EMBASSY OF INDIA

YEREVAN (ARMENIA)

INFORMATION TECHNOLOGY SECTOR
A MARKET SURVEY FOR ARMENIA

APRIL 2005

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Armenia – fact sheet

Official Name	Republic of Armenia, Hayastani Hanrapetutyun
Capital	Yerevan, Pop. 1.25 million; 900 – 2000 mt. above sea level
Currency	Armenian Dram (AMD), 1 USD = 450 AMD Apr 2005)
Location	South West of Asia; 48°N, 45°E; landlocked with Georgia in North (164 km); Iran (35 km) and Nakhichevan Exclave of Azerbaijan in South (211 km); Azerbaijan in East (566 km) and Turkey in West (268 km)
Area	29,743 sq. km (Forest 12.7 %, Water areas 5.6 %, Agricultural Lands 46.8 %, other lands 34.9 %)
Administrative & Territorial Division	(Total 11 Marzes or Regions) Yerevan, Aragatsotn, Ararat, Armaviv, Gegharkunik, Lory, Kotayk, Shirak, Syunik, Vajots Dzor, Tavush
Temperature	Average temperature January -6.8^0 C July +20.8^0 C
Population	3.2 million (as per 2001 census, March 2003 est. 3 mn), density 128 per square km; urban 66.7%, rural 33.3%, , Male 48 %, Female 52 % (3 adult males for every 4 females)
Religion	Predominantly Armenian Orthodox Apostolic Church (99%) based in Echmiadzin, headed by the Catholicos of All Armenians
Literacy	99%
Average Life Expectancy	73.5 years; Male (70), Female (76.1)
Government	**President**: Robert Kocharian **Speaker, National Assembly**: Artur Baghdasarin **Prime Minister**: Andranik Margarian **Foreign Minister**: Vartan Oskanian
Independence Day	September 21, 1991
Brief History	The process of evolution of Armenian civilisation dates back to the second millennium B.C. The Kingdom of Urartu (9th–7th c. B.C.) was the first major state formation. The Armenian plateau, located where Persia, Russia and Turkey have butted heads for centuries, has been invaded by Romans, Greeks, Turks, Persians, etc. By the 15th century, Armenia was part of the Ottomon Empire. Independent Republic of Armenia was proclaimed in August 1920, but in December 1920 became part of the Trans-Caucasian Soviet Socialist Republic. In 1991, Armenia declared independence and adopted its present Constitution in 1995.
Foreign Policy	Oriented towards Europe with strategic alliance with Russia. Seeks to maintain balance with USA. Blockade by Azerbaijan and Turkey over conflict in Nagorno Karabakh. The Organisation of Security and Cooperation in Europe (OSCE) - Minsk Group - active in finding solution. Member of the UN, CIS, Council of Europe, Black Sea Economic Co-operation and WTO. Seeks greater integration into the world economy. Has 'Observer' status in NAM. Foreign policy guided by reciprocal approach.
India -Armenia Relations	Historically warm and friendly. Huge goodwill for India. Dr S Radhakrishnan visited in September 1964 and Prime Minister Indira Gandhi in June 1976. After Armenia's independence, former President Levon Ter-Petrossyan visited India in December 1995. Treaty of Friendship and Co-operation and several other agreements and protocols. Institutionalised India-Armenia Inter-Governmental Commission and Foreign Office Consultations. Foreign Minister Vartan Oskanian visited India in December 2000. MOS (EA) visited Yerevan in July 2003 (first ever visit by Indian Minister). About 400 Indian students, mainly studying medicine. President Robert Kocharian visited in October 2003. We announced grant of US$ 5 mn
Real GDP Growth (2004)	10.1 % (2003= 13.9%)
GDP (2004)	US$ 3.8 bn
GDP per capita (2004)	US$ 1,100 (app)

GDP (Per Capita PPP)	US$ 3,500 (app)
GDP by main activity	Industry 28%, Agriculture 27%, Services 45%
Labour force by sector	Industry 25%, agriculture 45%. Services 30%
External Debt (net)	US$ 988.8 mn (2004) 95% soft loans
Exports (FOB) 2004	US$ 715 mn cut and polished diamonds, mineral products, foodstuffs, energy (Belgium 18.2%, UK 16.8%, Israel 15.7%, Russia 12.1%, Iran 7.9%, US 6.3%, Germany 5%)
Imports (CIF) 2004	US$ 1,351 mn natural gas, petroleum, tobacco products, foodstuffs, raw diamonds (Belgium 11.6%, Russia 11.6%, Israel 11.3%, US 9.5%, Iran 8.8%, Germany 6.7%, UAE 5.4%, Italy 4.7%, Ukraine 4.6%)
Unemployment	9.3% officially (actually closer to 40%)
Foreign trade Jan 2005	US$ 161 mn (Exp: US$ 45 mn, Imp: US$ 116 mn)
Inflation (2004)	7% (2003=8.6%)
Transportation	Railways 845km, highways 16,000 km
Industries	diamond-processing, metal-cutting machine tools, forging-pressing machines, electric motors, tires, knitted wear, hosiery, shoes, silk fabric, chemicals, trucks, instruments, microelectronics, jewellery manufacturing, software development, food processing, brandy
Armenia-India Trade:	US$ 8.67 mn (2004) mainly Indian exports of foodstuffs (essentially meat), electrical equipment, optical equipment, plastics, pharmaceuticals and other chemical goods. New items since 2003 include rice, sugar, cut and polished diamonds, and cars. Armenia exports metal scrap and raw rubber. Some Indian products come through Dubai/ Moscow.
The future	To promote India-Armenia trade and investment, the Embassy, has a special programme called RAIP (Revive and Introduce Programme) which seeks to revive every year at least one Soviet era export and introduce at least one new product or service. In 2003, the Mission revived meat exports and introduced sugar. In 2004, it was cut and polished diamonds and motor vehicles. In 2005, the project is for pharma and stones (especially marble). The Embassy has adopted a non-exclusive "four plus one" policy. The four sectors in which Armenia seeks India's assistance are small and medium industries, information technology, agriculture and light engineering, while the "plus one" is to encourage Indian companies to invest in export-oriented sectors in Armenia.

The Embassy of India has undertaken this survey to explore the market and investment opportunities for Indian companies in the Information Technology (IT) sector in the Republic of Armenia. The objectives of the survey are:

- **To get a better understanding of Armenian Information Technology sector.**
- **To examine possibility of access to the CIS IT market through the Armenian gateway.**
- **Sharing Indian IT experiences for the development of the Armenian IT sector.**

- **Identification of major Armenian IT players in the sector, their capacity, available infrastructure, availability of skilled labour, wage structure, available Human Resource Development facility in IT sector.**
- **Identification of the business environment and understanding the tax regime, foreign trade regulations, foreign investment regulations as well as major disincentive information business opportunities and legal imports**
- **Assessment for entry and opportunity for Indian IT players in the Human Resource Development, investments and possible joint ventures and Indian exports in IT sectors.**

Armenian IT sector – Background

Armenia's IT Industry is fast growing and quite promising.. Based on Armenia's history of advanced scientific research, its educated workforce and entrepreneurial spirit, Armenia's IT Industry is well positioned and promises to grow faster in the coming decade. It offers exciting opportunities for international investors, businesses and partners.

- **Tradition of Scientific Excellence:** Armenia was the "Silicon Valley" of the Soviet Union. This reputation was based primarily on the world class research produced by Armenia's academic and scientific community in the areas of physics and mathematics. During the Soviet Era, there were over 40 R&D centres in Armenia. Armenia continues to produce a high quality research in the areas of cosmic ray research and many other fields of science. This tradition of scientific research has led to the creation of a highly skilled and motivated technology sector.

- **Variety of Sectors:** Historically, Armenian companies have developed a range of high technology products, from hardware (e.g. minicomputers) to software development to electronics to semiconductors design and testing. Currently, the strongest areas of the technology sector are related to semiconductor design, test and production process optimisation, and software development.

- **Education:** Over 25 public and private higher education institutions are training engineers and technology leaders. The main universities - Yerevan State University, the State Engineering University of Armenia and the American University of Armenia -- all have growing computer science and engineering departments.

Current State of IT Sector

By 2004, the number of IT companies in Armenia reached 140, employing some 4,000 persons. Industry revenues for the years 1998-2004 grew at 30% and reached $42 million in 2004. Nearly two thirds of total industry revenues are accounted by some 25 foreign companies operating in Armenia. More than half of them have US ownership, while others are mostly Russian or European.

IT services and products are being exported to more than 20 countries (mainly to Armenian Diaspora owned entities) which is one of the signs of maturity reached by the industry. The largest share of export, 68%, goes to the US and Canada; the second largest market is Russia and CIS with 16%; third comes Europe with 10%. Domestic market constitutes $13.5 million and exports are more than $24 million, and both are dominated by the services segment. Local companies play major role in the local market, while foreign branches account for major share of exports. The domestic market remains small, though it showed positive growth during the last few years.

Armenian software companies involved in the provision of IT services have relatively high productivity compared to that of the US software services companies. Productivity of local and foreign firms in the services segment are 41% and 79% of that of the US services segments. The reason for the difference between local and foreign companies is that the local firms perform lower value services, and they lack brand name recognition. Contrary to the services segment, average productivity of packaged software companies is 17% of that of the US packaged software companies.

According to the report of Enterprise Incubator Foundation on Armenian Information Technology Sector, Armenian IT industry is capable of reaching revenues in the range of $300-400 million by 2010. So far, in 1998-2004, the industry has witnessed around 25% increase in workforce and around 5-7% rise in productivity, which resulted in nearly 30% industry growth.

2003 MAIN INDUSTRY INDICATORS

General Characteristics

Number of operating companies	110
Number of foreign companies	24
Growth in number of companies, 1998-2003	24%

Industry Revenues, million

Total turnover	$37.7
Turnover of local companies	$15.7
Turnover of foreign branches	$22.0
Average revenue per company	$0.34
Average revenue per local company	$0.18
Average revenue per foreign branch	$0.92
Domestic market	$13.5
Exports	$24.2
Packaged software	$11.9
Services	$25.8
Revenue growth, 1998-2003	30%

Productivity

Industry average compared with US industry average	28%
Local companies compared with US industry average	23%
Foreign branches compared with US industry average	43%
Packaged software compared with US packaged software	19%
Services compared with US services	54%

Human Resources

Total workforce	3,000
Technical professionals	2,100
Management and administrative	900

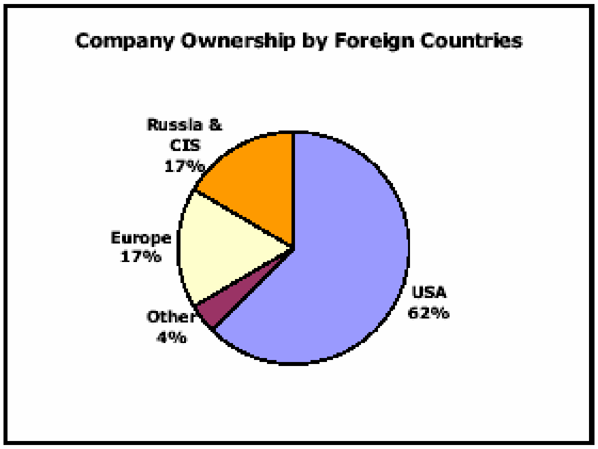
Workforce growth, 1998-2003	24%
Average number of employees per company	17
Average number of employees per local company	11
Average number of employees per foreign branch	35
Average annual salary range for experienced developers	\$3,600 - \$7,200
Number of students in IT related specialties	3,900

Present Scenario

IT is one of the fastest growing sectors of the Armenian economy, and the only one to be promised special treatment by the Government. A considerable part of the IT industry of the former USSR, with a large number of specialists, was concentrated in Armenia before 1990. Up to 1992, about 70 enterprises were operational in the IT sector. Armenian IT companies started full-fledged operations from 1996. With compound average annual increase of 15% (last three years) in this sector, at present around 280 IT companies (Software provision-75, Data processing electrical devices-35, IT services – 40, IT education –30, Internet provision- 35, IT devices-65) are working in this sector. 85% of these are private. Half of these companies are established within last five years. Most of the new companies are either newly created private organizations or recently privatized research institutions. Foreign companies tend to have software development and research centers. The average company size is around twenty-five employees while bigger companies employ 150 employees. Local companies adopt two major business development strategies: being an outsourcing location for software development or producing and marketing their own software products and services.

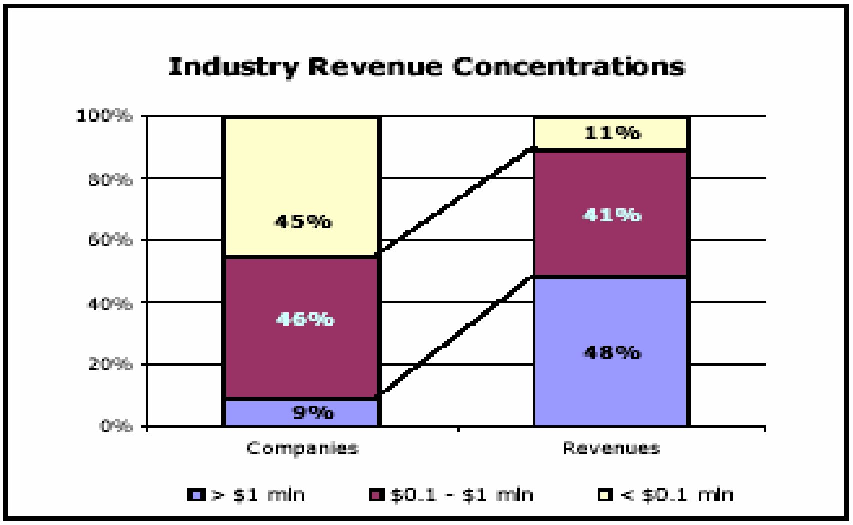
Company Ownership Geography

The number of foreign companies in Armenia is 24. More than half of these firms, such as Virage Logic, HPL Technologies, Epygi Technologies, and LEDA Design, have US ownership. Companies with Russian ownership are a recent phenomenon. In one case, a completely new company (ABM Soft, www.abmsoft.com) with Russian capital was established to conduct both business and technical functions locally. In another case, a Russian outsourcing company (VDI, www.vdiweb.com) established a development center in Armenia. There are also companies from Germany (Lycos Europe), Switzerland (Xalt, www.xalt.com), United Arab Emirates (Systrotech, www.systrotech.am), and other countries.

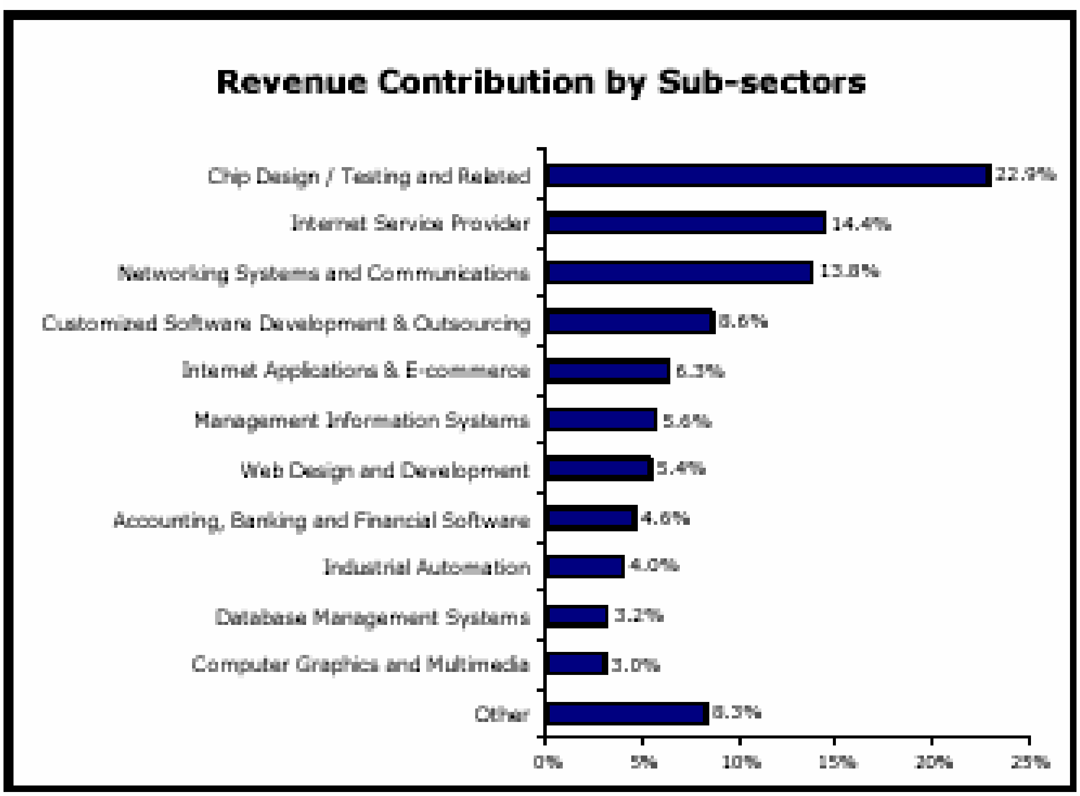


Industry Revenues

In 2004, Armenian IT sector generated around $40 million, which corresponds to nearly 30% growth during 1998-2004. Foreign companies accounted for nearly two thirds of the industry turnover or $22 million. Average revenue per company was $340,000; it was $920,000 and $180,000 per foreign branch and per local company respectively. Ten largest companies, which constitute only 9% of the total number of firms, generated 48% of all revenues; 55% of companies generated 89% of revenues.

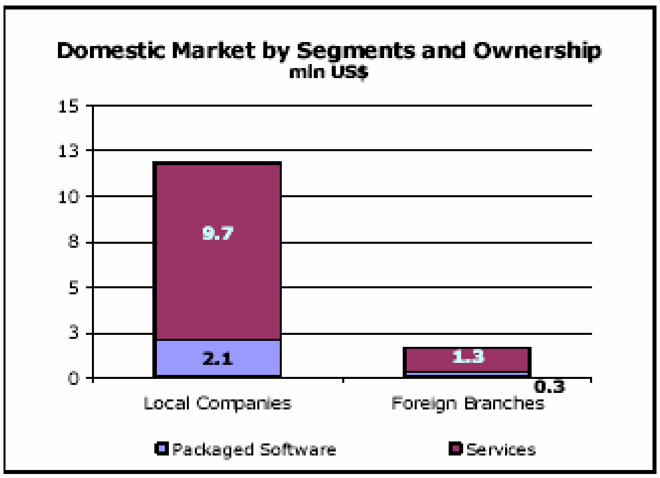


Although only eight companies are specialized in chip design, testing and related areas, the revenue generated by this sector is nearly a quarter of the whole industry turnover. Other major revenue generating sectors are ISPs, networking systems and communications, and customized software development.



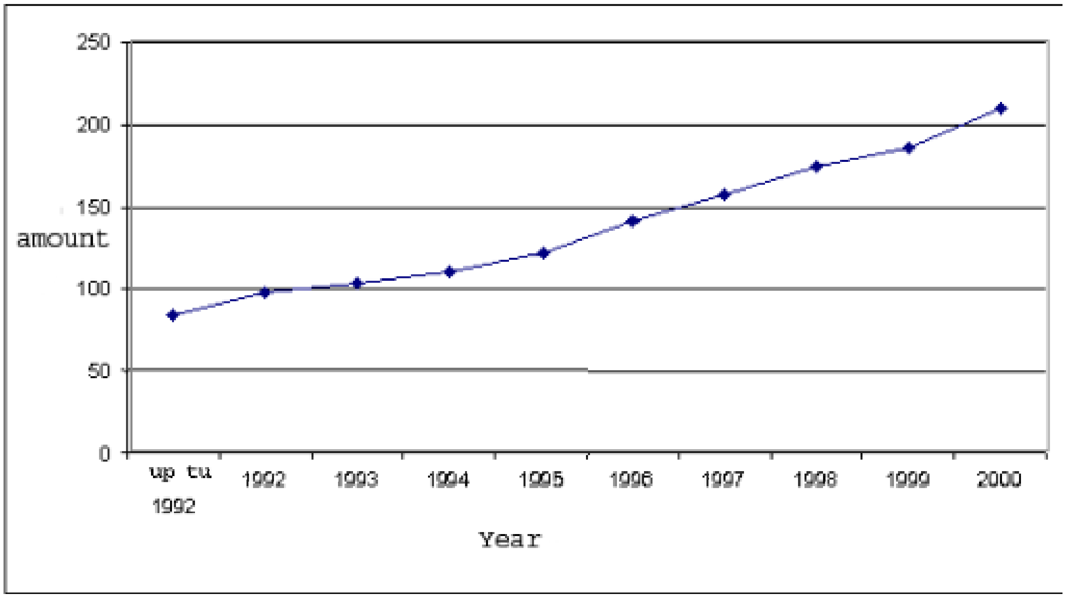
Domestic Market

The local market for packaged software is quite small, constituting around $2.5 million or 7% of all industry revenues. Total sales of foreign branches in the domestic market are $1.6 million and are generated mostly from services. Services segment dominates the domestic market: 82% of the revenues of the locally owned companies from the domestic sales are generated from IT services; it is 80% for foreign branches.



The small size of the domestic market is the result of low demand for software and IT services from businesses and the Government. A number of factors are responsible for this low demand including low employee wages, high software piracy rates, little or no understanding of the need for productivity enhancement tools, financial constraints, and other factors. Because of the low domestic demand, there is no inducement for Armenian IT companies to develop packaged software or offer new and higher quality services. The majority of the software packages sold on the domestic market include accounting and financial software for large enterprises and banks. Other products and services with the largest demand include enterprise resource planning solutions, e-commerce, web development services, tools for healthcare industry, and distance learning programs.

IT enterprises' establishment dynamics



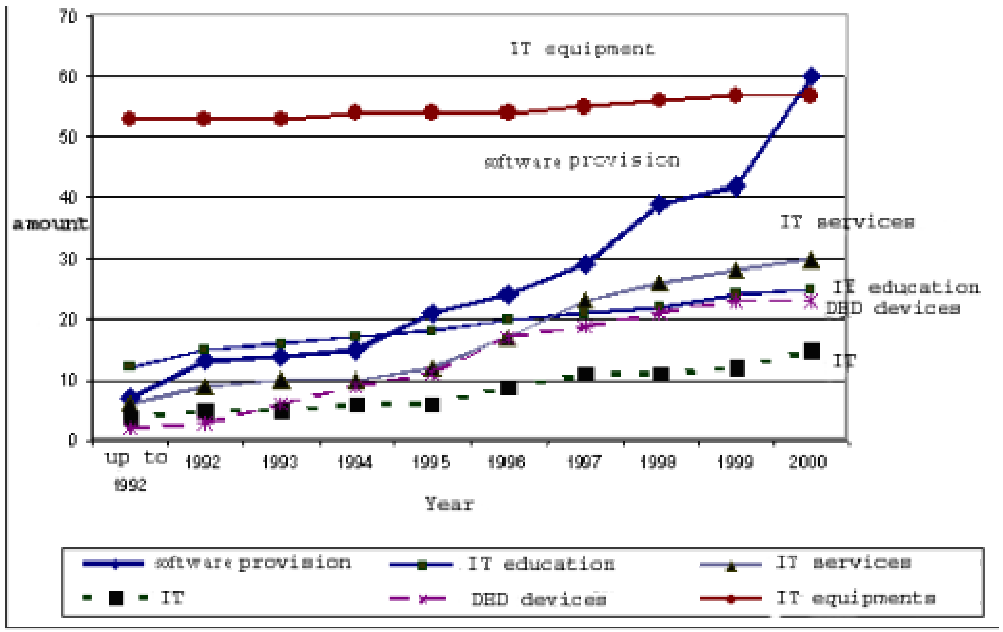
- During 1996-2001 about US$ 25mn was invested in the IT sector. The orders of software are mainly from the Russia, USA (about 30% each of them), Great Britain (13%), and Germany (10%). The number of employees in the sphere of IT is about 4,000, the major part is computer programmers, computer analysts, computer scientists and specialists of computer devices.

- Higher educational system of Armenia yearly generates 200-300 qualified specialists of IT sphere, too little for rapid growth. There are presently about 3,000 specialists in Armenia with high qualifications. Armenian IT sector generated an estimated US$ 300mn in 2001.

- **Software Development:** Software development companies are the largest employers in the IT sector. The software industry employs basically software programmers, systems engineers and hardware specialists.

- **Foreign Investment in IT and Software Industry:** 40 companies owned or backed by foreign firms (26 are US-based), including a U.S. funded incubator headquartered in Silicon Valley.

IT enterprises as per the subdivisions.



- **Government Support:** The Armenian government has recognized Information Technology as a priority sector, and has shown, in theory, a willingness to develop policies and regulations to facilitate foreign investment and the growth of the IT industry. Armenia seeks to position itself as a provider of IT enabled services in niche areas for the CIS region. Its export potential limited by its landlocked condition, Armenia desires to become an IT hub for the Caucasus region and has declared IT as a priority sector. Armenia seeks India's assistance for IT development. It created an IT Development Support Council in July 2001, chaired by the Prime Minister. It established its first ever "Via-sphere" Techno park in 2001.

- The major specializations in Armenian IT sector include embedded systems and semiconductor design and testing, custom software development, multimedia designing, web-designing and development and Internet applications. Many companies are involved in the development of management information system (MIS) accounting, industrial automaton solutions, security and encryption, educational software development, artificial intelligence, computer aided design (CAD) and system integration.

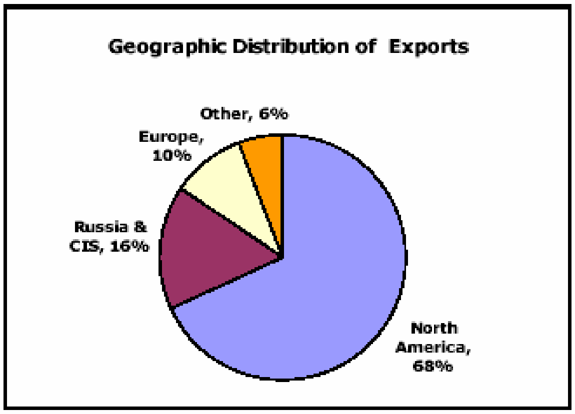
- **Foreign companies:** Armenia has succeeded in attracting some Foreign Direct Investment in the software industry. A number of foreign companies established their branches at Yerevan in recent years e.g. Virage Logic International Corporation, Leda Holding, Lycos Europe, HPLA LLC, and several Silicon Valley-based companies are operating here. These companies have experience with stand-alone applications as well as client-server and net centric applications. They also employ various modern software development methodologies and programming techniques.

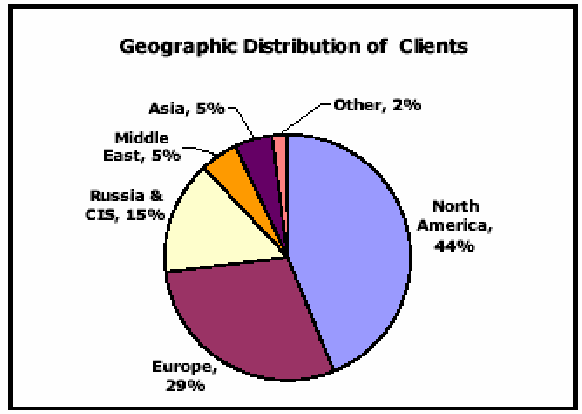
- **Armenia- software Exports:** Armenia exports software to more than 20 countries. Its major markets for IT industry products are the US, Europe, Russia and other countries. Some products are also exported to the Middle East. Around 80% of IT sector production is exported. Foreign companies export more than 95% of their sales and account for a large part of Armenia's exports. However, indigenous IT companies are also becoming increasingly export-oriented, looking for new opportunities to sell products or services abroad. About 60% of those are exporting their products or services. The Armenian IT firms are working with mostly current programming languages including Visual C, C++, Visual Basic, Java, SQL Server, Oracle, and Power Builder.

Exports

Armenian IT industry exports $24.2 million of products and services to more than 20 countries. The largest share of exports, 68%, goes to the United States and

Canada; the second largest market is Russia and CIS with 16%; third comes Europe with 10%. However, Europe is second to North America by the number of clients.



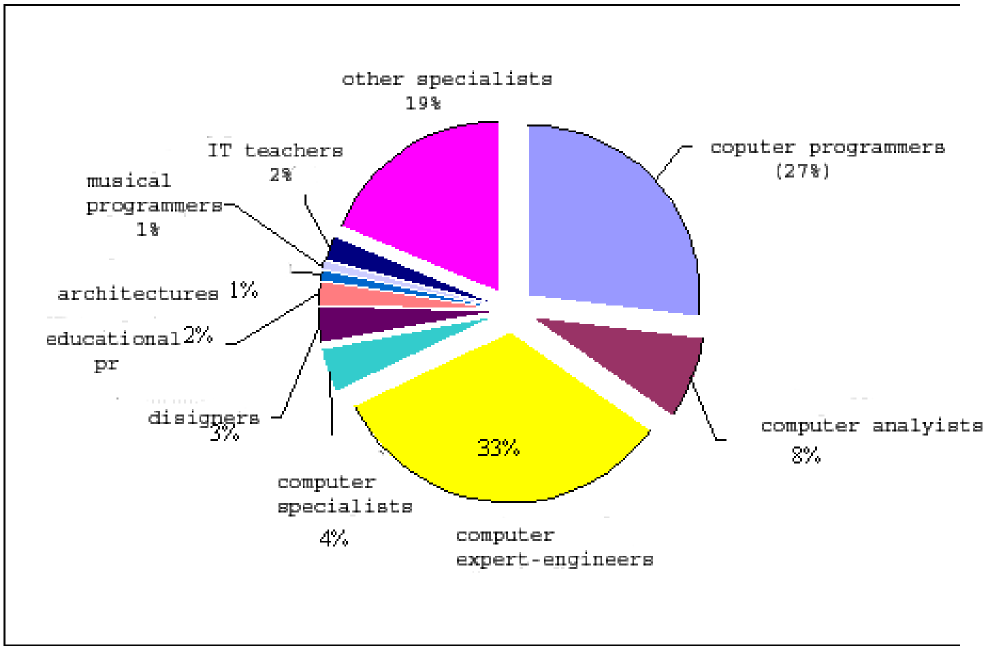


Nearly 65% of IT companies are exporting their products or services. The largest part of exports or 61% are attributed to services, while the remaining is packaged software. Foreign companies export more than 90% of their sales and account for the largest part of Armenia's IT exports. Local companies produce 16% of the exports or $3.8 million, while foreign branches produce 84% or $20.3 million.

- Intense business pressure has developed due to steady economic growth, a competitive environment, and a demand for higher productivity and a need for real-time information. Many seek IT solutions to address these demands. Business and not-for-profit organizations are doing increasingly larger investments into software and IT solutions. The products with the largest demand by local companies are:

    1. Enterprise resource planning system
    2. Financial, accounting, payroll, sales, logistics, warehouse and analysis applications
    3. Public administration systems
    4. Banking applications
    5. E-commerce / web development services.

The demand of IT specialists.



Future Prospects and recommendations

The Armenian IT sector will continue its development and growth in the following years based on a combination of different factors and advantages:

- A high qualified workforce at a comparatively cheap prices,
- Entrepreneurial spirit of Armenian Businessmen,
- Armenian Government's support to the IT sector,
- Thanks to economic reforms, Armenia's has average GDP growth of 8% per year (since 1999) with inflation below 4 percent, except 8.6% in 2003 (owing 30% rise in bread prices that constitute 18% of consumer basket). Last three years Armenia had double digit GDP growth. In 2003, Armenia had an impressive 13.9% GDP growth (twice the CIS average).
- Minimal investments for this sector and the transportation cost of the product is very low,
- Armenian software specialists have a good reputation.

- Traditional strong R&D capabilities enabling Armenian specialists not only to work on writing code but also to solve complex scientific and business problems.
- The Armenian Diaspora businessmen (especially those based in the US) have invested in the IT sector. They have the potential to bring more IT business to their country

A MoU on cooperation in Information Technology signed during the Armenian President's visit in October 2003 provides the framework for bilateral cooperation in this sector. The Mission has given priority to IT sector in its "Four plus One" strategy. Several Armenian candidates participate in IT training courses in India under Indian Technical and Economical Cooperation (ITEC) Programme. Some Armenian companies are in touch with Indian IT companies. Additional Secretary, Ministry of Communications and Information Technology visited Armenia (privately) in April 2004 and during informal meetings Armenian side expressed great interest in a Centre for Excellence in Information Technology with Indian assistance.

Armenia looks towards the giant Indian IT sector to seek its experiences and get investments. Many Armenian companies seek to work jointly with Indian IT companies. There is a lot of scope for the entry of Indian IT industries in the CIS market using the Armenian gateway. The experience of Indian IT sector in the development of Software Technology Parks (STP) and human resource potential especially in the IT enabled services can be shared with the Armenian IT sector.

Tax Regime

1. Customs Duties

Customs Duties are levied on all legal and natural entities importing goods to Armenia. Customs duty is either 0% or 10% depending on the item. Customs duty for raw materials is 0%.

2. Value Added Tax (VAT)

Value Added tax (VAT) applies to all legal and natural entities. VAT rates for the realization of goods (works, services, etc.) are levied at a standard rate of 20%.

According to the Law of the Republic of Armenia "On Value Added Tax", dated May 14, 1997(and addition December 14, 2001), two rates 0% and 20% of value added tax is decided for goods and services subject to tax.

In the case of import the 20 % value added tax is charged except the cases provided by the legislation.

VAT is calculated and is charged on the border of the Republic of Armenia by customs bodies.

According to the Law of the Republic of Armenia dated June 29, 2001 few enlisted imported goods for which subjected to 0% customs tariff rate and 0% VAT are not charged on the border of the Republic of Armenia by customs bodies.

VAT 0% is imposed on goods exported from the customs border of the Republic of Armenia.

In accordance with law, VAT amounts, paid for the export of goods and services, are to be compensated.

3. Excise Tax

The Law of the Republic of Armenia "On Excise Tax" dated July 7, 2000 (and addition December 14, 2001) establishes the list of sub excise goods, excise tax rates for produced and imported goods, payment order and conditions for excise tax holidays.

Foreign Trade Regulations

Trade Regime

Foreign trade of the Republic of Armenia is regulated by a regime, established by the legislation and normative acts, as well as by bilateral and multilateral inter-state, inter-governmental agreements of the Republic of Armenia.

The Republic of Armenia signed agreements on free trade with Russian Federation, Ukraine, Turkmenistan, Georgia, Moldova, Belarus, Kazakhstan, Tajikistan and Kyrgyzstan. These agreements envisage exemption from custom tariffs and taxes. Some products defined by protocols are excluded from Free Trade Regime.

The Republic of Armenia signed agreements on Most Favorable National (MFN) Regime with European Union, USA, Argentina, Bulgaria, Qatar, Latvia, Lithuania, Iran, India, Egypt, Israel, KPDR, Slovakia, Estonia, UAE, Canada, China, Cuprous, Hungary, Lebanon, Poland, Romania, Syria, Switzerland, and Vietnam.

The trade regimes with other countries are regulated by inter-state agreements on trade and economic cooperation.

Re-export

Re-export of goods of CIS countries is made only by permission of authorized bodies of the country of origin (of the products). The Ministry of trade and economic development of the Republic of Armenia authorizes re-export to third countries. This Ministry decides tariff and non-tariff restrictions for re-export of the goods.

Transit

Goods in transit via territory of the Republic of Armenia are not subject to taxes or tariffs.

Constraints

Even though an ill-advised 15 year monopoly granted in 1998 to Geek-owned Armentel Company for telecom services was modified in 2004 to permit one more player in mobile telecommunications (likely to come later this year), Armentel seriously constrains the development of bandwidth and IT-enabled services. Its tariffs are very high, compounded by high taxes on imported equipment and profits. There are less than 10 ISP in the market, all dependent on Armentel's landlines as the introduction of wireless Internet access has been delayed owing to access charge disputes. The quick turnover of Armenia's limited IT specialists (loyalties depend on salaries offered and the entry of foreign players has affected the demand-supply ratio) is another hurdle.

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