their follow up. In other words, a roadmap has to be established, along with indicators that allow permanent monitoring. The monitoring will also depend on the action plan that is to be established as a follow up to this strategy, however, the main goal is not to follow the individual projects of the action plan, but to follow the realization of the strategic goals.

The indicators will also allow international comparison of the situation of the information society in Albania. A relation to the benchmarking process of eEurope will be established.

Again, the government will be in charge of this monitoring process, represented by the Cabinet-Level State Body for Information Society. The execution of the monitoring may be delegated to other institutions such as the national statistical institute (INSTAT), NGOs, research or private organizations.

The monitoring will start with a planning phase, where possible scenarios for the implementation of the strategy in Albania will be defined, along with indicators and a timetable or roadmap, which allows the precise monitoring. The monitoring process will be performed regularly during the execution of the action plan.

List and description of Strategic Projects/Activities

- Possible scenarios for the implementation of the strategy
Several scenarios will be designed, including success criteria, the potential for success, obstacles and dangers to avoid. A SWOT analysis will be carried out and repeated regularly to summarize the developments.
- Definition of indicators for monitoring the evolution of ICT
A set of reasonable indicators, may be in the order of 10 – 15 per sector of the strategy, will be defined, following the objectives of the strategy. The indicators will be modeled after the eEurope indicators.
- Definition of a roadmap for the implementation of the strategy
This is the timetable for the realization of the strategic goals defined in this national ICT strategy. The roadmap should be defined for a reasonable timeframe, for example a period of 5 years.
- Monitoring and Evaluation of the Strategy, its objectives and outputs
Having defined and planned the monitoring process, it has to be executed and measurements taken in regular intervals, as defined in the roadmap. The results of this monitoring process should be made publicly available, for example on the web site of the Cabinet-Level State Body for Information Society or in the state gazette.
- Monitoring and Evaluation of general quantitative ICT statistics, observatory and surveys of the evolution of ICT in Albania
It will be very useful to not only follow the evolution of the realization of the strategy with the pre-defined indicators, but also to carry out more general surveys of the status of the information society in Albania, and to perform a true e-readiness assessment of the country, in regular intervals.

Financing Options

Any strategy can demonstrate its values if there is sufficient money available to finance the planned actions. Very often, however, the question for funds remains unresolved, and strategies cannot be realized. Because of this, it will be necessary to include financing the strategy in the beginning of its planning.

Four different types of actors participate in the realization of the strategy, with different financing options. These are the donors, the government, the private sector and the consumers. All should participate in the formulation of the Strategy and the corresponding action plan, and eventually contribute to its financing.

A financing strategy will have to be developed as part of the ICT action plan. This strategy would include options for financing, and aim at effective use of funds to achieve synergy and avoid duplication of effort. The government will increase its ICT budget in order to finance some selected projects and to catalyze further actions, which subsequently would be financed by other sources. Coordination between donors will have to be part of this strategy.

Donors will provide seed funding to get the actions rolling. They should also prioritize ICT in their programs. Donor funding would remain catalytic during the whole realization of the strategy. The implementation of the strategy should be based on internal capacity and resources; donor support would only enable sustainable development but could never create a dependence on their funding in continuously providing funds. In particular, donor funding could be aimed at attracting private sector investments such as venture capital, private equity or loans, to support larger and more long-term ICT projects and programs.

Donor and government funding would be used in areas that are not directly attractive to private sector investment, such as the deployment of ICT in remote areas. But also here, government and donor funds would be catalytic, aiming at preparing a market for the private sector.

The other actors are the private sector and the consumers; they will finance and invest according to market laws. The private sector, especially, will invest, where it sees an adequate return. The key to financing options will be the nature and extent of public private partnership (which should include government, private sector and donors).

The private sector could also establish foundations that could support the long-term research and development needs of the ICT sector.

Another option for financing the implementation of the national strategy could be through debt for Technology Swaps. Albania's gross external debt stock is in the range of US\$ 1 billion, and if only a few of the smaller creditors waived Albania's debt repayments, this could potentially provide a large resource for an ICT Trust Fund, which could be managed by the Forum for Information Society and monitored by joint internal-external supervisory mechanisms. The ICT Trust Fund would be utilized to fund projects and programs, build up the country's ICT infrastructure and support training and education in ICT.

Annexes

Terminology and definitions

ADR

Alternative Dispute Resolution, goes together with ODR, Online Dispute Resolution; these are mechanisms that provide speedy, low-cost redress for a large number of small claims and low-value transactions arising from consumers' online interactions.

Benchmarking

Benchmarking is about assessing the difference between the actual status and the goals that should be achieved. It is more than simply measuring progress. The goal of benchmarking is measuring and monitoring developments which are indicative of what is happening in the Information Society. Benchmarking has been introduced in the initiative eEurope of the European Union. Benchmarking eEurope has the goal to take stock of where Europe is now and take informed decisions for the future.

The facts and figures from the benchmarking programme will be used to:

- evaluate the net overall impact of eEurope and the information society
- show the current levels of activity in key areas
- shape future policy, by informing policy-making

eEurope benchmarking is based on a list of 23 key indicators agreed in November 2000. These indicators come from a variety of sources (OECD, surveys, studies).

CEEC

Central and Eastern European Countries

eEurope

http://europa.eu.int/information_society/topics/ebusiness/ecommerce/8epolicy_elaw/e_policy/

The eEurope initiative, launched in 1999 aims to get everyone in Europe – every citizen, every school, every company – on-line as quickly as possible. The eEurope initiative builds on the current policy framework, concentrating on priority actions to overcome handicaps in Europe that are holding back the rapid uptake of digital technologies.

In 2001, the **eEurope+** action plan has been launched, an eEurope-like Action plan by and for the candidate countries that will adopt all the strategic goals and objectives of eEurope, but with the candidate countries' own specific national measures and target dates.

eSEE

<http://cgi.eseeurope.org/>

Electronic South Eastern Europe initiative of the Stability pact.

The purpose of the Stability Pact eSEEEurope-initiative is to bridge the digital divide currently existing between South Eastern Europe and the European Union. A Working Group open to representatives from all Participants in the Stability Pact has been tasked with devising a regional strategy for this purpose - eSEEurope Action Plan.

ESIS

European Survey of the Information Society; survey financed by the European Commission and carried out between 1997 and 2001, including all issues of the information society, in all countries of the European Union, central and eastern Europe and the Mediterranean countries: <http://www.eu-esis.org/>.

FDI

Foreign Direct Investment

NSSSED

National Strategy for Socio-Economic Development

<http://www.minfin.gov.al/initiatives/gprs/gprsindex.html>

The NSSSED represents Albania's first **comprehensive economic development strategy**, with a particular focus on sustainable growth that benefits all Albanians. The NSSSED will help the Government improve the effectiveness of its policies. This is done through a clearer strategic

focus on growth and poverty reduction and by a better coordination of initiatives across different sectors under a comprehensive strategy. It also provides a common framework for all donors to increase the impact of their assistance to Albania, and is the basis for arrangements with the IMF under the Poverty Reduction and Growth Facility and for concessional lending from the WB.

The NSSED includes: (i) an assessment of the situation; (ii) growth and poverty reduction goals; (iii) plans for obtaining the goals: policy changes, institutional reforms, programs, and projects; and (iv) targets and indicators to monitor progress toward goals. Although Albania's first NSSED will not be able to provide full answers to all questions, it will be clear about priorities, and it will identify important issues for further analysis. The NSSED will maintain a long-term perspective and be results-oriented. Implementation of the NSSED will be monitored and evaluated in order to adjust the NSSED annually. The process of elaborating a full NSSED will be repeated every three years.

Information Society

The information society is this society that uses and embraces ICT in every field of human activity, where information and services are made available by computer networks.

Very often, the term information society is used to denote the society using ICT, whereas ICT means the technology only.

Information System

An information system consists of people, data and services that function together to supply information for decision making. An information system is any systematic method of handling data and presenting information.

Millennium Development Goals

<http://www.developmentgoals.org/>, www.mdg.org.al

At the Millennium Summit in September 2000 the states of the United Nations reaffirmed their commitment to working toward a world in which sustaining development and eliminating poverty would have the highest priority. The Millennium Development Goals grew out of the agreements and resolutions of world conferences organized by the United Nations in the past decade. The goals have been commonly accepted as a framework for measuring development progress.

The goals focus the efforts of the world community on achieving significant, measurable improvements in people's lives. They establish yardsticks for measuring results, not just for developing countries but for rich countries that help to fund development programs and for the multilateral institutions that help countries implement them. The first seven goals are mutually reinforcing and are directed at reducing poverty in all its forms. The last goal-global partnership for development-is about the means to achieve the first seven. Many of the poorest countries will need additional assistance and must look to the rich countries to provide it. Countries that are poor and heavily indebted will need further help in reducing their debt burdens. And all countries will benefit if trade barriers are lowered, allowing a freer exchange of goods and services.

Goals and targets

- Goal 1: Eradicate extreme poverty and hunger
- Goal 2: Achieve universal primary education
- Goal 3: Promote gender equality and empower women
- Goal 4: Reduce child mortality
- Goal 5: Improve maternal health
- Goal 6: Combat HIV/AIDS, malaria, and other diseases
- Goal 7: Ensure environmental sustainability
- Goal 8: Develop a global partnership for development

SEED

South Eastern Europe Digital Economy

Project financed by the 5th Framework Programme of the European Commission with the goal to collect and present data about the use of electronic commerce in Southeast Europe.

The Albanian partner is the Albanian National Bureau TIPS.

Roadmap for Strategic Actions of the ICT Strategy

This roadmap accompanies the ICT strategy to provide an idea of possible time plans to implement the strategic actions that are defined in the National ICT strategy. These strategic actions will form the foundation for subsequent action plans with concrete projects. Implementation of the Strategy begins with formulation of goals for its implementation, followed by the definition of detailed action plans and of responsibilities for each action. These actions will also serve for the definition of priorities for donor support, followed by implementation and evaluation of the actions. Specific indicators will be developed for each goal along with a time schedule in order to be able to measure the progress of the development of the information society.

This roadmap has been developed on the basis of the strategic actions of the strategy, and provides a timetable for these actions. It repeats the titles of these strategic actions, and defines a deadline for each of these strategic actions. The definition of these actions are provided in the strategy itself.

Due to the general nature of the strategic actions of the ICT strategy, any timetable on this level can only be approximate. A precise calendar and planning will be defined along with a more detailed action plan, which this roadmap can only foreshadow. It is important to emphasize that this roadmap does not yet constitute this action plan.

The dates that are attached to the individual actions do not only show the urgency or priority of an action, but also the difficulty attached to realizing such an action – a more difficult and complex action needs more time to be completed. In many cases, the deadline means the end of government involvement, and the action should be continued by the private sector acting according to market laws. Several actions are complex and include a phased approach, and it is difficult to indicate a deadline for the whole action. Also in this case, only the more detailed action plan will establish the necessary breakdown into activities that will be planned in more detail.

As the national strategy, this roadmap has to be seen in relation to the “eSEEurope Agenda for the Development of the Information Society”. This agenda and the current roadmap are oriented towards the same goal and will be implemented together.

Section I: Government as Promoter, Legislator and User of ICT

Goal 1: Pro-Active, Well-Coordinated National ICT Policies

Strategic Action	Deadline
Approval of the national ICT Strategy	April 2003
Institutionalizing the role of the government as ICT champion.	April 2003
Action plan for realizing the ICT strategy	May 2003
Coordination and Follow-up of ICT strategy	Ongoing
Promotion of the information society in government services	Ongoing

Goal 2: Creation of ICT-Supportive Legislative Environment

Strategic Action	Deadline
Structural measures for ICT legislation.	September 2003
Adopt on-going legislation work on electronic commerce, electronic contracts and electronic signatures in accordance with the framework of the relevant European Union Directives	November 2003
Development of relevant e-legislation	December 2004
Regulatory mechanisms	December 2003

Goal 3: More Effective, Transparent, Responsive Government and Public Services

Sub-Goal 3.1: E-government services of government institutions at central level

Strategic Action	Deadline
Overview of e-government in other countries and description of its applicability in Albania	June 2003
Development of an overall concept and plan of government information systems and e-government services	September 2003
Organization of IT services within government administrations	September 2004
Definition and implementation of selected services	December 2005
Development of interactive government web -pages	December 2004
Civil Servant Training	October 2005

Sub-Goal 3.2: E-government services of administrations at regional and local levels

Strategic Action	Deadline
Scenarios of use	October 2003
Regional Informatization – connectivity for local governance	October 2006
E-services to citizens and businesses	October 2007
Promotion of e-government and the information society in remote areas	October 2008
Training	June 2004

Section II: Use of ICT for Education, Research, Health and Social Services

Goal 4: Promoting Basic Computer Literacy

Strategic Action	Deadline
Education and training in basic computer literacy	On-going
Certification, ECDL	September 2004
ICT for training in non ICT related subjects	On-going
General awareness creation among the population	September 2005

Goal 5: Creating a Cadre of Well-Trained ICT Specialists

Strategic Action	Deadline
Certification of higher level ICT education	June 2004
ICT education in Albanian universities	June 2006
Vocational Training in ICT for ICT technicians	June 2005

Goal 6: ICT in Health and Social Services

Strategic Action	Deadline
Definition of ICT policy issues for health and social services	December 2003
Country-wide health and social services infrastructure	December 2006
ICT for health professionals	June 2007
ICT for the social services sector	June 2007
Information provision in the health and social services sector	March 2005
End-user devices to support medical and social care	December 2008
Training of professionals in the health and social services area	September 2005

Goal 7: Supporting Development of Locally Relevant Content and Applications

Strategic Action	Deadline
Internet content and web portals	September 2005
Software accessibility	September 2006

Section III: Building Infrastructure needed for an Open Information Society**Goal 8: Creation of a competitive, liberalized telecommunications sector**

Strategic Action	Deadline
Privatization of Albtelecom	In conformity with sector strategy timeframe approved by Government
Establishment of a Competitive Market and Licensing for Independent Operators	March 2004
Establish mechanisms for "at cost" interconnection of electronic communications networks	Starting March 2003
Creation of a regulatory authority for the Information Society in Albania	July 2003
Planning and introduction of 3 rd generation mobile services	December 2005
Incentives for new ICT players in the regions	June 2004

Goal 9: Development of inexpensive, fast and secure ICT infrastructure throughout Albania

Strategic Action	Deadline
Concept for a country wide information infrastructure	October 2003
Academic Networks	December 2004
Network Infrastructure for ministries and public administration, both on central and regional level	June 2006

Network connection to schools	December 2006
Public Access Points (PAP): Cheap and Reliable Internet Access for All	December 2006
Introduction and Deployment of Advanced Technology	December 2010

Section IV: Generating Economic Growth in the Private Sector

Goal 10: Development of the ICT Sector as a Production Sector

Strategic Action	Deadline
Creation of a favorable climate for the Albanian high-tech sector	September 2005
Creation of a permanent business forum for the ICT sector	January 2003
Technology parks and business incubators	March 2008
Education and training to the ICT sector	December 2005

Goal 11: Supporting Electronic Business

Strategic Action	Deadline
Development of a business trade portal	March 2004
Affordability of ICT equipment and tools	June 2005
Public-Private Partnerships	December 2004
Electronic labor exchange	On-going
Training and awareness creation	December 2005

Section V: Ensuring Relevance of ICT Strategy within a Regional and European Context

Goal 12: Active participation in SEE regional Initiatives

Strategic Action	Deadline
Strengthening and empowering the eSEE working group by providing budgetary funding for its appointed representatives and local costs of the functioning of the eSEE working group.	On-going, starting from the 2003 budget onward
Participation in e-SEE Europe and the e-SEE Europe action plan	On-going
Participation in regional projects	On-going

Goal 13: Active participation in EU Initiatives

Strategic Action	Deadline
Participation in eEurope+, and strategy definition for CEEC	On-going
Participation in the ICT related funding (R&D) programs of the European Commission	On-going

Goal 14: Monitoring of Albanian ICT Developments in Regional and European Context

Strategic Action	Deadline
Possible scenarios for the implementation of the strategy	September 2003
Definition of indicators for monitoring the evolution of ICT	September 2003
Definition of a roadmap for the implementation of the strategy	September 2003
M&E of Strategy itself, objectives and outputs	On-going
M&E of general quantitative statistics, observatory and surveys of the evolution of ICT in Albania	On-going

Current ICT Indicators, including Technology Achievement Index

See separate document: Indicators

Terms of Reference for the Cabinet-Level State Body for Information Society

The realization of the ICT strategy requires several organizational actions, and the ICT strategy proposes the creation of a government body for ICT, which will institutionalize its role as a champion and driver. Such an organizational body is required by the eSEEurope Agenda, which had been signed by government representatives of all countries of South Eastern Europe, including Albania.

The goal of any organizational structure for ICT should be to:

- Provide an institutional basis for ICT development, and for the driving role of the government for ICT;
- Coordinate ICT within the government;
- Make recommendations for the realization of the strategy and for ICT policy, which includes recommendations for regulation and for laws;
- Promote ICT and facilitate its introduction into the services of the government and regional and local authorities, and into the country;
- Follow up the strategy, coordinate its implementation, and create awareness;
- Monitor and evaluate the implementation of the strategy;
- Organize public private partnership for the definition of the ICT strategy and action plan;
- Recommend budget requirements necessary to implement the ICT Strategy.

To carry out such activities, a permanent administrative Information Policy Unit is to be created, which is a part of governmental under the Minister of State under the Prime Minister, assuming a horizontal function within the government. This ICT Policy Unit will coordinate with all ministries, and other institutions of public administration.

This State Body for Information Society will be responsible for the coordination and monitoring of the implementation of the national ICT strategy and policies, strategies and regulation, including those pertaining to e-governance based public administration practices and will coordinate introduction of Information Society curriculum, and standards between the ministries and relevant regional and international participants.

The creation of such a policy-oriented “think tank” under the auspices of the Council of Ministers with sufficient capacity and professional civil service staffing will be the first important step on the way of integration of ICTs into the new overall Government agenda, although considered a short term organizational action. In the long term, the creation of a Ministry for Information Society, or for Information Technology can be envisaged.

The ICT Policy Unit will be supported by a Forum for Information Society composed additionally by representatives of the civil society, business and academic community.

Future Priority ICT Projects Needed under Consideration

- Computerized system for **reporting taxes** for companies, but also for individuals (in the near future).
- Development of Civil Registries, or the development of an **ID card project**.
- **Translation** of the common-use software packages, for example Microsoft products. There are 15 Million Albanians around the world. I would suggest the use of bi-language software for some time, as it would help to learn English as well, and also better learn the meaning of the different concepts.
- Creation of an English – Albanian – English **Dictionary** with ICT terms.

- Use of media, for example **TV media**, to provide mass basic training to the public about the computer use. It will also help for the awareness program.
- Computerization of the **Municipality offices** is one of the main areas where the government could become a large client for the private business.
- Concept and realization of a **ubiquitous IT infrastructure based on the Albanian postal services**.
The engagement of the Albanian Postal Services in such a project could influence the realization of universal access services.

The Albanian Postal Services has an infrastructure, which covers all the territory of the country consisting in 66 offices in town's centers, 30 post offices in quarters of the towns, 271 post offices in the commune centers and 163 post offices in very remote villages. What makes this proposal really interesting is the fact that around 254 post offices in communes or very remote villages have access to phone services through radiorele systems analogue- 4 channels, which are a property of ALBTELECOM, but which are used by the Albanian Postal Service, through a joint agreement. A channel of these services, depending on the kind of equipment, supports capacities of transmission respectively 32 kbit/s and 64 kbit/s. 64 kbit/s (8 kbyte/s) could also be considered as a satisfactory speed for internet access, while 32 kites (4 byte/s) could also be sufficient to download small capacities of information and in some case it might pass to 64 kbit/s using two channels 32 kbit/s.

Such a solution might be really interesting for the establishment of information booths near the post offices in the areas where the rural operators have not been made available yet. In the meantime, in this case, the identification of donors who can finance the terminal computer should be considered.

- **National Statistics Institute** should outsource most of the data gathering, processing, and disseminating functions to the private businesses. It should define and measure data about ICT.
- Health Sector: Computerization of records kept at **pharmacies** about the medicaments produced within the country or those imported.
- Information system for the regular control of the payment of real fiscal and social insurance contributions.
- Creation of a database, accessible by all levels of the public administration and the public, listing: names of projects, donors-financers, project start dates, project completion dates, implementation levels, implementing agencies, contractors and sub-contractors, problems encountered, etc. Likewise, in the circumstances where the procurement of these public funds is increasingly being conducted through the bidding procedure, it is necessary to create a register of companies by sector of the economy, renewable every fiscal year and featuring such assessment parameters as their curricula, number of legal workers, legal capital, economic and financial progress certified by public and independent institutions, etc. By means of this practice, we shall enable the participation in public development and investment projects of truly sound businesses that meet with quality and on time the demands for the object of procurement.
- Information system for the effective management of public property
- Information system for the land and property registration
- Land market information system for agriculture
- Monitoring of agricultural production
- National Data Bank: The free and somewhat chaotic movement of the population during the years of transition inside and outside the country, the return of the status of citizenship for private property, the change of structure of the economy and its liberalization according to free market standards, the realities of high technology and the information society, the need for accurate and measurable policies in their effects, etc., have given birth to the need for the creation of the

National Data Bank. Human, natural and rich resources of the country; the legal and administrative framework regulating on one side the respect for the freedom and rights of citizens and on the other the access to the state's constitutional institutions for the control of their implementation, due to the dynamics of the Albanian state, society and economy make the creation of this Data Bank indispensable. Data collection, their labeling and computerization as well as the provision of access for the public and decision-takers to use them is going to be a challenge that accelerates Albania's European integration.

- Pilot projects for the introduction of electronic payment systems and public key infrastructure, combined with the use of smart cards.
- Smart cards in the health system
- Archives and keeping of information in electronic form
- Supporting connectivity and management for ICT implemented in public education and research institutions [The same for public
- Supporting the development of the academic network as an inter-institutional public laboratory for the training on ICT, research and development of new applications and services.
- Promotion with all means of ICT specialists working on research, development and maintenance of ICT in the public sector. Finding of acceptable ways to motivate ICT specialists would condition the success of strategy implementation. One possibility would be to allow the participation of ICT specialists in ICT development projects on special terms offering an extra income to them.
- Learning how to manage, use and motivate human resources