Information Market in Armenia

Armenian Research Institute of Scientific and Technical
Information
(ArmNIINTI)
Republican Sientific and Technical Library
(RSTL)

Author: E. Ivanova

Supervisor of studies:
R. Harutyunian, PhD in ThS

UDC 002.5/6:339.13(479.25)
BBC 32.811(2Ap)

An attempt has been made to introduce the situation in information market of Armenia: problems and opprotunities of its export, as well as communication resources of the Republic.

N	INFORMATION PUBLICATIONS of ArmNIINTI and RSTL
	Name of publications
1.	E. Arustamova, R. Harutyunian. Milk Pasterization under Conditions of Small Farm. Information Review.
2.	N. Khachatrian, R. Harutyunian. XX Century in the Mirror of Geopolitics.
3.	V. Meloyan, R. Harutyunian. Lifting the Veil on Chime. Review.
4.	R. Harutyunian. Production of Ferrous and Non-ferrous Metals in Russia. Information Review.
5.	R. Harutyunian. Civil Aviation Industry. Review.
6.	It is Possible to Overcome Cancer, but it is Necessary to Believe in it.
7.	Library of Armenian Military Men. Magazine (1-15).
8.	E. Ivanova, R. Harutyunian. Technology and Equipment for Wool's Primary Processing. Information Review.
9.	V. Buteiko, M. Buteiko. Breathing by Buteiko. Manuel.
10.	Y. Nersessian, R. Harutyunian. Innovation Activities of Enterprises and Venture Capital-Key Factors for Economy Growth. Review.
11.	E. Ivanova, R. Harutyunian. Prospects for Decorative and Applied Arts Development. Review.
12.	A. Eghiazarian, R. Harutyunian. Technology for Red Table Wines' Production.
13.	E. Djaganian, R. Harutyunian. Conception for Protection from Information Weapon. Review.
14.	A. Sarkisian, R. Harutyunian. Catalytic Neutralizers, Ethyl and Non-Ethyl Gasoline. Review.
15.	N. Khachatrian, R. Harutyunian. Prognosis for Population Growth. Review.
16.	V. Tsaturian, R. Harutyunian. Production of Tile. Review.
17.	E. Ivanova, R. Harutyunian. Financial and Economical Crisis in Russia. Experience of Countries of the World to Overcome Crisis. Review.
18.	Y. Nersessian, R. Harutyunian. Realities of Caspian Oil. Review.
19.	A. Sarkisian, R. Harutyunian. Marketing and System of Dealer's Sale of Cars. Review.
20.	Digest of Research Works Abstracts (Russian, English)
21.	E. Ivanova, R. Harutyunian. Tanning and Shoe Industry of Armenia. Review.
22.	E. Djaganian, R. Harutyunian. State Policy in the Area of Recreation Resources Preservation. Review.
23.	A. Eghiazarian, R. Harutyunian. Rocks Extraction by Industrial Methods.
24.	A. Eghiazarian, R. Harutyunian. Fermentation of Tobacco. Review.
25.	E. Ivanova, R. Harutyunian. Finances and Economy of Armenia in 1999. Market of Capital. Review.
26.	Y. Nersessian, R. Harutyunian. Main Tendencies in Development and Supporting of Science in EU Countries. Review.
27.	A. Sarkisian, R. Harutyunian. Role of Education and Sciences in the Society. Review.
28.	E. Djaganian, R. Harutyunian. Cosovo Crisis – Ground for Information War. Review.
29.	Y. Nersessian, R. Harutyunian. Data Transmission Networks in the Area of Agriculture. Review. (Russian, English).
30.	A. Sarkisain, R. Harutyunian. Information Technologies in Energetics of Armenia. Review.
31.	N. Khachatrian, R. Harutyunian. Establishment and Development of Interinstitutional Education Information System in Armenia. Review.
32.	Y. Nersessian, R. Harutyunian. Around Internet. Hopes, Illusions, Facts. Review.
33.	A. Sarkisian, R. Harutyunian. Development of Information Environment and Progress of Society. Review.
34.	E. Djaganian, R. Harutyunian. Role of Marketing Information in the Activities of Enterprises. Review.
35.	N. Khachatrian, R. Harutyunian. Antivirus Programs. Review.

Economic Structure of Republic of Armenia and Possibilities of its Integration in World Systems

More than 10 years ago, after catastrophic earthquake of 1988 Armenia, a satellite tele-communication system, made in USA, appeared for the first time in the territory of USSR. A representative of "Armenian Assembly" organization, with the aid of this equipment, has established effective active communication between organizations of Armenian diaspora of USA and Armenia. This experience has been used as well by the Ministry of Public Health of Armenia. With the aid of more powerfull satellite telecomunication system has been organizaed a TV-bridge between Boston medical Consultative Center and Republican Hospital in Yerevan, which made possible to make very compicated surgeries (3).

Information technologies are one of the most dynamic and fast-growing markets, including export of technologies to the countires with developing and transition economies. World trade organization (WTO) provided the goverments of several countries, including Armenia, with an international framework to foster global economic integration. Two agreements have been concluded in the area of: a) information technologies and b) basic telecommunications. These agreements have become a cornerstone of multilatered trading system. The project employed three-module approach:

Module 1. Diagnostics and assessment consisting of collection, analysis, compilation of country profiles.

Module 2. Dissemination of critical issues involving the development of industry, trade and business, including conferences and round-table meetings.

Module 3. Technical assistance program based on the resources of the country, project for potential partners' provision, according to WTO agreements, involving of these partners in the global, regional and country information technologies markets. The WTO project for Armenia has been launched under the auspices of the Ministry of Industry and Trade of RA and Armenian Development Agency.

Economic Structure of the Republic of Armenia

Republic of Armenia became independent state following a referendum of September 21, 1991. The Constitution was adopted only in July of 1995 with a parliamentary form of democracy elections and President as the head of State. Elections were held in May, 1999, and a new government was formed. Armenia has a population of 3,8 million, and is bordered by Turkey, Georgia, Iran and Azerbaijan. The government of Armenia pays special attention to the re-establishment of economic ties with NIS, and Russia in particular.

Iran, the only relatively neutral and stable neighbour of the Republic of Armenia, is rapidly becoming the number one trade partner with Armenia. The Republic became a member of NIS in 1991, as a way of keeping close to the former soviet republics. Armenia faces transportation blockade from Azerbaijan and Turkey, and its route to the Black sea therefore is through Georgia.

Armenia is a member of NATO'S Partnership for Peace Programme. Thanks to the Armenian diaspora of USA, Armenia has received aid from USA, as credits, subsidies, sponsor grants etc.

The relations with Europe is improving. In February of 2001, Armenia joined the Council of Europe.

The government of Armenia, from the very first days of independence, sought to turn Armenia from a state with planned, soviet-period economy system into a society with market economic relations.

In order to stabilize the economy, the government had initiated programs to improve banking system to respond to the changing environment.

Trade regulations and business legislation were being modified as well, to bring it in line with world standards. The telecommunication infrastructure and energy – industry infrastructure, including Nuclear power plant and other sources of energy and fuel, were being upgraded.

The Armenian Nuclear Power Station, put into operation in 1976, was closed down in 1989, after the earthquake in the Republic.

Under the conditions of critical energetic crisis, the Nuclear Station has been reopened in 1995.

The protocol between Armenian government and European Union has been signed in September, 1999 in Brussels, in which was stated that Armenian Nuclear station may be closed in the case of new capacities of 600 mWt creation instead of existing 400 mWt.

It was stipulated by this document that the preliminary date of closure may be in 2004. Today, Armenia generates daily 18 million kwt-hour of electrical energy, a half of which generates Nuclear Station. Part of electrical energy goes on Caucasian region. To improve reliability and security, serious works have been carried out on Armenian Nuclear Station. Such works will be conducted as well in 2000. Armenian specialists and Minister of Atomic energy of Russia E. Adamov came to a conclusion that the station is save, and the second bloc may be operated till 2020. The safety system of Nuclear Station is impeccable. Three zones are equipped by sensible signalling (5).

In the process of economic transformation, the industry suffered from the collapse of trading system of USSR, the transition to the market prices and the war with Azerbaijan.

Crisis in Russia of August of 1998 adversely affected industrial potential of Armenia, which fell by 2,5%.

High inflation of 1996 decreased due to the strict policy applied by government. In 1996 inflation rate was 18,7%, in 1997 – 13,8%, at the end of 1999 - 9%.

The economy of Soviet Armenia was largely based on industry.

Today, Armenia is rather an agrarian country, as a result, there is a high rate of unemployment in the country.

After the cessation of hostilities with Azerbaijan in May of 1994, the Gross domestic product (GDP) of Armenia increased by 5,6%, this has been possible with the joint efforts of the government, people of Armenia and such international institutions, as World Bank, International Monetary Fund, as well as donor countries. Armenia was the first among rate NIS states to experience a positive GDP growth rate in 1994.

In 1998, the GDP consisted of agriculture and forestry (34,5%), industry – (31,1%), construction (6%), and services – 28,3%. According to the European Intelligence Unit (EIU) forecasts, the GDP growth was in the range of 8% in the year 1999, and in the year of 2000, the GDP growth is expected to grow over 10%.

The privatization process in Armenia started in 1992 with the Law on privatization and Denationalization of State-owned Enterprises. In December 1997, the new Privatization Law replaced this Law. The mechanisms for privatization included open subscription, auction, tender, and direct sales through stock exchange. As of June 1998, 1367 medium and large enterprises and more than 6000 small enterprises were privatized, including Armenian Telecom Company and the Yerevan brandy factory.

It was estimated that more than 80% of the Armenian economy was in the hands of the private companies. Government was considering privatization of 4 electrical distribution companies, Yerevan water supply system, Vanadzor chemical enterprises. Companies, producing equipment and materials for strategic applications, having connections with Russian defence industrial complexes, are still state-owned.

Foreign direct investment was viewed as a means of stimulating the industrial and economic activity in Armenia. To facilitate direct investments, the Armenian Development Agency (ADA) was established. ADA focused on improving Armenia's competitiveness. ADA is functioning as a "single window" for foreign investors and domestic exporters. This organization is a guide for prospective investors on the investment possibilities, tax concessions, customs laws, banking and financial activity of enterprises.

As a result of the efforts of ADA and the Ministry of Industry and Trade, Armenia was able to attract foreign investments for 313 enterprises in 1998, and as of January 1999, the number of wholly owned foreign subsidiaries was 434, and joint ventures - 608.

The Armenian economy has not recovered from the sharp decline of production. The industrial output in 1998 was equivalent to 46% of that in 1990. At present many large state enterprises and privatized former major enterprises are either in the state of shut down or partial operation and many of them have no prospects for re-birth. Government, enterprises, economy face with difficulties, such as foreign relations, refugees, economic issues. The major economic issue for the government – fiscal deficit. The fiscal deficit arose from low level of production, increase in inflationary pressures, mismanagement of financial institutions. Current account deficit was due to deficit in trade balance. Imports were mushrooming, whereas exports were declining due to lack of availability of exportable products. The low level of corporate tax revenue and individual income tax revenues led to springing up of informal sector and unregistered business leading to a shadow economy. The enterprises are faced with outdated technologies, depressed workforce, lack of business from its former Soviet Union trade partners, lack of means of circulation and lack of international orientation of management.

The population of Armenia suffers from low level of incomes, uncertain future, low level of salaries, and unemployment.

In many areas of economy, there is a lack of trust and confidence amongst the international business community. This community express its displeasure for some traits of our mentality, as relatives, friends, inhabitants of its region involving in the business.

It is necessary to have a comprehensive regional policy framework to solve these problems. Several international organizations like World Bank, IMF, UN, Japan International Co-operation Agency have conducted studies to evolve policy framework and point out solutions, which could be relevant to Armenia to regulate its economy. These agencies have developed criteria to identify industry sectors for priority development:
- to have export drive and expansion potential;
- to meet job creation requirements;
- to utilize qualified human resources in Armenia;
- to attract foreign investors;
- to have minimum dependency on current semi-blockade and associated transportation problems.

Basic factors placing Armenia in unfavourable situation, are:
- lack of concrete policy for re-establishment of economy with restructurization of industry and for unemployment reduction;
- lack of transparency in the method of privatization;
- vagueness in the area of foreign credits' use, which hamper potential activities in industry development;
- lack of financial assistance to small and medium enterprises for integration in leading branch of industry;
- insufficient development of export industry;
- scarcity of material and technical resources;

-   unattractive investment climate.

Based on these criteria, six industry sectors were identified for export promotion: jewelry, electronic industry, machinery and parts industry, light industry, food processing industry and computer software production. For development of these sub-sectors, a comprehensive industrial policy was developed with a 7-year national development plan (VISION ARMENIA 2005).

The plan was developed jointly by government and industry through JICA, taking into account physical conditions, international competition and financial resources. This plan, however, could not be implemented as Armenian government was pre-occupied with more immediate and difficult problems.

Armenia adopted liberal trade policy, and applied for the membership of WTO (World Trade organization) to conduct trade in a rule-based international trading system. At present trade was conducted through signed agreements, contracts, conventions. Armenia signed bilateral trade agreements with 58 countries, including Russia, Ukraine, Moldova, Kyrgyzstan, Tajikistan.

Armenia uses System of Tariff classification. Armenia did not levy duties on:
-   imports from the states with which Armenia has established customs unions;
-   imports for construction projects under inter-government agreements;
-   imports made on credits to the government, the state budget, and government funds (4).

Macroeconomical Indices of Armenia (January, 2000)

	January, 2000	January, 2000 compared with January, 1999 (%)
Gross domestic product, (GDP) mln. drams	35122,0	99,6
Index-deflator of GDP, %		99,5
Volume of industrial output, mln.drams	20484,5	94,3
Output of consumer products	10238,4	114,4
Energy production, mln.drams	564,9	90,9
Gross output of agriculture, mln.drams	9774,6	101,9
Construction: -volume of capital investments consumption, mln.drams	1136,8	56,5
- apartment houses construction, thous. sq.m	190,4	66,4
- basic funds, mln. drams	3,6	61,8
Turnover of general use transport, t/km	219,5	82,1
Foreign trade turnover, including	36,6	100,9
Exports	7,2	116,32
imports	29,4	97,76
Average monthly salary, drams	19375	119,8
Money income of population, mln.drams	48068,6	123,6
Money expenses of population, mln.drams	46533,3	104,5
Volume of retail products turnover, mln.drams	26456,0	115
Index of consumer prices	101,9	100

Highly positive indices are the growth of export and low inflation – 1,6%. Diamonds and precious metals are prevailing in export. 56% of general volume in products export compose

processed and non-processed diamonds, scrap, waste of precious metals and jewelry, 16,08% - non-precious metals and articles, 8,55% - mineral products, 8,05% - foodstuffs; 3,84% - machinery and equipment; 3,84% - textile products (16).

Information technologies Policy in RA

Information technologies may play a leading role in economical development of Armenia. Information technologies industry may be considered as a priority branch. It may be competitive on a world scale. Studies, conducted in 1997-1999 by USA Embassy in Armenia, UNDP, Armenian Development Agency and other technical assistance programs, considered the information technology as priority branch for development of economy in Armenia.

The program for information technologies (IT) development is based on small capital for IT projects development. Many potential investors were taken advantage of IT in Armenia to establish joint ventures.

But, the government of RA doesn't have all-embracing strategy for IT development and informatization of the society.

Discussions, organized in ArmNIINTI, showed that the policy of informatization is developing on experience acquired thanks to various projects on infrastructure and informatization, realized in the Republic. Components of this policy are as following:
- development of programs and IT policy;
- development of regional IT conception;
- assessment of IT strategy;
- development of professionalism and possibilities in the area of IT;
- preparation of investment project (4).

The program of government's activities in the area of telecommunications development in Armenia, was published in June of 1999.

The top priority task is: regulation of telephone lines' system, improvement of tariffs policy and telephone lines operator's control, full use of fixed by licence commissions and thus, improvement of network's exploitation quality, in particular, telephone calls' completion, preventive measures to avoid damages, stable and effective utilization of international lines, as well as providing of proper showings' accomplishment established by programs of development:
- in the area of postal services-expansion of non-traditional postal service, providing profitable activity of national postal system on contractual basis;
- equal terms for means of information independently of forms of property;
- rendering an assistance to the programs for information science personnel training;
- actual and permanently updating information about Armenia in international information systems;
- maximum publicity of government's activities, and consecutive information of society about decisions and policy of government;
- organization of public discussions on important problems with possible use of discussions in National Assembly (7).

It specialists consider that the population of the country should be embraced by media-telecommunication systems at least by 10%, which automatically gives rise to the economy growth in all branches. Such countries as Armenia, comparatively newomers in computer business should intensively advance in that area, using the experience of developed countries, and avoid some "delays" which experienced these countries because of some reasons.

The crisis of world system in the area of high technologies and telecommunications in April of 2000, also was such "delay", engendered by non-settled prices in computer technology and

struggle of "alarmed" monopolies in SW area. The time will show if this crisis is a good opportunity for countries, recently joined the area of computer technologies.

But, the transition from "industrial" to the "information" society, has been dictated by urgent necessity. The practical utilization of newest information technologies may considerably change all areas of social life of the republic: economy, policy, problems of security.

Armenia began to establish "ArmenTel" JSC (TWT company) in 1993. The government of RA was control share holder of that company.

At the end of 1997, the Greek company OTE purchased 90% of "ArmenTel" telecommunication company shares for $142.47 mln, and "ArmenTel" became a monopolist and only major user of telecom products. Before privatization, "ArmenTel" had a status of joint venture, established by the government of Armenia (51%) and American company Trans World Telecom (TWT) (49%).

Suited in June, 1999 Trans World Telecom (TWT) and OTE, for levying debts, as profit taxes - $18 mln. It was the debt of TWT – first joint owner of "ArmenTel", but because OTE Greek company purchased 90% of "ArmenTel" share for $140 mln, including TWT shares, the Government of RA demanded from OTE company to pay off accumulated debts of TWT (6).

For years, Armenia was a leader by telephone subscribers' number in USSR. Today, telephone is an item of luxury, because "ArmenTel" services are going up, tariffs for international line have sharply increased, including VAT introduction for it, which doesn't exist in other former USSR republics (8).

Up to now (June1, 2000) OTE company didn't invest promised $100 mln, referring to the necessity of paying by minute for telephone conversations. ("ArmenTel", as a matter of fact, considerably decreased tariff for cellular telephone network). But, at the same time, "ArmenTel" insists on introduction of "pay by minute" for telephone conversations inside of the Republic.

The Ministry of Transport and Communications of RA is considering necessary a development of normative documents' rules, providing performance by operator ("ArmenTel") of national telecom network of obligations for reconstruction and re-equipment of the network.

The reorganization of interaction structure between the Ministry and "ArmenTel" is necessary as well, for realization of works, envisaged by development programs of 1999-2000, which means a cruel but objective financial, technical control of "ArmenTel", with the purpose to do not permit arbitrary and one-sided interpretation of licence, because after all, Government has a right of control (9).

The Constitutional Court of Law of Armenia considered the Article 24 of the "Law on Telecommunications" as contradicting the Constitution of the Republic. The Court resolved to bring this Article to conformity with the Constitution of the country, to prepare a law on antimonopolistic activities (10). In the world practice share of foreign organizations in the area of telecom, as a rule, never exceeds 25%, and share of OTE Greek Company composes 90%. Besides, "ArmenTel", as a monopolist, breaks the Article 8 of the Constitution of Armenia, which guarantees free economic competition (11).

But, we have to admit that OTE is one of 10 best telecommunication companies in the world. The licence for "ArmenTel" was prepared by experienced foreign lawyers, invited by the government of RA, and, because of antimonopolistic legislation's absence, the licence (60) and Article 24 of the "Law on Telecommunications" cannot be disputed. And the licence of "ArmenTel" – OTE has a character of international obligation of the government of Armenia, and its non-fulfillment is fraught with serious consequences (12).

Three factors are very important for the infrastructure of Armenia: energetics, roads and communications. From this point of view, the conception of the deal proves its value, especially as "ArmenTel" is the biggest tax-payer in Armenia. In the last several years OTE company achieved

progress in re-equipment of "ArmenTel" by modern digital technologies, distribution of cellular telephone network GSM. The annual income of "ArmenTel" exceeds $15 mln (13). A profitable contract for $56 mln has been signed with Siemens and Intrak firms for delivery of 150 thousand of digital telephone lines. These lines will be established in Yerevan, Vanadzor, Spitak, Gumri, Sisian, Echmiadzin. But there are some problems with cable, buildings for communication, units, maintenance and acquisition (complectation).

"ArmenTel" company was successful as well in the reconstruction of rural telephone lines. Over its contract obligations, the company repaired the lines in 55 villages, including the modernization of lines in 22 villages.

Together with GSM firm, have been extended lines by four most important directions, and have been put in operation Masis-Artashat and Metzamor-Armavir lines, but, at the same time the quality of cellular communication was decreased (14).

But, "ArmenTel" needs some financial support. Greek company OTE, as well as the government of Armenia welcome attraction of credits from the European Bank for Reconstruction and Development (EBRD). This bank invested in the company, as of December 20, 1999, $17,8 mln for purchasing 10% of "ArmenTel" shares, which will be issued additionally. Besides, EBRD insists on cutting down from 15 years to 5 years the terms of exclusivity of "ArmenTel" in the area of cellular communication. The bank is sure, that its investments will create necessary conditions for it. At the same time, an independent regulatory body for tariffs regulation will be established (15).

A circular optic communication line operates in the Republic during last four years (instead of copper cables). A remote link is adjusted in Yerevan. Digital telephone stations instead of analogical ones with communication establishment with the aid of microdiagrams, have been installed. It is supposed to digitize all telephone lines. It is possible that Armenia will present an international tranche for digital technologies.

"ArmeTel" company intends to stretch about 15 thousand of fibre optics lines. Today, these lines are stretched from Meghri till borders with Georgia, including Kapan, Yerevan, Tashir etc., which may transport about 622 Mbits/sec. The project is compiled from two parts: TAOS-S and TAOS-N. The first part of the project envisages the reconstruction of communication lines and telephony of settlements, situated in the southern part of the Republic and the second part of the project – settlements in northern part. The realization of this project will cost $65 mln.

A permanent telephone link will be available for inhabitants of 55 remote villages, including 24 villages, situated in the frontier zone, and whole number of new telephone subscribers is about 15 thousand. A fibre-optical line has been built around Yerevan, and all interzonal stations are united in this network (fig.1).

One of the most competent foreign telecom companies, American-Japanese "Alkoy Fudjikhura Ltd" is considering as well the prospects of powerful fibre-optical cables' laying problem.

Today, this company is among five world leaders including "Nokia", "Erikson", "Alkatel" and "Pirelli". It is supposed that the activities of "ArmenTel" and Japanese company won't cross (26).

From the point of view of communications, joint venture "Port-Caucasus" with Russia is very important for Armenia. Its putting into operation is expected in November of 2000 (27).

Export of Armenian Information Technologies

State policy in the area for information is very important in the process of formation of information society. This policy should be directed on information society development, embracing not only telecommunications, information systems or mass-media, but also activities, connected with collection, storage, processing and demonstration of all kinds of information.

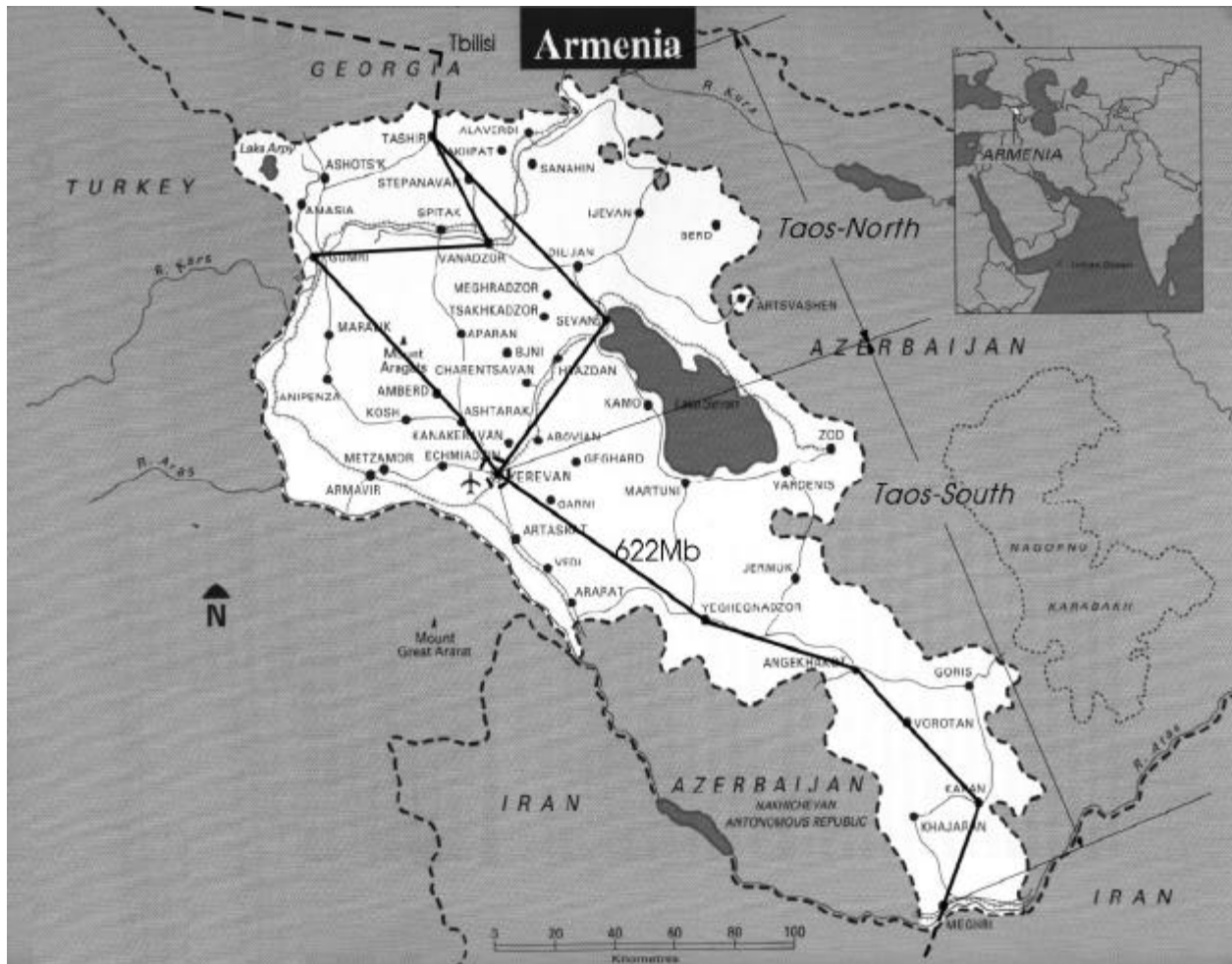The principal forms of information society development, adopted on state level in different

Fig. 1 TAOS-Trans Armenian optical system starts from maternal line in Shanghai, through Iran, Armenia, Georgia. From Poti to Novorossiysk it goes by the bottom of Black sea, then the territory of Ukraine till Europe. The terminal is in Frankfurt-on-Mine. The extent of the line in Iran to the border with Armenia-140 km. In the territory of Georgia the line is still in construction.

countries are:

- development of adequate national information infrastructure;
- establishment of economic and legal terms for attraction of non-govenmental financing of information infrastructure;
- attraction of non-governmental structures for information structure's organization and management, sharing responsibility for functioning and development of information;
- access and ensuring equal conditions for organizations of any form of property on information market, and for information structures' organization;
- providing with equal rights for budget money accessibility for all participants independently from forms of property, to create information structure.

A special attention on the level of Government require:

- struggle against monopolism, encouragement of competition, including control of integration and desintegration of large companies;
- guaranteeing freedom of speech, rights and possibility of access to information resources of the population;
- protection of national culture heritage, language, opposition to the foreign countries expansion;

- intellectual property protection, struggle against piracy;
- struggle against computer crimes;
- control of information and telecommunication technologies' use;
- censorship in global and computer networks (1).

In Armenia, just like in Russia and other NIS countries, there is no any limitation of legal character for transmission of open information from the Republic, as well as access to foreign information in any form and on any kind of tranches. Acting laws of the Republic of Armenia, connected with the problems of information, telecommunications, standartization, protection of copyrights etc., don't form a full legal system of information legislation, very often contradict one another and don't ensure a full complex of relations in the area of international exchange of information.

But, rapid development of science and technology is necessary for the nation, and indispensible condition for it – creation of effective system of scientific information.

After the collapse of the USSR, an attempt for scientific and technical information analysis has been made. Have been picked out following decisive factors:

1. Chronical underestimation of fundamental science, as basis for scientific and technical progress. Fundamental studies always were considered by the society as means for ensuring applied researches.
2. Bureaucratic dissociation of research institutions, subordination to the interests of departments supporting them.
3. Monopolism in the area of technical and technological objects' creation, output of equipment, leading to the situation when specifications were determined not by the client, but by the manufacturer, who is not interested in radical improvement of product's quality, and expansion of scientific and technical works.
4. Extreme backwardness of production and technological base in the area of scientific and technical information, leading to a situation, when brilliant characteristics of prototypes were neglected in order to adjust them to the existing capabilities.
5. Lagging of home science and technology from world standards because of monstrous militarization of science.

These problems are very actual today, when a democratic state of Armenia is in the process of formation. In this situation, the government should release finances in order to realize a national system of scientific and technical information of the Republic of Armenia. And only then it is possible to talk about the problem of information technologies export.

The main constituent part of national scientific and technical information are information resources as a supporting factor for economic and democratic reforms to renovate the economy of Armenia.

The main idea – wide popularization of research works of the nation representing some interest on a world scale.

These works may promote investment activities, as well as development of wide-scale innovation activity.

During last decades, ArmNIINTI accumulated and systematized materials in the area of industrial and scientific potential of Armenia by world standards, and the last updating of industrial potential was made in December of 1999, and presented as databases with searching device in English and Russian.

These resources are issued as a result of co-operation by TACIS program, jointly with other NIS countries and three European countries – Great Britain, Spain and Austria.

The second CD is issued on the basis of Central European Institute of Open Society grant in the area of electronic publications.

Export of information technologies may bring in a big revenue for the Republic of Armenia in visible future. The whole legislation of the Republic, including addition to the Law on Customs (1999) is prepared to meet the requirements of GATT and WTO in the area of industrial products export. But, there is absolutely no legislation in Armenia protecting activities connected with program products and information technologies. Today, any citizen of RA, engaged in small business (trade, services, production in material sphere) is protected much better, than an intellectual producing SW.

Today, the Legislation of Armenia in this area, is presented by three laws:
1. On press and other mass-media means, adopted on October 8, 1991,
2. On copyright and related rights adopted on January 12, 2000, which substituted the Law of the same name of May 27, 1996.
3. On State and Official Secrecy, adopted on December 30, 1996.

But, State register doesn't register databases, as in Russia. Law articles concerning information technologies, are insufficiently presented for international partnership support.

For export of information technologies on state level it is necessary to have:
1. Law on information and informatization with the following;
    - State obligations in the area of resources and informatization formation;
    - legal regime basis for information resources;
    - documentation of information;
    - information resources as an object of property right;
    - information resources by categories of access.
2. Law on legal regime to participate in international information exchange.
3. Law on entrepreneur activities provision with information.
4. Law on legal information of State power bodies in RA (1).

Two-day "Round Table"was organized by Armenian Development Agency (ASA) and WTO center of international trade (UNCTAD/WTO) in the National Academy of Sciences of Armenia on March of 2000. The Ministry of Industry and Trade, Armenian office of UNDP and others participated as well. Following problems have been discussed: international trade of information technologies globalization and liberalization of trade regime for SW developers, export potential and policy for development of information technologies in Armenia. It was admitted, that Armenia possesses a definite export potential in the area of information technologies. But, on this stage it is necessary to have a program for consolidation of technologies' developers, and for their sertification mechanisms development. Experience of India shows how technical incubators' creation (urbanized territories, where production has been formed in scientific centre environment) may allow a country to become one of world developers of information technologies. Today, there are 15 technical incubators in that country. India has adopted a Law on Cybernetics with regulations on electronic coding necessary for information protection problem. A special attention to the problems of information coding is given in USA, Canada, Japan and EU. The participants of "Round table" adopted an Address to the Government of Armenia with proposals to:
    - attract appropriate structures (state, research, public and private institutions) to take part in negotiations concerning membership of Armenia in WTO, Information Technologies Agreement, Agreement on Basic Telecommunication as well as in Agreement on E-commerce.
    - Appeal to WTO, World Bank, UN, TACIS and other organizations rendering technological, financial and consultative aid to private sector of Armenia;
    - Consider as prevailing branch the export of information technologies, development of information commercialization, participation in regional and international programs of

integration, in particular realization of "Market capabilities of information technologies exporters" program with UNCTAD /WTO;
- Organize in the framework of regions (Caucasus Black sea) measures on information technologies;
- Establish an international or regional public organization to promote formation of appropriate legislative field in the area of information technologies and consultative services' rendering, directed on improvement of developments' quality (2).

Main key factors in the area of IT have been determined, requiring urgent solution;
- lack of large branches of industry;
- serious problems with shadow economy;
- lack of circulating capital;
- obsolete production technologies;
- lack of experience in global scale market economy;
- transportation blockade;
- lack of venture capital;
- brain drain;
- education level decrease;
- lack of confidence in economy (4).

Internet Providers in Armenia

The band-width for Internet connection in Armenia (by satellite and dedicated channels)

Connection type	Exit
Satellite channels	DESY (Germany) MCT(USA)
Dedicated channels	Sovam (Russia) Glasnet (Russia)

A bridge has been established between these exits in the territory of Armenia.
Today, there are four organizations – providers of Internet in the territory of Armenia:
1. Infocom
2. Arminco (Armenian information company)
3. National Academy of Sciences
4. Yerevan Physics Institute

First two organizations are commercial and other two organizations provide research, academic, educational institutions and libraries with Internet services (3).
1. Infocom (operator of communication in Armenia)

Infocom has a most powerful access to magistral channels of Internet, and gives valuable services in the territory of Armenia. Infocom has connection channels as well in many cities of Armenia and Karabakh.

Infocom was founded in 1991, as interbranch research and production association and began its activities in the period of USSR collapse. Just after this breakdown, it was necessary to establish in the Republic a telecommunication system meeting world standards.

It was necessary to purchase equipment, create a republican centre for data transmission in the network. But, under conditions of full dislocation of economy, shut down of enterprises, and special negative factors typical for transition period, it was practically impossible to establish such

system without assistance of government. And this assistance was rendered by the Ministry of Communications of RA, the only link, interested in it.

A required equipment was purchased and installed in 1993 from world known firm Sprint International. In that period X.25 network was very popular in the world, and thanks to that network have been created 64kbit/sec channels with Sprint international network.

An appropriate equipment was installed as well in regional centres of the Republic (Gumri, Vanadzor, Goris, Dilidjan), Stepanakert, and for their maintenance have been created branches of Infocom. Armenian national data transmission network "ArmPak" was established and according to licence of Ministry of Communications, Infocom has become its international operator.

According to world standards services for data transmission were realized through X.25 network.

Electronic mail (ArmMail), fax worked through satellite communication.

Subscribers were making use of services by dedicated channels or city telephone line. But, poor condition of city telephone line couldn't allow to provide quality for data transmission.

It was necessary to find other ways.

Telephone connection in the territory of former USSR was built on "Iskra-2" telephone stations (in the framework of special purpose program). After USSR collapse, this program because of lack of finances, was left uncomplete in Armenia, in particular installation of "Iskra-2" station. Infocom carried out restoration works, and soon, on the basis of "Iskra-2" station, was put into operation ITN (Infocom Telephone Network), an international digital telephone network. ITN network has become best environment for data transmission, and means for providing of international and local telephone lines with high quality. In 1995, Infocom became joint stock company of closed type.)

Internet began its wide-scale development in 1995, and Infocom couldn't be indifferent in that process. Infocom had concluded contract with Canadian firm "Teleglobe", and "ArmPak" was connected with 'Internet' with all spectrum of services: on-line operation, two varieties of E-mail, WWW etc.

Armenia was first among former USSR republics in telegraph systems designing. But designed and put into operation equipment in 1994-1995, became obsolete. Centres were built on the basis of enormous computing systems of ES series, and were energy-consuming and requiring large space. It was necessary to create new telegraph centres on the basis of modern technology.

Infocom has developed and established centre of telegraph messages, equipped with up-to-date technics.

This centre has been introduced in Tbilisi (Georgia), Rostov (Russia), Kishinev (Moldova), Minsk (Belarus). As to subscriber telegraph line and telex, a lot of work has been done. TDS-128 station has been re-equipped, allowing to be connected to data transmission network (X.25, Internet). An autonomous tariff system has been developed as well.

Thus, "ArmPak" data transmission network, operated today by Infocom, represents now a functional unification of world standards data transmission services.

ANI-Net information network has been developed by Infocom and put in operation in 1998. The main idea – to unite, show and introduce in Internet everything was being created in Armenia, and, naturally new information resources.

Infocom JSC has licence of Ministry of Transport and Communications for the following:
- cellular radio-telephone communication;
- intertown, international telephone communication including conferences;
- data transmission, including Internet and E-mail;
- telegraph an telex;

- technical maintenance: installation of telecommunication means, operation and maintenance of telecommunication means, networks and systems; installation, operation, maintenance, repairing, purchase, sale of electronic means.

Relationship between Infocom JSC and subscriber is fully determined by an agreement.

Subscribers of Infocom include international organizations, Embassies, banking system, state institutions (ministries, enterprise), NGO, private persons.

Internet services of Infocom include:
- access with graphic interface (WWW);
- placing of information in Internet (WWW server);
- information search in Internet;
- consultations concerning Interner;

Access to Internet is provided by:
- "ArmenTel" channel in on-line regime;
- Dial-up;
- 2 ware and 4 ware Lease Line and radio;

Infocom connects to internet PCs, office computers, as well as network with access to Internet of each computer.

It is possible to get a temporary access to Internet by purchasing coupon for limited volume of information. Any organization may place in Internet information on Web-page of Infocom. Infocom may assist, as well, for creation of Web-page, gives consultations concerning technology of interactive contact of organization (or individual) with clients through Internet.

"Fax-server " is destined for receiving and transmission of facsimile and vocal messages. In contrast to traditional method of facsimile messages transmission, fax-server user has some additional services, as follows:
- access to the system from any site and terminal (fax, telephone set or PC;
- delivery of document by fax number or address, to fax-server's subscriber;
- delivery of document immediately or with delay (date and time are set by subscriber in dialogue regime);
- automatic circular distribution of the document;
- confidentiality of reproduced information;
- storage of documents and vocal messages in "letter-box";
- transmission and reception of textual and graphic files;
- delivery of receipt indicating the result of command's realization;
- vocal promts.

Infocom offers the whole spectrum of telegraph services (Telex & Telegrams) of high quality:
- developed on Infocom order, combined station TDS-128, based on conception of integration of AT-50 telegraph lines and telex, which were the most broad network of documentary electrical communication in former USSR, with data transmission networks on the basis of X.25 protocol;
- on-line telex-communication practically with any point in the world. TDS-128 Ar station allows its subscribers to send by the channels of telegraph not only traditional telegrams and "telexes", but also use X.25 network resources, as E-mail X.400, locks to Internet and other networks, communicated with X.25 network.

Additional services:
- wide spectrum of data transmission rate (50-19200 bit/s);
- 5-, 7-, 8-bit code;
- compatibility of terminals of various type and speed (teletype and computer);
- access by telex-network to inquiry system;

- compatibility with centre for telegraph messages communication, organization of department networks on the basis of various type of channels and terminals 17).
2. Arminco(@arminco) Global telecommunications http://WWW.arminco.com, E-mail: support @arminco.com.

Arminco was founded in 1992 with the participation of several state institutions and private enterprises. The share of state was 40% in 1995. This share was reducing yearly. Arminco offers following services:
- global E-mail;
- unlimited access to Internet;
- connection by dial-up and dedicated lines;
- WWW;
- design and placing of home pages;
- system integration;
- turn-key projects;
- systems for individual reception of satellite telechannels (20).
3. National Academy of Sciences (WWW.sci.am) offers Internet services to research institutes and academic institutions of Armenia.
4. Yerevan Physics Institute (WWW.yerphi.am).

Scientific-educational Network of Data Transmission of Yerevan Physics Institute

Prerequisite for Scientific-educational network for data transmission creation in Yerevan Physics Institute was ground station for satellite communication, established in Physics Institute in 1994, which allowed to organize a direct channel Yerevan-Hamburg (Germany) for data transmission with 64 kbit/sec capacity.

It was supposed that other research and educational institutions of the Republic will be granted an opportunity to use satellite channel of Physics Institute. From that period of time, a process of research works for the creation of data transmission network, has begun. As a result choice of equipment and network technologies has been done.

Today, the network is fully developed, and is successfully operating. The topology of network is a backbone of commutation's focal points and terminals of network users.

Backbone points are united by radiomodem with 2-11 Mbit/sec capacity (standard "radio-ethernet 802.11), and equipped with Cisco routing and access point for terminal users. Radius of range exceeds 40 km, and practically covers the territory of Yerevan and its environs.

One of backbone points is established, in particular, in Nor-Amberd station of Physics Institute, to provide with communication with Ashtarak and Byurakan towns.

Terminals are equipped with radio-modems (2-11 Mbit/sec) and routings.

Specialized routings and routing on the basis of PC have been used, depending on the infrastructure of organization's local network.

Monitoring of the network has been carried out in centralized off-line regime, which allows to change efficiently the parameters of communication, and make diagnosis of the network's operation as a whole. The topology of the network allows to localize possible defect, without shut-down of the network operation.

Central servers (DNS, mail, http, ftp.etc.) and routings have been installed in centre of network control in Physics Institute, with autonomous system of continuous feeding.

Access to Internet

All users of scientific-educational network for data transmission have access to Internet through satellite station of Yerevan Physics Institute, as well as an additional satellite channel rented from "ArmenTel".

BGP-routing allows to redistribute loading of outlet channels and redirect effiiently data flows. Access level and connection speed to Internet are regulated, according to users' needs.

At present, the network unites more than 25 local networks of research and educational institutions. Practically all higher education institutes of Yerevan (State University, Engineering University, Medical University etc.), research organizations, institutes and libraries (RSTL, ArmNIINTI, "Laserain Technika", Yerevan Institute for Mathematical Machines, Institute for Applied problems of Physics, Institute for Informatization and Automatization problems etc.), medical institutions, are users of the network. Subscribers of network are as well, some governmental bodies, funds (Administration of the president, Ministry of Foreign Affaires, "Armenia" foundation, National Centre for Seismic safety, Armenia Nuclear Energy Station etc.).

Yerevan Physics Institute is carrying-out re-equipment of network for capacity increase in order to meet continuous demand of users.

IREX organization has developed for Armenia "Training and Accessibility to Internet" program, for 16 schools of Yerevan, united by common computer network. It is obvious, that it's a good support for these schools.

"IREX" will carry out step-by-step re-qualification of personnel, involving in this process more schools. "Educational Information technologies" JSC will train schoolchildren how to deal with computer, and, at the same time, programming, which is a strategic national task (18).

Creation and Using of Databases in Armenia under

Conditions of NIS Environment

Information science as a new fundamental branch of science, and its practical application in many areas plays an important role in the era of up-to-date "postindustrial" (information) society. Complex studies on junction of some branches of science, as mathematics, electronics, linguistics economy, science of law, allow to define a scientific basis of information science-regularity, methods and rules for its main components' formation: automated databases (or banks), as "information accumulation" of various automated systems, hitech processing of data with the aid of electronic complexes – HW (computers and telecommunication channels); SW (applied mathematics and programming); lingustic means and OW (organizational and legal guaranteeing of automated objects).

One of the most actual problems of present time in Armenia in the area of information science, is the adoption of laws on informatization, information and its protection, as well as new laws for determination of legal regime for information resources, regarded as national property.

There is no such laws in Armenia, or if there are some of them, they aren't sufficiently concrete. Lack of such legislative field in former republics of USSR, put obstacles in the way of NIS in European and Euroasian integration processes (better situation is in Russia, Kazakhstan, Uzbekistan). This falling behind is especially obvious in comparison with processes, taking place in EU, especially that legislation in EU has higher juridical force in comparison with legislation of NIS countries.

Thus, we have to conclude, that postsoviet information environment is not a sufficiently developed market of information and telecommunication services, and general situation is

characterized by technical backwardness in the area of information infrastructure and insufficient attention to the problems of NIS "entry" in information society.

Legislation of NIS information environment is characterized by illegibility of documentation, essential divergence of documents with national legislation, lack of well co-ordinated mechanism for realization of agreements for contracts. Contradictions arise between requirements of NIS to extend free exchange of information and necessity to preserve some limitations for its spreading.

This problem may be solved by the establishment of the system for information protection from divulgence drain and unsanctioned access.

Numerical analysis of NIS information volume is extremely difficult, because statistical data on information science in NIS is practically absent, as well as information concerning relations of NIS with Europe in the area of information science.

It was necessary to establish a common automated system of information exchange between states-members of NIS (ASIENIS), to coordinate and unite information resources of NIS, and providing concrete strict responsibility for information quality.

A conception of NIS information environment formation has been developed, in accordance with the Decision of Council of Heads of Governments on November 3, 1995. For the preparation of this Conception have been used materials of meetings and consultations of plenipotentiary representatives of NIS, organized by the executive Secretariat of NIS.

Conception has been compiled in accordance with basic provisions of national programs for informatization and development of communication systems in NIS countries. Have been determined organization principles for formation and development of NIS information environment, as well as financial and economical principles for its supporting.

The representative of ArmNIINTI deputy-director by scientific problems Mr. Rafayel Harutyunyan is a permanent participant of Intergovernmental Council Secretariat (Kiev, Minsk).

Today, it's hardly to tell about wide-scale postsoviet market of information products. For it, some conditions are necessary: development of demand's analysis system, well-developed networks of telecommunication channels, providing of users with computers, well-grounded pricing policy for information products etc. Extremely unfavourable are such factors as breaking-off of information connections, as a result of processes of political and economical desintegration in the territory of former USSR: inflation, leading to sharp increase of prices for information products, common instability of social life.

It's obvious, that dearth of information is one of main economy, policy and other aspects of social life.

Enormous number of DBs in Western countries are of great interest for Armenian users, requiring efficient use of advanced technologies in the area of industry, transport, agriculture, banking systems as well as law and international life (19).

In former USSR republics, databases have been used mainly, on proposals of large Soviet Information centres, databases created in VINITI (Moscow) on magnetic tapes, in particular.

International organizations, offering their services, were of minor importance (24).

At present, the process of information market formation in Armenia, as well as information component of marketing infrastructure are in the stage of development. In spite of low social and economical situation in the Republic, an obvious qualitative leap in this area had place during last 2-3 years, even under absence of state conception for formation and development of information infrastructure. This leap has been made as well thanks to improvement of telecommunication service, which began in 1997.

Principal participants of information market of Armenia are:
1. Database publishers, responsible first of all for contents and selection of materials. ArmNIINTI is, in the first place, centre in the area of scientific and technical information.

2. Branch centres – generators of databases. Ministries and Departments of Armenia, supported by UNDP.

The purpose – establishment of such centres.

3. Centres for processing of databases and lock services of access. Most of providers, instead of offering services for access to Internet, try to become centres for databases processing.

4. Information brokers (private commercial firms), information agencies. Firms offer paid information services to external users on commercial basis, using services of specialized information agencies.

5. Libraries

A considerable part of information is still being received through common channels - libraries.

For the development of information service and various elements of information market it is necessary to up-to-date the information by automated method on the basis of an agreement between the generator of information and generator of databases.

For centres – generator of national databases, it's advisable to realize up-to-dating in on-line regime, as well as organize access of information users to the information resources in real time regime. Experience of ArmNIINTI, sharing 60-70% of information, generated in Armenia today, is as, before, the main participant of information market of RA.

Small information business is unable to satisfy this market, and the process of electronic information service development may survive only thanks to financial investment from abroad as well as supporting by the state. But this assistance is not co-ordinated and badly managed.

A following information structures have been registered in Armenia lately:

1. Information centres of ministries and departments, supported by governmental programs. The main purpose – automatization of data collection and processing for adoption of decisions by government.

2. Network of Academy of sciences of RA, uniting research institutes of Academy. Information concerning these institutes, their activities, scientists of Armenia, scientific conferences and forums, may be found on network's server.

3. Higher Education Institutes of the Republic of Armenia. Information centres:

Yerevan State University

Yerevan Medical University

American University of Armenia

Armenian State Engineering University

Institute of Architecture and Construction

Armenian Pedagogical Institute

4. Libraries of Armenia

National Library of the Republic of Armenia

Republican Scientific Technical Library (RSTL) with its branches in Gumri, Kapan, Hrazdan and Vanadzor

Library of the Academy of Sciences of RA

Library of Yerevan State University

Automatic systems of library processes management are introduced in all of mentioned libraries.

RSTL had introduced IRBIS system, granted by GRNTB (Moscow) in 1998. RSTL branches in Gumri (Leninakan) and Kapan began to introduce IRBIS program in their libraries. At present time there are 9 computers in local network. The version of the program is under MS-DOS.

Yerevan State University and Fundamental Library of the Academy of Sciences are using Tinlib automatized system, adjusted for educational funds and systems, Standard for data

presentation in these libraries is absent, and there is no developed automatized system for summary electronic catalogue.

5. Commercial network is represented by servers connected through dedicated channels to Internet providers – Arminco and Infocom. Information in these networks is supported by various organizations, enterprises and on income from commercial activities.

6. Network for electronic deals, as banking operations, ordering of tickets.

ArmNIINTI is a main generator of national databases in the area of scientific-technical, economical and patent information. ArmNIINTI together with Republican scientific-technical library possesses great information potential, which allows to preserve its positions on information market. ArmNIINTI participates in INCO-COPERNICUS and TACIS (integration of information structures of Russia and NIS), FAO UN (Agris/Karis), Infoterm projects.

ArmNIINTI has developed a strategy for various information technologies application, with the purpose to support and development of information resources (databases on economy, scientific organizations and patents).

2. Expansion and development of information resources by introduction of new data and requisites.

New information connections, supporting telecommunication access to RSTL fund's primary sources will be developed.

A network for scientific-technical libraries of Yerevan enterprises in off-line regime has been created.

3.Up-to-dating of databases. A system for up-to-dating of databases in on-line regime for subscribers of information resources, has been created, in order to have access to the information with the purpose of its up-to-dating.

4. Final users' service.

4.1. Conversion of databases from on-line regime to on-line WWW.

4.2. Creation of personal server on the basis of SUN.

4.3. Password access to the information resources and securing of information databases safety.

5. Other form of information services,

a) diminution of poligraphic expenses on information products and issue of information products in electronic forms;

b) assimilation of CD-products market (3).

ArmNIINTI is being financing from the state's budget.

Self-supporting activities of ArmNIINTI allow to cover expenses on public utilities, as well as spend some money on the development of telecommunication services and technical base.

ArmNIINTI is still looking for investors for development of its technical and telecommunication base of the Institute.

Structure of Institute

ArmNIINTI	RSTL
Department of Authorities' Providing with Information	Books Fund
Department of Databases on Economy of RA	Fund of Periodical and Information Publications
Department of Databases on Intellectual Property	Fund of patent Documents
Department of Analysis and Expertises	Fund of Industrial catalogues
Department for R&D Marketing	Fund of Normative-technical Documentation
"Gitutsyun ev Tekhnika" journal	Fund of Magneto-electronic Publications
	Department of Attendance

	Department of Marketing and Exhibitions
	Section of Acquisition
	Section for Scientific Workers' Service
	Editing and Publishing Department
	Department for Library processes Automatization
	Department of Electronic Publications
	Department of Orgtechnics Maintenance and Operation
	Internet-centre
	Department of Operative Polygraphy
	Attendance of Subscribers and in Specialized reading-rooms

Automatized Databases of ArmNIINTI

Name	Language
1. Industrial potential (14 branches)	Russian, English
Produce of Armenian industrial enterprises	Russian, English
Export of industrial products	Russian, English
2. Situation in agriculture in Armenia before privatization	Armenian
Agricultural lands, arable lands, buildings, structures, agricultural products, technics, transportation means etc. in the period of privatization	Armenian
Poultry keeping, cattle-breeding, bee-keeping	Armenian
Agricultural products	Armenian
Agricultural collective farms in Soviet period	Armenian
3. Scientific potential of RA	
Who is who in Science	Russian, English
Research organizations	Russian, English
4. Inventors-Armenians of the world	
Inventors-Armenians in RA	
Inventors-Armenian in NIS	Russian, English
Inventors-Armenians in USA	Russian
	English
5. Deposit of scientific works	
	Armenian, Russian, English
6. State registration of research works	
	Russian
7. Abstracts of research works and design, supported by state;	
	Russian, English
Information cards	Russian, English

8. Bibliography of Armenian scientists' works in agriculture (1980-1993) Field husbandry, field cultures Plants' pests and diseases, plants' protection Vegetable growing Livestock raising	Russian, English
9. Bibliography of latest literature on ecology	Russian

Databases Generated in Armenia in the Area of Science and Technics

1. Document 01

Full name of database – Information data bank of main drugs in RA.
Abbreviation – "EDIS"
Language of DB – Russian
Type of DB – documentary, factual
Regime – off-line
Up-to-dating – when necessary
Owner of DB – Agency for medical and medicinal technologies (AMMT) under Ministry of Public Health
Developer of DB – AMMT under leadership of academician Emil Gabrielian
Purpose – keeping informed of physicians, pharmaceutical chemists and students about main drugs of RA.
DB contains 288 names of drugs, with synonyms – 3000 names.
DB was developed in 1996, supported by grant of DIA – Drug Information Association (USA).
Purchasing of DB – on contractual basis.

2. Document 02

Full name of DB – Data on Standards, abbreviation – DB – ArmStandard.
Language – Armenian, Russian, English.
Type of DB – documentary, factual, statistical
Regime – off-line
Up-to-dating – when necessary
Owner of DB – "Armstandard"
Developer of DB – "Armstandard"
Volume – 1Gb, Internet address: WWW.arminco.com
Purpose – keeping informed of organizations, interested in standards
Purchasing of DB – on contractual basis.

3. Document 03

Full name of DB – Grants received by Armenian scientists in 1991-1997
Abbreviation – Grant-RA
Language – Russian, English
Type – factual
Regime – off-line
Up-to-dating – 1997
Owner of DB – "Guitak" centre

Developer of DB – "Guitak" centre
Volume – 600 kb
Purpose – research-technical potential of Armenia in the area of science study

4. Document 04
Full name of DB – Unique R&D equipment
Abbreviation – Equip-ra
Language – Russian
Type – factual
Regime – off-line
Up-to-dating – 1997
Owner of DB – "Guitak" centre
Developer of DB – "Guitak" centre
Volume – 400 kb
Purpose – analysis of research-technical potential of Armenia in the area of science study
Purchasing – on contractual basis

5. Document 05
Full name of DB – Enterprises and organizations of Armenia and Nagorni Karabakh
Abbreviation – "Spyur"
Language – Russian, English
Type – informational (contains data by all branches of science and technology, including production, trade, industry etc.)
Regime – off-line, on-line
Up-to-dating – once in 2 months in Internet, in Russian and English
Owner of DB – "Spyur" company, Ltd.
Address: http//www.arminco.com/spyur
Developer – "Spyur" company under the leadership of A.K.Grigorian
Volume – MS-DOS-10 Mb; Windows – 20Mb
Purpose – keeping informed consumers and specialists about products, services etc.
Electronic DB is distributed charge-free to all "Spyur" subscribers. Once in a year the information may be distributed charge-free to everybody. In other cases it may be purchased for 6000 drams.

6. Document 06
Full name of DB – Deposit of scientific works of RA
Abbreviation – DEP
Language – Armenian, Russian, English
Type – documentary
Regime – off-line
Up-to-dating – periodical
Owner – ArmNIINTI
Developer – ArmNIINTI department of DB on intellectual property of RA
Volume – 1,5 Mb
Purpose – creation of DBs on science, there is a CD version
Purchasing – on contractual basis.

7. Document 09

Full name of DB – State registration of ReD works
Abbreviation – GOSREG
Language – Russian
Type – documentary
Regime – off-line
Up-to-dating – periodical
Owner of DB – ArmNIINTI
Developer of DB – ArmNIINTI, Department of DB on intellectual property of RA
Volume – 1,0 Mb
Purpose – creation of DBs on science and technology
Purchasing – on contractual basis

8. Document 10

Full name of DB – Research works of Armenian scientists in the area of agriculture
Abbreviation – BAZARUSS, BAZAANGL
Lanugage – Russian, English
Regime – off-line
Up-to-dating – when necessary
Owner of DB – ArmNIINTI
Developer – ArmNIINTI, Department for R&D marketing
Volume – 2,6 Mb
Purpose – keep informed of Armenian scientists in the area of agriculture, there is a CD version.
Subbranches – forestry, plants' pests, animal-breeding, fruit-growing, vegetable-growing, field husbandry.
Purchasing – on contractual basis

9. Document 11

Full name of DB – Industrial potential of RA
Abbreviation – Ï ðÏ ÐÀ
Language - Russian, English
Type – documentary
Up-to-dating – periodical
Owner of DB – ArmNIINTI
Developer of DB – ArmNIINTI Department of DB on economy
Volume – 150 Mb
Purpose – keep informed of foreigners about R&D and industrial potential of RA, there is a CD version
Purchasing – on contractual basis (25).

SW has been realized in the Republic by many organizations possessing necessary electronic equipment and applying necessary functional programs in DBs.

In "Armenian Software" company has been completed development of new in essence platform "AS-3.X", which is a basic instrument for various financial and analytical subsystems.

Necessity for programs' adaptation to the specificity of concrete client, appearance of new kinds of services, frequent changes of legislation aroused necessity in flexible system, which may be easily modified.

AS-3.X program is fully correspond to standard Windows-interface, and users may master their work with this system without any problems.

"Armenian Software" company specializes on financial programs' development for banks and large enterprises. During last 5-6 years company support systems for banking and economical activities' automatization. In the past, only accounting services' automatization has been made by the company. In 1997 "Armenian Software" company started a development of universal technological program platform for all spectrum of financial and administrative problems of such financial organizations, as banks and large enterprises.

This technological platform is a unique instrument for developers of applied SW. Functional filling of the system is determined not by the program code and interaction of program modules, but by the interaction of basic conceptions' elements. Modification and creation of new data and technologies have been realized by the means of system's administration, which is guarantor of its flexibility. A positive moment is, as well, a good integration with Miscrosoft office package, with MS Excel, in particular (21).

"Saak Parkev Papian" information firm began its activities on the market of information services from 1995, when, after energetic crisis, first signs of economy reviving appeared. At first, the company conducted computer training, then design services, business information. During 4 years company was engaged in creation of computer map of Yerevan, some kind of electronic reference book.

Telephone directory of Yerevan has been compiled as well. The last edition includes 3500 enterprises and organizations of Yerevan, as well as information about government structure, visa regime of foreign countries and visa registration in Armenia, codes of countries, etc. (22).

Society for entrails protection of RA submitted to the government "Information databases by gold-bearing deposits of Armenia", supported by a grant of Eurasia fund. Local investors are able to finance only prospecting or development of small deposits. As to large deposits, its prospecting is impossible because of lack of budget financing.

Classification of industrial kinds of gold-bearing deposits has been carried out on the basis of the analysis of prospected and exploited deposits. The purpose for this DB is to utilize enormous wealth of entrails in Armenia which is being now an idle capital. It is necessary to revive it, create acceptable conditions for foreign and domestic investors. This DB has been made in accordance with the Resolution of the Government (March 13, 1998) concerning the list of information, constituting state secrecy (23).

Subject programs "Systems and services for citizens" have been created and introduced in Internet (ruinfor/win 1-1) by our compatriotes. The purpose of this program – creation of large scale, standardized and available information and communication server (ICS) of next generation, meeting the requirements of up-to-date level of technological basis, for flexible access to information resources. This work includes research studies and development at the whole, as well as by some special branches, as public health protection, specific requirements of some categories of citizens, including elderly people and disabled persons, administration and management problems, environment and transport. In the framework of these studies, a special attention should be given to the satisfaction of demands and expectations of regular users, in particular, for practical use of results and accessibility of new kinds of information and communication services.

In the area of public health protection, the work will be directed on the development of computerized clinical systems of new generation, advanced telemedical service for citizens, network appendices for public health protection, as a whole, and for information support of medical personnel, and public health system administration, etc. Developed intellectual systems may help our population to realize responsibility and necessity of their health protection (28).

A summary electronic catalogue "Architectural monuments of Armenia" is compiling by the Administration for protection and restoration of architectural monuments and Research centre for architectural monuments study. Now, theoretical and scientific-methodical bases for monuments' classification are being conducted.

Catalogue's DB is prepared following the experience of the Ministry of Culture of France. A system of fields for computer version has been developed as well.

The last list of architectural monuments of Armenia has been created in 1983. At present time, an active field works have been carried out for monuments' inventory and determination of their plots' property.

Unification of each monument model is carried-out on Eurostandard. These works are supported only from state budget.

Information Telecommunication Channels in the Territory

of Armenia in 2001

1. Capacities of telecommunication lines, connected with abroad in 2001, are equal to 18,5 Mbit/sec and 745 analogue channels.
2. Optical lines: line is passing from parental network to Meghri, Yerevan, then Yerevan-Tbilisi with the possibility of exit on international optical networks through Tbilisi-Poti-Novorossiysk and BSFOCS. BSFOCS – optical line of communication Novorossiysk-Varna-Odessa (29).
3. Alternative networks.

The industry of Armenia is seeking to be supported by NGE, in the area of information technologies. In particular, "Rostelecom" (Russia) is strengthening its business position in Armenia. This firm has nothing to do with "ArmenTel" company, and uses its own satellite aerials.

Armenia is interested in improvement of telecommunication services quality and revision of tariffs. Prices on telecommunications existing now in Armenia, and established by "ArmenTel", are extremely high, approximately 10 times higher and data transmission rate is 100 lower comparing with world prices.

There is one possibility do not use "ArmenTel" or other operator's services, if technological incubator of industry will possess its own aerial to be used by firms, operating in given territory (31).

As an alternative network, may be named satellite channels of Yerevan Physics Institute. This Institute was first in the Republic to get a licence for satellite communication's use.

But, Physics Institute is holding on lease from "ArmenTel" a part of satellite channels. Alternative lines are, as well, such data transmission networks, as Arminco, infocom, WEB, Netsis, Kornet, "Armcomputer" Centre (29).

Urgency for creation in Armenia of regional centre for high-capacity computations and databases, has been determined by several factors: large number of researches supported by international programs, including projects of International R&D centre (IRDC), complicancy for solving of regional problems (seismicity, geographical monitoring), various research studies, for which computation, visualization and data search are inseparable from the results of studies. It is necessary to create a Centre on the basis of distributed intellectual computing environment and base of computing resources' clusters. The infrastructure of environment is presented as some expansion of networks' set for research works and education, on the basis of the corporative network of the National Academy of sciences. The expansion of network is based on the

connection of appropriate high-capacity clasters and access to these clasters of organizations of Armenia and other countries of the region.

Two types of problem-orientated researches are to be conducted. First type of researches concerns information science and information technologies, as development of intellectual programs of visualization on the basis of pattern identification methods, statistics, and cryptoanalysis. The second one includes databases support in the area of mycrobiology, ecology, research instrument-making, radioastronomy, chemical physics. Regional projects include seismic and geographical monitoring, economy, energetics, meteorology and atmosphere study (30).

4. Possiblities of satellite communications in RA

Yerevan Physics Institute had established in 1994 a ground satellite communication Yerevan-Hamburg (Germany) for data transmission with capacity 64 kbit/sec.

It was assumed that Physics Institute will give an opportunity to use satellite channel to other research and educational institutions of the republic. From that period, a new stage of research and design works for data transmission research network's creation had begun, resulted in necessary equipment and network technologies choice.

Today, this network is fully developed and successfully operates.

Armenia information company "Arminco" using effectively satellite channels, was first Internet supplier in the republic. Today, the number of its subscribers is about five thousand. Data transmission rate – 2 Mbit. Main subscribers of "Arminco": Administration of the President, Armenian Apostolic church, mass-media governmental organizations, Embassies, international organizations, National Assembly, commercial firms and private persons. "Arminco" rents required number of fast-acting channels from "ArmenTel".

"Arminco" had established TV camera, aimed at Ararat mountain. Information in real-time regime has been collected in Internet, and 30 000 uses of this site has been observed daily (32).

Now, RA effectively uses USA satellite channel Intelsat on 359^0 of eastern longitude, as well as Russian state cosmic communication RSCC – ExpressA on 11^0 of western longitude (29).

5. Electronic Information Flows in Armenia

By informal data a yearly volume of information in 2000 reached $US 500 mln. In case of rates' acceleration, it is possible to issue yearly information products for $US 1 billion. In 2000, the capacity of world market of information composed 2,5 trillion dollars.

Only in 1996, countries of the world invested 160 billion dollars in telecommunications development, 2,5% of GDP of 206 countries of the world. Investment volume per capita reached 30,5 dollars. In Armenia it is 0,7 dollar.

Rates of investments' growth in this area in the world compose 50% yearly, i.s. in 2001 volume of investments in telecommunications development will reach $300 billions.

Volume of electronic information flows from Armenia abroad, according to "ArmenTel" will reach in 2001 124 mln minutes in a year (29).

Armenian Yellow pages

1 15levels Graphic Design :	A website dedicated to promoting Armenian Art and Culture on the web	http://www.15levels.com/armenia/armenia-1700.html
2 1700 Anniversary of Christianity in Armenia :	Mirror site in Armenia at	http://www.freespeech.org/oneworld/1700/ http://www.freenet.am/1700/
3 82 years of Anger! :	A page about Armenian genocide	http://home.earthlink.net/~madenian/genocide/
4 AARC :	Please join the Armenian American republican Council in their effort in helping all Armenians join the political process.	http://members.aol.com/AARC2000/
5 AESA ARMENIAN ENGINEERS & SCIENTISTS OF AMERICA		http://www.aesa.org/
6 AGBU Ardavazt Theater Company :	This site contains information about the AGBU Ardavazt Theater Company in Los Angeles	http://members.aol.com/ardavazt
7 AGBU Buenos Aires :	Home Page of A.G.B.U in Buenos Aires	http://www.ugab.org.ar
8 AGBU Camp Nubar :	Set in the beautiful Catskill Mts, in NY, Camp Nubar is a non-profit, Armenian summer camp of the Armenian General Benevolent Union.From Armenian culture to basketball and horseback riding, Camp Nubar offers children fun and friendship.	http://www.campnubar.org/
9 AGN :	ARMENIAN PENPAL, FRIENDSHIP, LOVE, MARRIAGE, TRAVEL	http://www.noyan-tapan.am/users/penpal/marriage.htm
10 AISA MENU Sports Info		http://www.mygale.org/06/lancelot/aisam.htm
11 AM Network Information Center :	National Internet Registry. Armenia AM tld Network Information Center, providing am domain registration services to companies and individuals.	http://www.amnic.net/
12 ANAHIT'S - KANTCHR KROONK CD :	GEGHARD brings authentic Armenian music to the world. ANAHIT'S VOICE IS TODAY'S ECHO OF ANCIENT ARMENIA. RealAudio Enabled.	http://www.total.net/~geghard/

13 ANI-net :	International operator of Armenian National Data Transfer Network ArmPac	http://www-ani.amilink.net/
14 ANONYMON PATRIDON by ANC CYPRUS :	A musical released by the Armenian National Committee of Cyprus, featuring classical Armenian poetry performed in Greek by upcoming Cypriot star Michalis Hadjiyiannis and orchestrated by renowned composer Doros Georgiades.	http://www.geocities.com/madisonavenue/6806
15 ANOUSH ABOOR		http://www.cookbooksonline.com/desserts/10a/723349.asp
16 APOSTOLIC ARMENIAN EXARCHATE AND EPARCHIE		http://www.geocities.com/Athens/Forum/4643/
17 ARDZAGANG ARMENIAN TELEVISION		http://www.imec.com/ardzagang/
18 ARF YOC home page index		http://www3.sympatico.ca/ardziv/
19 ARMECONOMBANK Home Page		http://www.arminco.com/homepages/Armeconombank/
20 ARMENIA Human Development Report 1996		http://www.arminco.com/Armenia/HDR/
21 ARMENIA: Tourist Information		http://www.arminco.com/mirror/WinArm/tour.html
22 ARMENIAN ARTISTS OF 19TH		http://www.armeniaemb.org/artists/gallery.htm
23 ARMENIAN BAKLAVA PASTRIES		http://www.cookbooksonline.com/breads/7/748352.asp
24 ARMENIAN EMBASSIES AND DIPLOMATIC MISSIONS		http://www.armeniaemb.org/forrel/embas2.htm
25 ARMENIAN ENGINE-ERS & SCIENTISTS OF AMERICA		http://www.AESA.ORG/
26 ARMENIAN ORGANI-SATIONS		http://www.arminco.com/Armenia/haik.act.html
27 ARMENIAN SHISH KE-BOB		http://www.cookbooksonline.com/main%20dishes/212/705162.asp
28 ARMINCO:Company Overview		http://www.arminco.com/arminco.html
29 ARMO WEB :	CHAT, NEWS, MUSIC, and MORE	http://www.geocities.com/tokyo/garden/3356/
30 ASA at University of Hannover, Germany :	Everything about armenian communities, organizations and events in Germany (pages are only in german)	http://www.stud.uni-hannover.de/gruppen/ASUH/index.html
31 ASBAR News Agency		http://www.asbar.nk.am/

32 ASCA at the University of Michigan		http://www.umich.edu/~armenia/high.html
33 ASSOCIATION CULTURELLE ARMENIENNE		http://www.geocities.com/Paris/2962/
34 AT ARCHITECTURE + DESIGN		http://ourworld.compuserve.com/homepages/vatche_aslanian/homepage.htm
35 ATC Books International, Inc. :	Books and Periodicals from Armenia and Former Soviet Republics	http://atcbooks.com
36 AVEDIS ZILDJIAN CYMBAL AND DRUMSTICK CO ONLINE		http://www.zildjian.com/
37 Administration of the President of the Republic of Armenia		http://www.president.am/
38 Adventures in Armenian Cooking		http://www.cilicia.com/armo_cookbook.html
39 Agopian Web Designs :	Web page design and construction, I am an Engineer with an Aerospace background.	http://sag.ourfamily.com
40 Alexandria-Gyumri Sister City Committee--Home Page		http://www.digitalnation.com/mshomon/alex-gyumri/
41 All-Armenian Games Initiating Committee Page		http://www.arminco.com/homepages/armgames/
42 Alumni Association of AESSA :	Alumni Association of the Armenian Evangelical Secondary School of Anjar	http://www.mousaler.com/anjar/evangelical/
43 AmIUG		http://www.nic.am/amiug/
44 American University of Armenia Home Page		http://www.aua.am/
45 Andy Music :	Website and Fan Club for popular Persian Armenian singer Andy.	http://www.andymusic.com/
46 Ani Kavafian		http://www.maestronet.com/faculty/ani.html
47 Ani: City of 1001 Churches		http://www.geocities.com/Paris/LeftBank/6507/anic.html
48 Ara Baliozian Contemporary Author		http://www.umd.umich.edu/dept/armenian/literatu/baliozia.html
49 Ara Dinkjian: NIGHT ARK / KRIKOR MUSIC		http://www.NightArk.com/
50 Ararat Carpet & Kilim :	From this site you can find many pictures of Turkish, Kazak and Persian carpets on gif and jpeg formats.	http://www.araratcarpet.com/
51 Ararat Eskijian Museum, Mission Hills, California :	Museum for preservation of national ARMENIAN treasures, and perpetuation of a heritage before it is lost and forgotten	http://www.ararat-eskijian-museum.com/
52 Arax band Australia :	Arax band has released a new CD called "Made in Armenia" come and	http://homepage.idx.com.au/arvest

	watch the video clip on-line and listen to the al-bum.	
53 Ardziv Online	Ardziv is the official publication of the A.R.F. Youth organization of Canada. Armenian ma-gazine published for yo-uth by youth, in all of Canada. It strives to re-port in English, French, and Armenian the news....	http://www.ardziv.org/
54 Areen Armenian's Poems		http://www.imec.com/threeseasons/
55 Areg's Collection of Armenian Jokes		http://wotan.wiwi.hu-berlin.de/~houssik/Humor/Aregs.html
56 ArmScape Home of Armenian Art and Culture :	More than 700 pictures from Armenian Painters. Pictures of Armenian Churches and Landsca-pes.	http://armscape.com/
57 Armen Press		http://wotan.wiwi.hu-berlin.de/~houssik/Armenia/Armenpress/Index.html
58 Armen-info :	A bilingual (English & French) site on Armenia and Armenian issues, with a special attention to Canadian-Armenian facts and issues.	http://armen-info.com/
59 ArmenStamp :	The official agent for the stamps of Armenia	http://www.sky.net/~armen
60 Armenfilm, Film International :	Armenian movies and music for sale	http://www.armenfilm.com
61 Armenia & Armenians		http://www.angelfire.com/hi/Hyeastan/index.html
62 Armenia & The Armenians		http://www.mousaler.com/armenia/
63 Armenia Call from US Only 77 cents per min! :	A call to Armenia from the USA is only 77 cents per minute with our in-ternational dialing prog-ram! We offer high qua-lity, low cost, long dis-tance calling programs to individuals and small companies.	http://www.cyberatl.net/~chris/r/armorg.htm
64 Armenia Azerbaijan Initiative: Main Page		http://www.globalcommunity.org/cgactiv/cgsocact/cgaai/aai.htm
65 Armenia Business Investment and Trade Opportunities		http://www.armenia-business.com/
66 Armenia Constitution :	Constitution of Armenia	http://www.uni-

	1999. Law of the consti-tutional Court 1997.	wuerzburg.de/law/am__indx.html
67 Armenia Consular Information Sheet		http://travel.state.gov/armenia.html
68 Armenia Country Info.		http://members.tripod.com/%7Estelka/Armenia.html#links
69 Armenia Energy and Evironment Overview		http://www.eia.doe.gov/emeu/cabs/armenia.html
70 Armenia Extensive info and links.		http://www.cilicia.com/armo.html
71 Armenia Fielding's Dan-gerFinder		http://www.fieldingtravel.com/dp/dangerousplaces/armenia/
72 Armenia General		http://www.wtgonline.com/country/am/gen.html
73 Armenia HyeBiz		http://www.imec.com/hyenet/
74 Armenia Links by David Schahinian		http://www.wiwi.uni-frankfurt.de/~dschahin/hayastan.html
75 Armenia Medical Partnership Home		http://med-amsa.bu.edu/Armenia/
76 Armenia Network Infor-mation Center		http://www.nic.am/
77 Armenia Phototrack a gallery of pictures of Armenia		http://stud2.tuwien.ac.at/~e9126312/armpics.htm
78 Armenia REENIC-Russian and East European Network.. :	Russian and East Euro-pean Network Informati-on Center's catagory ba-sed links to Armenian websites.	http://reenic.utexas.edu/reenic/Countries/Armenia/armenia.html
79 Armenia Resource Page		http://www.soros.org/armenia.html
80 Armenia Search Engine		http://www.aaa.com.au/images/logos/searches/am.shtml
81 Armenia Search :	Categorized Armenian search engine and web-site directory.	http://www.armeniasearch.com/
82 Armenia Subject Index		http://www.columbia.edu/cu/sipa/REGIONAL/HI/armenia.html
83 Armenia Tourist Information		http://wotan.wiwi.hu-berlin.de/~houssik/Window/tour.html
84 Armenia Turkmenistan: Iran: Growing Links Improve Economies		http://www.soros.org/turkstan/omri/0102.html
85 Armenia WWW VL		http://www.arminco.com/ArmeniaVL.html
86 Armenia Yerevan		http://www.geocities.com/Paris/LeftBank/6506/
87 Armenia on the Net		http://trinity.tamu.edu/~hicup/ARMENIA/armenia.html
88 Armenia.com		http://www.armenia.com/

89 Armenia: Portraits of Survival		http://www.usc.edu/users/mchugh/ARM/ARM_index.html
90 Armenia: RUG COMPANY PRIVATIZATION		http://www.tradeport.org/ts/countries/armenia/mrr/mark0016.html
91 ArmeniaNet Service! :	Armenian community on the web offering chatlines and discussion boards (BBS).	http://www.armenia.org/
92 ArmeniaOnline :	Armenian Music, Articles, Business, Advertising, News, Events, Books, & More!	http://www.armeniaonline.com
93 ArmeniaWEB :	ArmeniaWEB offers a tremendous amount of features to anyone who is interested in Armenia, including chat.	http://www.geocities.com/Athens/Ithaca/1886/
94 Armenian singles :	love connection	http://www.armenian.com
95 Armenian American Youth Center, Inc. :	The AAYC, or Armenian American Youth Center in New York is deticated in serving the Armenian youth and their families. Currently, the AAYC is raising funds for a center. More information regarding the fundraiser is in the site. Please visit us!!	http://www.aayc.cjb.net
96 Armenian American Youth Center :	Armenian American Youth Center	http://www.aayc.org
97 Armenian Apostolic Orthodox Church		http://pegasus.rutgers.edu/~ikestud/church.html
98 Armenian Art History		http://www.itgateway.com/unesco/default.html
99 Armenian Assembly of America Inc.		http://www.aaainc.org/
100 Armenian Azeri Forum		http://www.brittany-net.com/imagine.htm
101 Armenian Backgammon Clubs		http://www.gamesdomain.com/backgammon/clubs/armenia.html
102 Armenian Bible Church Inc. :	Armenian Christian Non-Denominational Church	http://www.armenianbiblechurch.org
103 Armenian Cause: Home Page (no-frame)		http://armen-info.com/lacause/nf-home.htm
104 Armenian Center for National & International Studies		http://www.arminco.com/hayknet/razm/razm-e-h.htm
105 Armenian Chat :	Armenian Chat at armenian.com. This Chatroom is administered by ICQ and resides on many other Armenian sites.	http://www.cilicia.com/chat.html http://www.armenian.com/chat.html

	Webmasters can add this chatroom to thier sites from	
106 Armenian Christian Site :	Preachings named "God's Judgements" by Hovhannes Khacheryan, Christian poetry and pictures	http://home.earthlink.net/~yesaian/armchrist.html
107 Armenian Church Electronic Information Center		http://www.sain.org/index.html
108 Armenian Church Feasts		http://www.sain.org/Armenian.Church/feasts.txt
109 Armenian Church Jan. 6th X-mas		http://www.sain.org/Armenian.Church/xmas.txt
110 Armenian Church of Seattle		http://www.jetcity.com/~azdarar/churchof.htm
111 Armenian Church of our Saviour		http://www.ivtinc.com/acoos/
112 Armenian Club Provides Cultural Discovery for Student		http://the-tech.mit.edu/V114/N23/armenia.23l.html
113 Armenian Club UT Austin		http://www.utexas.edu/depts/dos/cci/orgs/01505.html
114 Armenian Cognac (Konyak)		http://wotan.wiwi.hu-berlin.de/~houssik/Window/cognac.html
115 Armenian Community of Peria		http://www.csufresno.edu/ArmenianStudies/hye/dec95/peria.html
116 Armenian Cookery		http://moon.yerphi.am/~susanna/cookery.html
117 Armenian Cucumber		http://hammock.ifas.ufl.edu/txt/fairs/mv/12398.html
118 Armenian Cultural Association of Ottawa		http://www.geocities.com/CapitolHill/Lobby/9454/
119 Armenian Cultural Association of Washington		http://www.jetcity.com/~azdarar/armenian.htm
120 Armenian Cultural Association of the Atlantic Provinces		http://www.cfn.cs.dal.ca/Libraries/HCRL/CommunityDB/ARMCA.html
121 Armenian Cultural Society in Cracow Poland		http://galaxy.uci.agh.edu.pl/~vahe/acs.htm
122 Armenian Cultural Society :	Armenian Cultural Society at the University of Virginia founded in 1998.	http://scs.student.virginia.edu/~armenia
123 Armenian Dance		http://www.dance.demon.co.uk/AGC/Articles/ArmenianDance.html

124 Armenian Diasporan Archives		http://www.erols.com/guerig/
125 Armenian Directory Yellow Pages :	Advertising Agencies	http://www.armenian.com
126 Armenian Directory of Organizations, Schools and Churches :	Search our database of Armenian Organization, Churches and Schools.	http://www.armenian.com/org.html
127 Armenian Disasters		http://www.eecs.uic.edu/~rassadou/disasters.html
128 Armenian E-mail List :	Armenian World Union (stronger every day), Armenians everywhere join this list	http://www.egroups.com/group/armenian/info.html
129 Armenian Evangelical Church of Montreal Montreal Quebec		http://netministries.org/see/churches/ch01243
130 Armenian Evangelical Church of Greece		http://www.netministries.org/see/churches/ch01041
131 Armenian Evangelical Union of North America		http://www.aeuna.org./
132 Armenian Federation of UNESCO Clubs & AssociatIons :	Our primary goals are peace, culture, youth, education and protection of the environment	http://www.unesco-clubs.am
133 Armenian Fidayis		http://www.pacificnet.net/~mmmm/
134 Armenian Films		http://us.imdb.com/Sections/Countries/Armenia/
135 Armenian Flags-Images		http://www.umd.umich.edu/dept/armenian/gifs/
136 Armenian Fonts Cataloge		http://www.arminco.com/hayknet/haylezu/fonter-a.htm
137 Armenian Fonts and Icons.		http://www.cilicia.com/
138 Armenian Fonts		http://www.arminco.com/hayknet/art.gif
139 Armenian General Benevolent Union		http://www.agbu.org/
140 Armenian Genocide Deserves Rememberance		http://www.dailybruin.ucla.edu/db/issues/96/4.24/view.armenian.html
141 Armenian Genocide in the Georgian Language :	Dr. Rouben Adalian's (director of the Armenian National Insitute <www.armenian-genocide.org>) paper on the Armenian Geocide translated in Georgian.	http://www.georgia.net/ani
142 Armenian Genocide-- Holocaust Studies Center		http://www.bxscience.edu/orgs/holocaust/edguide/2.html
143 Armenian Genocide: A Turk wants to recognize it		http://www.cilicia.com/armo10e2.html
144 Armenian Genocide: Articles		http://www.cilicia.com/armo10c.html
145 Armenian Genocide: Pictures		http://www.cilicia.com/armo10f.html

146 Armenian Genocide :	About the Armenian Genocide.	http://www.geocities.com/Athens/Ithaca/1886/genocide.html
147 Armenian Graduate Students Club of Brandeis Univeristy		http://www.cs.brandeis.edu/~sevan/AGSC/agsc.html
148 Armenian Heritage Park		http://www.providenceri.com/heritage_park/index.html
149 Armenian Highland		http://www.geocities.com/Paris/LeftBank/6507/
150 Armenian Hntchagian Committee Inc		http://www.hntchak.com/
151 Armenian Instruments and Music		http://pegasus.rutgers.edu/~maral/music.html
152 Armenian International Dental Association		http://www.aida-org.org/
153 Armenian International E-mail Directory		http://www.arminco.com/aied.html
154 Armenian International Magazine/ 4th Millennium		http://solar.rtd.utk.edu/~ccsi/print/region/4thmlnm.htm
155 Armenian International Sports Association		http://www.mygale.org/06/lancelot/aisam.htm
156 Armenian International Women's Association		http://www.njin.net/~merguian/AIWA/index.html
157 Armenian Internet Company (Arminco)		http://www.aic.net/
158 Armenian Kesabtzis Online		http://www.ours.com/kesab/
159 Armenian Kitchen Restaurant		http://www.exclusave.com/armenian.html
160 Armenian Language Courses		http://carla.acad.umn.edu/lctl/languages/Armenian.html
161 Armenian Language Home Page		http://www.ais.net/baier/iicc/armenn1.html
162 Armenian Language sites		http://www.arminco.com/hayknet/haylezu/haylez-e.htm
163 Armenian Lectionary		http://users.ox.ac.uk/~mikef/durham/armlect.html
164 Armenian Links	Cool Armenian Links!	http://www.geocities.com/Athens/Ithaca/1886/links.html
165 Armenian Literature		http://www.umd.umich.edu/dept/armenian/literatu/
166 Armenian Macintosh Systems		http://www.gy.com/www/ww1/am_m.htm
167 Armenian Maps and Sites		http://poincare.math.ukans.edu/~papoyan/pictures/armenia.html
168 Armenian Marketplace		http://www.narek.com/
169 Armenian Media :	Advertising Agencies	http://www.businesslife.com
170 Armenian Medical International Committee		http://www.cam.org/~amic/index.html
171 Armenian Music Awards :	Established in 1998, Armenians in Music and Film Association also known as AMFA, is dedicated to improving the quality of life and cul-	http://www.armenianmusicawards.com/

	tural condition for Armenian music and its makers. An organization that has many musicians, producers and other....	
172 Armenian National Committee of America (ANCA) :	The ANCA is the largest and most influential Armenian American grassroots political organization. Visit our site for the latest information on Armenian-American issues in Congress & how you can get involved locally.	http://www.anca.org
173 Armenian National Committee of Canada Home Page		http://armen-info.com/lacause/nf-ancc.htm
174 Armenian National Democratic Union (NDU) homepage		http://www.arminco.com/homepages/elections/ndu/ndu.htm
175 Armenian National Institute (ANI) :	Dedicated to the study, research and affirmation of the Armenian Genocide. Designed for use by educators, students, human rights groups, public, policy makers, scholars, journalists, and the public at large	. http://www.armenian-genocide.org/
176 Armenian National Press Club		http://noyan-tapan.am/users/npc/index.htm
177 Armenian Network of America		http://WWW.ARMNET.ORG/
178 Armenian Numismatic Society		http://www.coin-universe.com/org/armenian/index.html
179 Armenian Nursing and Rehabilitation Center		http://WWW.ARMENIANHOME.ORG/
180 Armenian Patriarchate Home Page		http://www.armenian-patriarchate.org/
181 Armenian Personal Names		http://infoshare1.princeton.edu/katmandu/sgman/armen.html
182 Armenian Photoshop		http://www.informatik.hu-berlin.de/~hovhanni/photos.html
183 Armenian Poems in Translation		http://www-control.eng.cam.ac.uk/hu/ArmPoet.html
184 Armenian Prelacy Home Page		http://www.armprelacy.org/
185 Armenian Presidential Elections 96		http://www.arminco.com/elections96/
186 Armenian Pride-Armenian Forefathers :	The web site is on the history of the ancient Armenians,God AR	http://www.angelfire.com/hi/Azgaser/index.html

	(EYA), Ancient Armenian Kingdoms, Aryan Exodus, Birth of the World's First Alphabet and World's Astronomy in the Heart of the Armenian Highland, history of 20,000years...	
187 Armenian Quarter of Jerusalem		http://www.cilicia.com/armo5z1.html
188 Armenian Radio :	ARMENIAN RADIO LIVE 24 HOURS A DAY 7 DAYS AWEEK	http://www.armenianradio.com
189 Armenian Recipes (SOAR)		http://SOAR.Berkeley.EDU/recipes/ethnic/armenian/
190 Armenian Recipes (St. Gregory's Armenian Church S.F.)		http://server.berkeley.edu/ASA/recipes/
191 Armenian Recipes from Cookbook Online		http://www.cookbooksonline.com/dbsearch/query.idq?CiRestriction=Armenian&CiMaxRecordsPerPage=100&CiScope=%2F&TemplateName=query&CiSort=rank%5Bd%5D
192 Armenian Religion Software		http://www.gy.com/www/ww1/am_r.htm
193 Armenian Research Center Home Page		http://www.umd.umich.edu/dept/armenian/
194 Armenian Resources at the Library of Congress		http://www.cilicia.com/armo24b.html
195 Armenian Resources on-line		http://www.soros.org/armenia/armelnx.html
196 Armenian Revolutionary Federation Dashnaktsutune :	The official website of ARF-Dashnaktsutiune, Armenian Socialist Party	http://www.arf.am
197 Armenian Revolutionary and Patriotic Songs :	A Collection of the most famous Armenian Patriotic & Revolutionary Songs, dedicated to Armenia, and the Fedayis (Martyrs) that gave their lives for the love of Freedom, and Justice.	http://www.fedayi.com/arfsongs/
198 Armenian Rice Pilaf aka Deej Rice		http://dinnercoop.cs.cmu.edu/dinnercoop/Recipes/ari/DeejRice.html
199 Armenian Rice		gopher://spinaltap.micro.umn.edu:70/00/fun/Recipes/Rice/armenian-rice
200 Armenian Romance Songs by Arpine and Elisabeth Pehlivanian		http://pw1.netcom.com/~hrasim/armenianromance.html

LITERATURE

1. Harutyunian R. V. Export of Armenian Information technologies. Lecture in Academy of Sciences, April, 2000.
2. Malkhasian K. Information technologies are in the Focus of Attention //Business Express, N9, March 11, 2000, p. 1-2.
3. Harutyunian R. V., Avaguian R. Kh. Information Telecommunication Technologies of RA and Tendency for their Integration in World Systems //Informatik Forum, 1997, September, band 11, N2, p. 89-90.
4. Global Markets of Information Technologies. Report of WTO, Geneva-2000.
5. They didn't divide years //Arguments and Facts, N8, 2000, p.4.
6. Credit will be probably, received //Republic of Armenia, June 17, 1999, p. 4-5, N8, 2000, p.4.
7. Program of Armenian Government Activities //Republic of Armenia, June 23, 1999, p. 4-5.
8. Kyufarian B. Allo, "ArmenTel"//Republic of Armenia, March 19, 1999, p.2.
9. Aghababian K. It's time to come up with the time //Republic of Armenia, June 23, 1999, p.2.
10. It's proposed to correct the faults in the Law "On telecommunications" //Republic of Armenia, February 22, 1999, p.1.
11. Sahakian I. Youth party of Armenia against "ArmenTel" //Republic of Armenia, January 13, 1999, p.1.
12. Kyufarian B. Article 24 of the Law "On Telecommunications" contradicts the Constitution //Republic of Armenia, January 28, 1999, p.1.
13. Amirkhanian B. Profitable place for OTE //Republic of Armenia, May 5, 1999, p.2.
14. Kyufarian B. If the boss is a barin //Republic of Armenia, November 17, 1999, p.2.
15. Melkumian A. Strategy of Eurobank is Directed on Armenian Economy Support/Interview with EBRD representative in Yerevan Mr. Alkins Drakinos //Republic of Armenia, December 22, 1999, p.3.
16. Macroeconomical showings of Armenia //Business Express. N19, April 8, 2000, p.5.
17. Infocom. Operator of communication in Armenia; http.www.infocom.an/ind-r.htm/1999
18. Sarkisian A. Anniversary of Internet //Republic of Armenia, December 30, 1999, p.4.
19. Mashlikin V. G. European information Environment. M., "Science", 1999, p.44-52.
20. Commercials //Business Express, N1, January, 2000, p.4.
21. Technological Platform of AS-3.XII Business Express, N1, p.4, N2, p.5, January, 2000.
22. Kuleshova Yu. Call me //Business Express, N4, January, 2000, p.6.
23. Alahverdian V. Guiding thread for investor //Business Express, N8, March, 2000, p.6.
24. Elektronische Information-sdienste in Osteuropa, 1994-1995, Band 2,3.
25. Databases Catalogue in the area of R&D //ArmNIINTI, Department of STI marketing. Compiler-Martirosian Z., 5p., 1999.
26. Gareguinian A. First step //Business Express, N17, May, 2000, p.3.
27. Big plans of a new minister //Republic of Armenia, May 2, 2000, p.1.
28. Systems and services for population. Server of Simonian A. in Internet (ru.-infowin-1-1htm)
29. Letter to "ArmenTel", January 11, 2001.
30. Minasian S. Armenian science in the mirror of IRTC //Business Express, N41, October, 2000, p.8.
31. Melkumian A. Going ahead with information //Business Express, N34, September, 2000, p.3.
32. Kueshova Yu. Internet is not a luxury, but means for development //Business Express, N32, August, 1999, p.6.

CONTENTS

ARMENIAN RESEARCH INSTITUTE of SCIENTIFIC and TECHNGICAL INFORMATION
(ArmNIINTI)

REPUBLICAN SCIENTIFIC and TECHNICAL LIBRARY (RNTB)

ArmNIINTI was founded in 1962. The Institute possesses large information resources, having in its structure the Republican Scientific and Technical Library numbering 21.5 mln units

(patents, standards, catalogues, books and periodicals).

AREAS OF ACTIVITY

– Coordination and Analysis of the positive experience of official trips abroad of specialists in the fields of science, technology, industry, agriculture, information, education and economy.

– Providing informational support for Ministry of Defense.

– Creation and Registration of electronic databases of scientific topics, rewarded with state grants. Publication of annual cadastre.

– Microcopying of scientific report cadastre.

– Preparation and publication of annual abstract journal (in printed and electronic forms), scientific and technical literature published in the Republic of Armenia (RA).

– Publication of annual reference book "Who is Who in Armenian Science" (in printed and electronic forms).

– Creation of the state register for information electronic databases of RA.

– Collection and storage of scientific information flow in progress and according to the international agreements publication in scientific centres of the world (Russian Federation, NIS, USA, Germany, GB, Italy, Switzerland, Japan, China).

– Information support of scientific, technological and other governmental Programs.

– Treatment of scientific deductions concerning innovation policy in science and technology and largest state infrastructures' projects.

– Development and update of databases in the areas of the economy of RA (industry, agriculture, etc.).

– Placing of information resources of the Institute (in English and Russian) in Internet.

– Up-to-date information supply to the President, Prime Minister and his cabinet.

– Analytical substantiation of know-how technologies of special importance for RA.

– Publication of popular scientific magazine "Gitutsyun ev Technika" (quarterly).

– Presentation and protection of interests of the Republic at international information centres and IFSA (International Federation of Library Associations).

ArmNIINTI PROVIDES:

– Automized databases:

Industrial Potential of RA (in English and Russian),

Scientific Potential of RA (in Russian);

Investors-Armenians of the World (in English and Russian)

– Deposit of scientific manuscript works, preparation and publication of bibliographical indexes in Armenian, Russian and English.

– Development of analytical reviews on the basis of up-to-date materials received by RNTB.

– Organization of international exhibitions of scientific and technological achievements of RA in the Republic and abroad.

– Development of investment business-plans.

– Search by inquiry in foreign databases

– Organization, coordination, realization, serving of scientific and technological conferences in RA and on the international level.

WELCOME TO ARMNIINTI
Our address: 49/3, Komitas ave. Yerevan 375051, Republic of Armenia

Phones: 236774 *Reception room of Director*

238278 *Department of Scientific and Technical information marketing*

23.8540 *Department of databases on economy of RA*

23.6769 *Department of databases on intellectual property of RA*

23.8037 *Department of analysis and expert examination*

23.6138 *Department for information providing of authorities*

FAX: (3749)606196

E-mail: aniin@ns.r.am

E-mail: rntb@ns.r.am

ARMENIAN RESEARCH INSTITUTE OF SCIENTIFIC AND TECHNICAL INFORMATION (ArmNIINTI)
REPUBLICAN SCIENTIFIC AND TECHNICAL LIBRARY (RNTB)

RNTB provides:

- Specialized reading-halls of:
  - book funds;
  - periodicals and information publications;
  - patent literature and documents;
  - standard technical documents;
  - industrial catalogues;
  - military equipment literature;
  - literature about housekeeping, clothes modelling, design, architecture etc.
- Discount subscription on scientific and technical information by KIT Ltd Agency catalogue and foreign periodical publications by Swets International catalogue for libraries, enterprises and private subscribers.
- Exhibition of new literature
- Development of bibliographical lists of new literature and documents by subject-matter.
- Selection of subjects and exhibition of literature
- Annual advance subject information by periodicals' contents
- Development of bibliographical indexes of literature, dissertations, diploma and students scientific works lists
- Menu development in accordance with dishes' calorie content
- Certificates for operation term, disaffirmation and replacement of the document in accordance with standard technical documentation
- Information about firms-suppliers of equipment (address, telephone, fax)
- Search for firms-suppliers of equipment for development of business-plans
- Patent subject-matter search by "Inventions of the world" bulletins with the purpose to find ordered materials.
- Selection of abstracts in Russian for the description of foreign inventions by given subject
- Patents search before presenting application for invention, useful model, industrial pattern and trade marks
- Personal search for inventions and patent-holders of leading countries by indexes and making up of safe-conduct documents numbers' list
- Making up of application materials and additional activities for Armenian patent registration
- Improvement of librarians' professional skill and computer training
- Distribution of IRBIS system (integrated library information broadened system) by right of GPNTB official mediator
- Microfilming, microfishing, Xerox
- Publishing services (multicolored printing)
- Brochures, booklets, advertising materials, invitation cards, postcards, labels, calendars, book-covers and other publications.

WELCOME TO OUR LIBRARY!

Our address: 49/3, Komitas ave. Yerevan 375051, Republic of Armenia

Phones:	**235620**
238069 *Service Department*
23.**6323** *Marketing and Exhibitions*
23.**7103** *Books Stock branch*
23.**4870** *Branch of Periodicals Stock*
23.**6554** *Branch of Patents Stock*
23.**7102** *Branch of Patents Stock*
23.**6195** *Branch of Scientific and Technological Documents Stock*
23.**6284** *Branch of Industrial Catalogues Stock*

FAX: (3749)606196
E-mail: aniin@ns.r.am
E-mail: rntb@ns.r.am