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OPPORTUNITIES IN MEXICO:  
SOFTWARE PRODUCTS  
AND COMPUTER SERVICES



 Department of Foreign Affairs and International Trade  
Ministère des Affaires étrangères et du Commerce International  
Latin America & Caribbean Branch



M A R K E T P R O F I L E - M E X I C O

## Market Profile – Mexico

**Opportunities in Mexico: Software Products and Computer Services** was developed jointly by the Department of Foreign Affairs and International Trade (DFAIT) and Prospectus Inc. This market profile was made possible through the support of the Toronto office of Baker & McKenzie.

This business guide is designed to provide an overview of the market for **software products and computer services** in Mexico. Although efforts have been made to avoid errors and inaccuracies in this document, it is not intended to be used as the only source of market information on this sector. We encourage the reader to use this publication as one of several resources for commercial dealings with Mexico.

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# OPPORTUNITIES IN MEXICO:

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## SOFTWARE PRODUCTS AND COMPUTER SERVICES

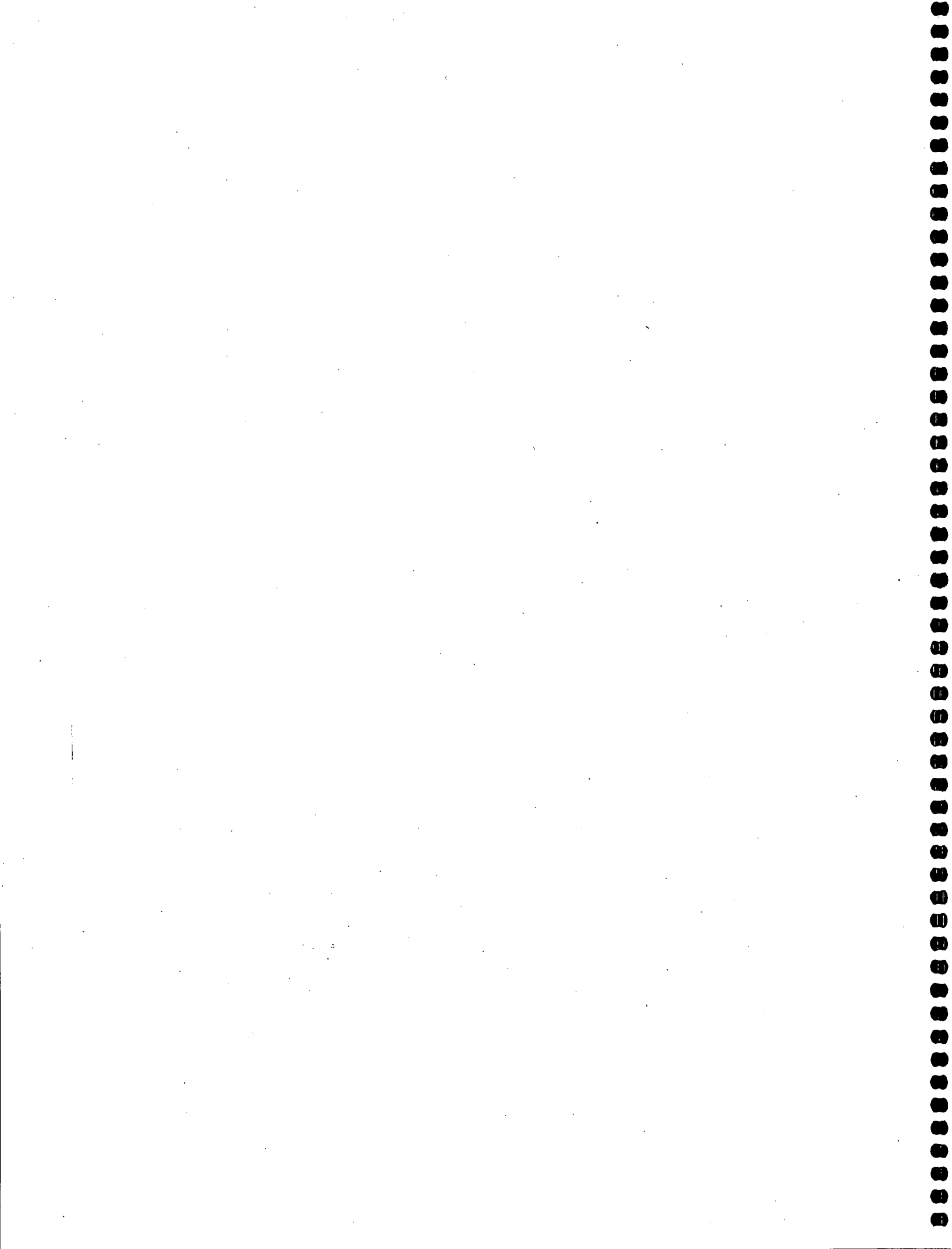
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With more than fifty offices in 27 countries, Baker & McKenzie is the largest law firm in the world. In Mexico, the firm has had a very significant presence since 1961. In Mexico City, the firm operates locally under the name *Bufete Sepulveda* and in all other locations in Mexico the firm is known as Baker & McKenzie. The firm currently has offices in the cities of Juárez, Mexico City, Monterrey, and Tijuana, with expansion plans to the other growing industrial regions in Mexico. A substantial percentage of all foreign companies establishing operations in the *maquiladora* regions have retained the services of Baker & McKenzie to assist them in all aspects of their endeavours in this regard.

The lawyers of the firm combine expertise in Mexican law with an understanding of the business environment and governmental process in Mexico. The firm enjoys an excellent reputation in business and government circles as one of the leading Mexican firms dealing with international and domestic business transactions. The lawyers from the four Mexican offices regularly meet with their Canadian counterparts to discuss coordination of business activities in the North American context and to encourage trade and investment activities between Canada and Mexico. Partners of the Mexican offices serve on a number of domestic and international bodies as representatives of both national business organizations and the Mexican government. Partners of the Mexican offices regularly advise the Mexican government on international business matters including the recent NAFTA negotiations.

The Toronto office, in existence since 1962, is an integral part of the North American practice of the firm which includes nine offices in the United States and four in Mexico.

The areas of firm's expertise in Canada and Mexico include:

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- Corporate and Commercial
- Customs
- Environmental Law
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- Health Law
- Immigration
- Intellectual Property
- International Trade
- Labour and Employment Law
- Real Estate, Tax and Transportation
- Tax Law

The Baker & McKenzie offices in Canada and Mexico work to assist Canadian companies to find the right partner to enable them to establish or expand business activities in Mexico. Whether a company's objective is to raise capital, establish a joint venture or strategic alliance, or begin exporting to the Mexican market, Baker & McKenzie offers a coordinated approach to ably facilitate entry to the Mexican market.



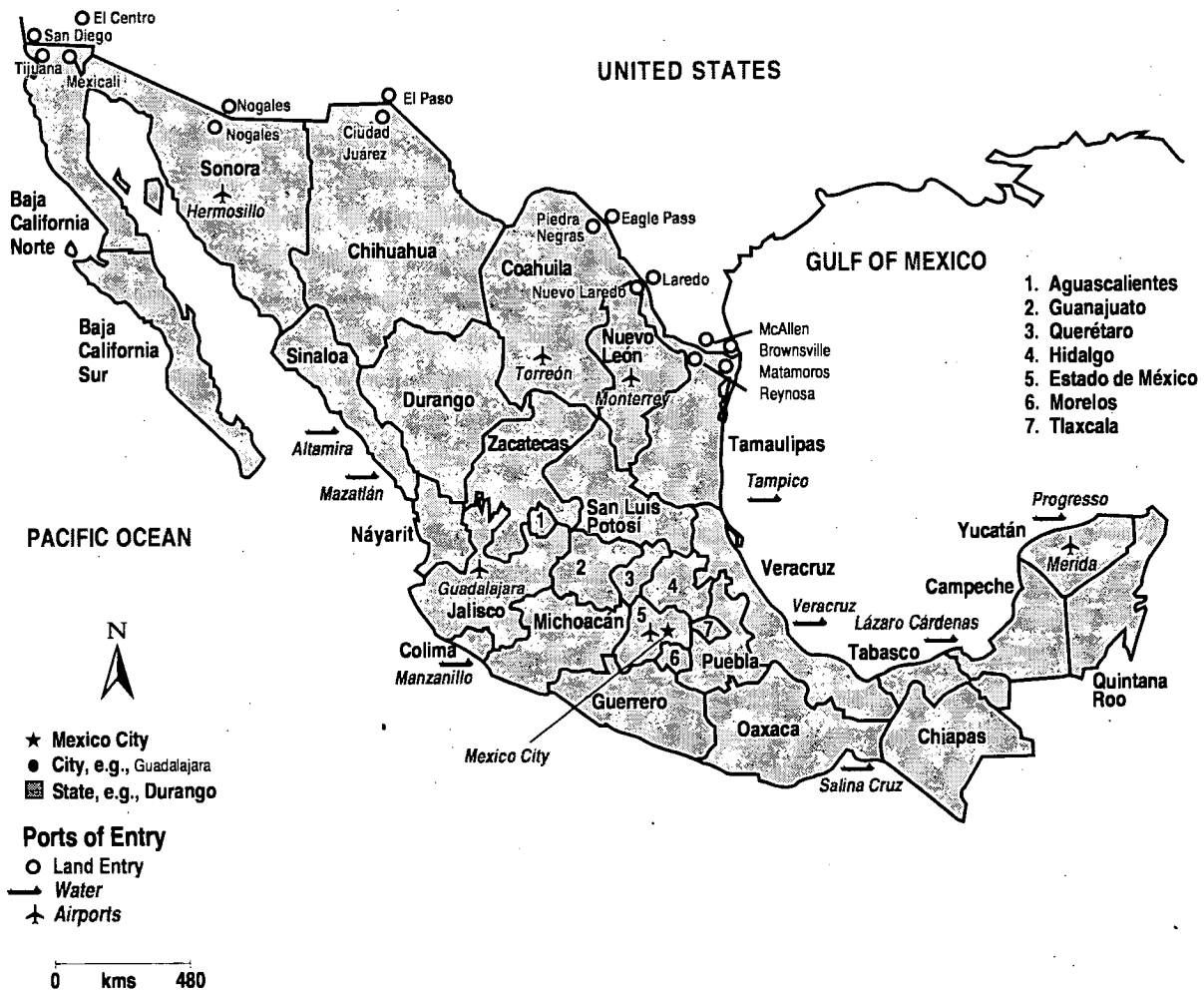
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# Mexico



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The NAFTA expands Canada's free-trade area of 270 million people into a market of 360 million — a market larger than the population of the 15 countries of the European Union and one with a total North American output of \$7 trillion.

Mexico is Canada's most important trading partner in Latin America. Two-way merchandise trade with Mexico exceeded \$5.5 billion in 1994 and is expected to exceed \$7 billion by the end of the decade.

Canadian direct investment in Mexico is growing rapidly, increasing from \$452 million in 1992 to over \$1.2 billion in 1994.

This guide has been prepared with the problems inherent to the new exporter in mind. However, it is not exhaustive. The differing circumstances, interests and needs of individual companies will influence their strategies for the Mexican market.

Further assistance can be obtained by addressing requests to:

the provincial International Trade Centres (see Where To Get Help) or contact the InfoCentre at:

Tel: 1-800-267-8376 or (613) 944-4000  
 Fax: (613) 996-9709  
 FaxLink: (613) 944-4500

InfoCentre Bulletin Board (IBB):  
 1-800-628-1581 or (613) 944-1581

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## OPENING UP TO HIGH TECHNOLOGY

*The Mexican computer sector has been transformed by a dramatic shift from extreme protectionism to an open, competitive market.*

The computer sector is one of the most rapidly growing elements of the Mexican economy. Beginning in the late 1980s, the government implemented a series of sweeping economic reforms that included the trade liberalization and privatization of public enterprises. Mexican companies were forced to modernize to stay competitive as foreign suppliers moved into their formerly-protected markets. Since purchases of high technology equipment had been severely limited by an import permit system, the effect of these reforms on computer markets was particularly dramatic.

Opportunities for foreign suppliers are especially attractive because the domestic computer industry is poorly developed and the nation has little investment in old technology to slow the pace of modernization. For example, in 1992 Mexico had only about 15 computers for every 1,000 inhabitants. This compared with 150 in Canada and 250 in the United States.

Policies of self-sufficiency had been in place for decades before small computers emerged as a business tool, but the Mexican government was quick to include them under its protectionist umbrella. In 1981, the first of two decrees governing the computer industry was issued. It specified that all computer suppliers had to maintain local manufacturing facilities. A second decree in 1987 increased the local content required and imposed import permits for all computer equipment.

These restrictions were intended to foster the development of a domestic computer industry. This policy succeeded in encouraging some local production, mostly by IBM. But the ultimate result was that Mexican producers in other industries were deprived of the technology they needed to compete in world markets.

In April 1990, the computer decrees were rescinded and foreign computer manufacturers were allowed to supply the Mexican market solely through imports. Although the decrees applied only to hardware, their removal has had a strong effect on the demand for software and computer services. The availability of cheaper, more sophisticated equipment has tended to foster new and more elaborate applications.

According to estimates published by the *Instituto Nacional de Estadística, Geografía e Informática (INEGI)*, National Institute for Statistics, Geography and Informatics, Mexican computer sales jumped by 20 percent between 1993 and 1994 to reach US \$3.4 billion. The devaluation of the peso in December 1994 depressed hardware sales during 1995 and most experts are predicting that they will not recover to 1994 levels for two years. Software and service sales, however, are likely to continue to benefit from strong 1994 hardware sales.

*INEGI* has actively promoted the use of computers in both the public and private sectors. In 1993, the *Grupo Consultivo de Política Informática*, Computing Policy Consultation Group, was formed, with the goal of developing a National Computing Development Plan. That plan is now being implemented. So far, it has been oriented primarily towards modernizing the internal workings of the public service. A series of new policies will promote the expansion of computer technology in the private sector.

## THE COMPUTER INDUSTRY

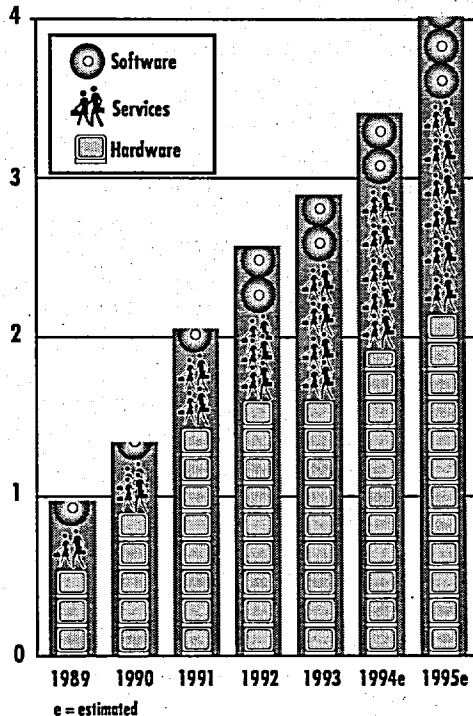
*The number of personal computers in Mexico surged by 37 percent in 1994. In spite of the economic crisis, new spending on software and services will be needed to get the most out of this investment.*

The Mexican market for computer software and services has grown rapidly as the installed computer base continues to expand. The elimination of import permits in 1990, and the subsequent reduction of tariffs had a dramatic effect on the market. Sales of computer technology exploded by 43 percent in 1990 and another 49 percent the following year. Even during the economic slowdown of 1993, sales of computer hardware, software and services rose by 10 percent. Hardware sales virtually halted in late December 1994 when the peso was suddenly devalued. Nonetheless, prospects for software and services are still considered good.

A large variety of hardware became available for the first time, and prices fell substantially as the market grew. This stimulated demand for software and services. The national producers of hardware and software reacted to these changes in different ways. Some big international hardware companies rearranged their product lines to focus on international markets. Some ceased local production altogether. Some strictly national producers have reoriented their production towards niches where they are competitive. Others have forged alliances with foreign companies to develop new capabilities. Still others shut down their production facilities and concentrated on distributing the newly-available imported brands.

## THE MEXICAN COMPUTER MARKET

US \$ Billions



Source: Instituto Nacional de Estadística, Geografía e Informática (INEGI), National Institute for Statistics, Geography and Informatics.

According to the *Instituto Nacional de Estadística, Geografía e Informática (INEGI)*, National Institute for Statistics, Geography and Informatics, the number of personal computers in use grew by 37 percent in 1994, to reach 2.2 million units. Computer literacy has grown as a result of computer-related courses in the universities, schools and private training providers. Several major computer magazines are now available in Mexico.

Foreign software companies account for close to three-quarters of the market. Most of the leading software packages are available in Mexico, including those for personal computers, workstations and larger computers. Aggressive competition has led to falling prices. Expressed in American dollars, many prices have fallen even further since the devaluation of the peso. American companies dominate the import market, partly because the U.S. provides about two-thirds of the computer equipment used in Mexico.

There are almost 500 software developers in Mexico, of which 130 are members of the *Asociación Nacional de la Industria de Programas para Computadoras (ANIPCO)*, National Association of the Computer Programming Industry.

Privatization has been an important force driving the increased use of computers. Relative to private industry, government agencies are large users of computer technology. In absolute terms, however, they are very unsophisticated. Newly privatized government enterprises therefore have a strong need to upgrade to international standards. A good example is *Teléfonos de México (TELMEX)*, the national telephone company. It has made massive investments in new electronic technology since its privatization.

The North American Free Trade Agreement (NAFTA) further liberalized the trade environment and made industrial modernization even more imperative. Import duties on software were removed and intellectual property laws were strengthened. The Mexican government also launched an anti-piracy campaign.

According to estimates published by *INEGI*, the overall Mexican computer market in 1994 was worth US \$3.4 billion. Of this, about 54 percent was hardware, 32 percent was services and 14 percent was software. Prior to the devaluation of the peso, *INEGI* was projecting 20 percent growth in the computer market for 1995.

More than two-thirds of sales of computer products to final users take place in Mexico City. Monterrey accounts for more than 10 percent of the market followed by Guadalajara with more than 6 percent.

There are about 130 registered software companies, 85 percent of which are located in Mexico City. There are five types of software suppliers:

- local software development companies;
- representatives of foreign packaged-software companies;
- companies that offer both their own products and imported software;
- companies that customize and adapt foreign software for Mexican customers; and
- hardware manufacturers, which sell software for their own equipment.

As the market grows and becomes more sophisticated, the tendency will be towards a concentration of the industry into a smaller number of firms. The surviving companies will be those with a solid presence in Mexico and the ability to provide reliable service and support.

The computer industry is constantly evolving and is not readily divided into subsectors. Three major specialities are discussed in this profile, because they present particularly promising opportunities. Industrial automation is the most dynamic segment in the private sector. In the public sector, there is an ongoing need for all kinds of large-scale databases, but geographical information systems (GIS) are especially promising. Although it is a more mature market segment, office automation is a continuing source of sales for computer technology suppliers. For the most part, the home computer market in Mexico is not yet sufficiently developed to warrant special emphasis.

## THE INDUSTRIAL AUTOMATION SUBSECTOR

*Until Mexico's economy re-stabilizes, low-cost solutions that employ high-end PC hardware and show fast results will be the best prospects for industrial automation.*

The market for industrial automation has grown rapidly over the past few years, as Mexican companies struggle to modernize and maintain their competitive position. Traditionally, low labour costs and protected markets led to a labour-intensive approach to design and production control. Recently, however, the influx of foreign competition and the need to export has added product quality and consistency to increased efficiency as reasons for automating. The high cost of capital is driving efforts to minimize inventory and streamline distribution. As the technology has evolved, it has become less expensive, more powerful and, therefore, more competitive.

For all of these reasons, industry experts predict that the market will continue to grow at a healthy rate in the medium term, even though the economic crisis has drastically cut into the very rapid expansion of the past few years. They note that it is mainly the larger firms that are buying advanced systems. Small companies are not investing and many will not survive the current economic crisis.

The devaluation of the peso in December 1994 has dramatically increased the cost of capital, which was scarce even before the crisis. This has forced many companies to look for quick solutions. Normally, the automation of a plant is a long-term investment. But in today's economic environment, companies are worried about survival. Consequently, they have much shorter planning horizons.

Typically Mexican firms begin to automate by purchasing financial or communications functions and then gradually move towards manufacturing elements. Mexican companies have generally been slow to understand the competitive advantage to be gained from automating the manufacturing process itself. Before the economic restructuring of the late 1980s, new technology was applied mainly at the sales, distribution and administrative levels. As one observer put it, this happens because top managers are usually most interested in financial solutions.

In many cases, advanced automation systems are implemented at the request of a manufacturer's customers. Ford, for example, requires suppliers to have computerized design systems because it allows the electronic exchange of designs. Advanced systems are also necessary for just-in-time (JIT) delivery, which is increasingly demanded by customers. For example, Vanity Fair Mills and Xerox have both recently implemented JIT in Mexico. According to

published reports, this has been difficult to achieve in the Mexican environment due to language barriers, a slower-paced work environment and other obstacles. Nonetheless, it is now almost impossible to be a supplier to the large multinational manufacturers without the new computer assisted design (CAD) or computer assisted manufacturing (CAM) technologies. This is also true for Mexican firms wishing to export.

Many Mexican manufacturers are not capable of adopting these new technologies because in the short term they usually create more problems than they solve. One manufacturer reported that it took three years to see the financial benefits from its investment, although it quickly gained a better image as a state-of-the-art supplier. For some companies, the desire to improve their image and appear modern for marketing reasons is the primary motivation for acquiring advanced automation technologies.

All of the experts interviewed for this study believe that the industrial automation market will continue to be dominated by imports. There are a few local companies that provide specific solutions for personal computers (PCs) for small companies. But there are no local firms with the resources to provide integrated solutions to the large firms. It was noted that there would have to be a major technological change to enable small solution developers to provide competitive alternatives. Some observers believe that import penetration will rise as foreign service providers, such as systems integrators and trainers, begin entering the Mexican market.

A separate market profile is available which describes the Mexican industrial automation market in detail.

## THE GEOMATICS SUBSECTOR

*About 80 percent of Mexico's geographic information is out of date. Large-scale databases of digitalized information will be needed for Mexico to complete its transformation into an industrialized nation.*

The efforts of the Mexican government to modernize the economy and compete on a world level have been severely hampered by a lack of geographic, demographic and cadastral information. This is leading to increased emphasis in government programs towards the collection and distribution of this type of information.

Cadastral surveys are those that identify every discrete plot of land by owner. They are used primarily for land-use zoning and property taxation purposes. A cadastre is a public register of real property. The lack of adequate municipal cadastral data means that only a very small proportion of property taxes in Mexico are ever collected.

To compound the problem, almost 80 percent of the geographic information held by the *Instituto Nacional de Estadística, Geografía e Informática (INEGI)*, National Institute for Statistics, Geography and Informatics, is considered out of date. This creates major problems for the *Secretaría de Desarrollo Social (SEDESOL)*, Secretariat of Social Development, which is the largest user of geographic, demographic and cadastral information. To fill the information gap, *SEDESOL* has embarked on a massive program to completely re-map all of the cities included in the *Programa de las 100 Ciudades*, the 100 Medium Cities Program. The *Banco Nacional de Obras y Servicios Públicos (BANOBRAS)*, National Bank for Construction and Public Works, contributes half of the funds. Under that program alone, approximately US \$200 million will be spent by states and municipalities on cadastral projects by 1997.

The Mexican geomatics industry is underdeveloped, and lacks the capability and capacity to undertake all of this work. While the number of companies in the industry has grown, only a few of them have the expertise and technology to bid on government tenders for integrated projects. While aerial mapping and surveying are prerequisites for any geomatics system, computer systems are essential for the assembly of the resulting data in a retrievable form.

Canadian firms have the advantage that *INEGI* has agreed to adopt Canadian industry standards for cadastral services. Only about half of the municipalities involved in the regional development plan have digitalized data of any kind, so there is a substantial opportunity.

The Mexican geomatics industry has grown significantly over the past few years, and now consists of almost 50 companies. Seven companies dominate the municipal cadastral industry. The largest of these, *Sistemas de Información Geográfica (SIGSA)*, has 300 employees, and is widely regarded as the industry leader.

The market is segmented mainly by the level of product integration. No more than eight Mexican companies have the ability to provide a total package. For this reason, the market is characterized by a large amount of subcontracting. The largest companies also offer software packages to clients. In most cases, they are exclusive suppliers of particular packages, which are mostly imported.

The state and municipal markets constitute the largest market component by far. They are oriented towards cadastral surveys and have traditionally required relatively low levels of technology and service integration. Nonetheless, sophisticated methods and materials are beginning to find applications in this field. Federal government agencies are also important customers. Their needs are mainly for large databases.

Relatively complex offerings are normally required by state enterprises such as *Petróleos Mexicanos (PEMEX)*, the national oil company, and the *Comisión Federal de Electricidad (CFE)*, Federal Electricity Commission. They need finely tuned information systems to support strategic and logistic planning.

The most popular software package is ARC-INFO. Standard Queries Language (SQL) is also widely used to develop applications. A Spanish-made package, distributed by *Estudios Topográficos de México (ESTOMSA)*, has also been successful. *Digitalización y Cartografía Urbana (DICARTU)* is the only Mexican company that markets its own GIS package, under the name of AUDOS. Another company, *Sistemas Ortofotogramétricos Ingeniería Aplicada (SOFIA)*, is reportedly developing another Mexican software package.

The sharp devaluation of the peso in December 1994 caused a large decrease in purchasing power for all buyers of imported products. Government purchases will be cut back even further as a result of budget reductions associated with the recovery plan.

Nonetheless, officials of *BANOBRAS* said in mid-1995 that the bank still has funds for cadastral update projects. Ten new projects were approved by *BANOBRAS* in the first quarter of 1995 alone. But other geographical information systems (GIS) projects are expected to be put on hold until the economic situation stabilizes. Most observers believe that a settling period of several months will be needed.

There are, however, some positive effects from the economic crisis. First, governments will be forced to spend more carefully. Increased use of GIS is one likely outcome. Second, GIS will be used increasingly in the private sector as a planning and management tool. Imports will continue to dominate this market, because the economic crisis will make it even more difficult for Mexican companies to develop advanced capabilities on their own.

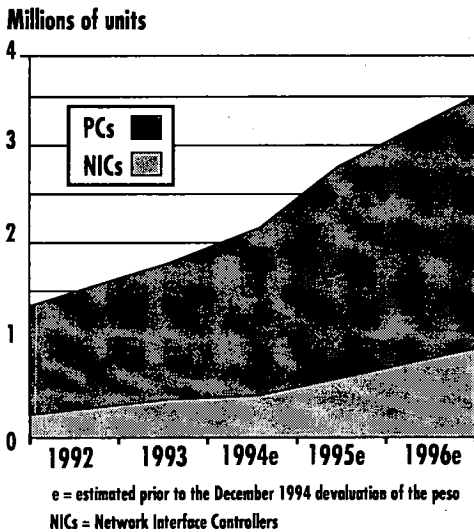
The first year of the new administration has been devoted mainly to defining priorities and positioning for the future. For Canadian companies with a medium-term perspective, there are still excellent prospects in the Mexican GIS market. But success will depend on their ability to evaluate emerging needs and develop marketing and delivery systems.

A separate market profile is available describing the Mexican geomatics market in detail.



# THE OFFICE AUTOMATION SUBSECTOR

## MICROCOMPUTERS IN MEXICO



Source: Servicios de Estrategia en Electrónica.

*Personal computers and local area networks have revolutionized office automation in Mexico. Word processing, spreadsheets and accounting packages lead the market.*

Office automation was one of the first segments of the computer software and services market to be developed in Mexico. This is partly because there is a large amount of packaged software that will run on relatively basic computer systems. Nonetheless, specialized systems, such as those used in banking, are also relatively well-developed.

According to U.S. Department of Commerce estimates, in 1994, word processing, spreadsheet, accounting, inventory management and payroll programs accounted for about half of the total business software market. Word processing is the most common application, accounting for 15 percent of software sales. Small companies typically seek basic applications that will run on personal computers. Larger companies and government departments tend to need more specialized applications, including databases and project management. Increasingly they are using local area networks (LANs) connecting personal computers (PCs), rather than minicomputers.

There is a growing demand for communications software on the part of larger organizations in both the private and the public sectors. But Mexico's telecommunications infrastructure has been slow to develop, in spite of the privatization of *Teléfonos de México (TELMEX)*, the national telephone company. In early 1995, companies were still complaining that new business lines require months of waiting and thousands of dollars in fees. Service interruptions are frequent and prolonged, even in Mexico City. This situation is expected to improve gradually, as online services become increasingly available. These services have the advantage that they can be accessed from more than one location, if telephone service is interrupted.

Microsoft products are widely used for office automation. Windows is by far the most common operating environment, although DOS is still common, especially on lower-end systems. Some observers attribute the popularity of Windows products to the large number of pirated copies of the operating system itself. Word and Excel have become the standard for file interchange. *Microsoft de México* is the largest computer software company in the country, ranking as number 241 in *Expansión 500* magazine, with 1993 sales of N \$128.8 billion pesos. The only other software company to make the list was *Gtech México*, with sales of N \$21.9 billion pesos.

## THE BUSINESS SOFTWARE MARKET, 1994

US \$ MILLIONS

Application	Value	Percent
Word processing	21.6	15
Spreadsheet	15.8	11
Accounting	13.0	9
Communications	11.5	8
Payroll	10.1	7
Database	10.1	7
Computer assisted design (CAD)	7.2	5
Inventory management	7.2	5
Project management	4.3	3
Other	43.2	30
<b>Total</b>	<b>144.0</b>	<b>100</b>

Source: United States Department of Commerce, ISA9504.

## THE ROLE OF IMPORTS

*By some estimates, imports account for as much as 80 percent of Mexican software sales. Import penetration of packaged software is even higher.*

Imported hardware has been hard hit by the devaluation of the peso and the economic crisis which followed. While services have been less affected, the crisis has created an advantage for local firms and products. Software has suffered the least because it is relatively inexpensive, and because customers have made considerable investments in hardware over the past two or three years.

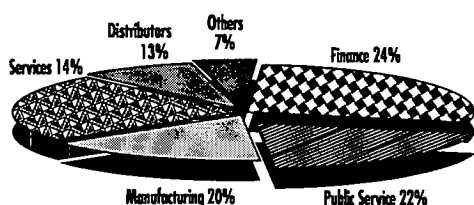
Market recovery will come with a stabilized economy, probably some time in 1996. Mexican firms will continue to enjoy an advantage, but Canadian firms can penetrate this market if they are able to offer credit at reasonable terms. Custom-developed software is, in effect, a service and as such is not included in the trade data, except to the extent that the media itself might be counted as physical goods.

In fact, the data on international trade in software are not very detailed. Software packages on recorded media are counted as a manufactured product, while custom software is considered a service. According to official Mexican government statistics, imports of recorded software media (HS category 85249001) increased by almost 16 percent in 1994 to reach US \$141 million. This is a very narrow measurement. However, according to estimates from the *Instituto Nacional de Estadística, Geografía e Informática (INEGI)*, National Institute for Statistics, Geography and Informatics, the total software market in Mexico totalled US \$460 million in 1994. By some estimates, import penetration exceeded 80 percent. There is no official data on foreign trade in computer services. The total Mexican service market was about US \$1.1 billion in 1994.

The United States claimed an 85 percent import market share for software and computer services in 1994. Canada's share was about 2 percent. Other significant suppliers were Ireland, Taiwan, Denmark and the United Kingdom.

## CUSTOMERS

### COMPUTER USERS BY SECTOR, 1992



Source: *Servicios de Estrategia en Electrónica*, 1992.

*Financial institutions, manufacturers and processors are the most important private-sector users, but government departments and agencies continue to account for close to one-quarter of the market.*

The devaluation of the peso in December 1994 has constrained the computer market, just as Mexican firms had been freed to import badly needed foreign technology. The need continues, even if the ability to finance imports does not. Until the crisis is resolved, the demand will be for software that maximizes the productivity of existing hardware. In particular, industry observers say that there is a strong demand for software packages aimed at specific industries or industrial processes. Examples include software for point-of-sale, electronic mail, electronic data interchange (EDI) and computer assisted manufacturing (CAM).

Computer sales by sector for 1992 have been estimated by *Servicios de Estrategia en Electrónica (Select)*, a consulting firm based in Mexico City. Industry observers believe that this distribution will be representative of the market for the next few years.

## FINANCIAL SECTOR

The financial sector is the largest group of end-users, accounting for about 24 percent of the installed base. Banks are the largest customers in this sector, followed by stock brokerage houses and insurance companies. The sector includes about 500 institutions.

According to U.S. Department of Commerce estimates, there are approximately 300 mainframes, 3,700 minicomputers and 680,000 personal computers in use by this group. In 1993, the financial sector accounted for almost 40 percent of imports of computer technology. The most popular applications in this sector are spreadsheet and word processing packages: each account for about one-third of the market. The balance is made up mostly of database and communications applications.

The Mexican financial sector has been substantially restructured over the past few years, beginning with the privatization of the banks. So far, some 40 foreign banks have been licensed to operate in Mexico, and the domestic institutions are modernizing in order to compete. A strong demand for more sophisticated systems is emerging, including packages for credit ratings and other forms of risk assessment.

## GOVERNMENT AGENCIES

Government agencies comprise the second largest group of customers, with about 22 percent of the installed base. It has been estimated that government agencies operate 640,000 personal computers as well as 450 mainframes and 3,100 minicomputers. Government agencies use the full range of packaged software, but many applications are developed inhouse, sometimes with links to commercial packages.

Although a large number of state enterprises have been privatized in the past few years, those that remain are very large organizations which are important computer users. They include *Petróleos Mexicanos (PEMEX)*, the national oil company, the *Comisión Federal de Electricidad (CFE)*, Federal Electricity Commission and *Ferrocarriles Nacionales de México (FNM)*, the Mexican national railway.

## COMPUTER SPENDING BY PUBLIC ENTITIES, 1992-1993 N \$ MILLION PESOS

Agency	Spending
Federal secretariats	408.6
<i>Instituto Nacional de Estadística, Geografía e Informática (INEGI),</i> National Institute for Statistics, Geography and Informatics	75.3
<i>Departamento de Distrito Federal (DDF),</i> Department of Federal District	97.9
States and municipalities	313.6
<i>Instituto Mexicano del Seguro Social (IMSS),</i> Mexican Institute for Social Security	80.6
<i>Petróleos Mexicanos (PEMEX),</i> the national oil company	419.5
<i>Comisión Federal de Electricidad (CFE),</i> the Federal Electricity Commission	243.0
Other	34.5
<b>Total</b>	<b>1,673.0</b>

Source: Instituto Nacional de Estadística, Geografía e Informática (INEGI), National Institute for Statistics, Geography and Informatics.

## RETAIL AND WHOLESALE DISTRIBUTION

Retailers and wholesalers are the third largest group of computer users. The distribution sector accounts for 13 percent of the computer market. U.S. Department of Commerce estimates that retailers and wholesalers operate about 50 mainframes, 700 minicomputers and 300,000 personal computers. The biggest demand is for administrative applications, including payroll. Point-of-sale systems are being increasingly demanded by retailers, particularly large supermarkets and chains. Wholesale distributors are struggling to meet the rising demand for just-in-time (JIT) delivery, and this creates a demand for specialized packages.

The Mexican retail sector has been characterized by the rapid growth of national and regional chain stores, including department stores and supermarkets. In Mexico, the largest retailers are also major wholesalers. Many of these firms have been forming joint ventures with foreign partners. Electronic communications, and computerized inventory control systems are playing an increasing role in their operations. The major retail chains include the following:

- *El Puerto de Liverpool*, a large Mexican department store chain that has joined forces with K-Mart. This joint venture is developing *supermercados*, supermarkets, which will carry both food items and lower-end apparel. *Liverpool* plans to invest over US \$300 million in this and other ventures.

- *CIFRA*, Mexico's leading retailer, has entered into a joint venture with Wal-Mart. They plan to invest \$800 million in the next three years, primarily in discount stores and supermarkets. This will increase *CIFRA*'s sales space by more than 50 percent. *CIFRA*'s annual sales in 1992 were US \$3.7 billion through 238 stores, mostly in Mexico City.
- *Gigante*, Mexico's second largest chain, plans to open warehouse stores in association with Carrefour of France. *Gigante* has 236 stores with broad national coverage. *Gigante* also has a joint venture with Fleming Co. to establish discount stores.
- *Comercial Mexicana* and Price Club-Costco opened warehouse stores in 1991 and continue to seek new opportunities. *Comercial Mexicana* controls a chain of supermarkets, *Sumesa* and Price Club. It has 133 stores in 30 cities. Sixty-four percent of its floor space is located in or near Mexico City.
- *Sears de México* is Sears Roebuck's Mexican arm. It will spend in excess of US \$35 million over the next five years, opening five or six new stores per year.
- Dillards and J.C. Penney planned to open stores in Mexico in 1995. Dillards now has a joint venture agreement with *CIFRA*.

There are three national grocery chains: *CIFRA*, *Gigante* and *Comercial Mexicana*. Several others operate regionally.

## MAJOR PRIVATE SUPERMARKET CHAINS

Chain	Number of Stores
<b>CIFRA</b>	
CIFRA	50
Aurrera	35
Superama	38
Sam's Club	20
Wal-Mart	12
<b>GIGANTE</b>	
Gigante	156
Bodega Gigante	34
Super Gigante, Hyper Gigante, Super G, Carrefour	9
<b>Comercial Mexicana</b>	
Price Club	17
Mega	2
Bodega	27
Sumesa	17

continued on next page

Chain	Number of Stores
K-Mart	4
De Todo	2
Soriana	48
Automercado	14
Almacenes Zaragoza	32
Casa Ley	55
CALIMAX	32
San Francisco de Asis	22
Comercial V.H.	17
Almacenes Coppel	14
Supermercado Moderno	13
Azcunaga	9
Super Maz	6
Las Nuevas Fábricas	7
Casa Cholita	7
Chedraui	25

**Source:** Canadian Embassy in Mexico.

**Note:** Excludes about 400 government-owned stores operated by the *Instituto Mexicano del Seguro Social (IMSS)*, Mexican Institute for Social Security and the *Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (ISSSTE)*, Institute of Social Security and Services for Public Service Employees.

## MANUFACTURING AND PROCESSING

The manufacturing and processing industries are substantial computer users, accounting for almost 20 percent of the market. The most-used software applications are payroll, word processing, spreadsheet, accounting and project management. Companies in this sector also use process control applications, but many of these are developed inhouse. There are over 200,000 manufacturing companies in Mexico and a significant portion are subsidiaries of foreign companies. Computer assisted manufacturing (CAM) applications are still relatively new in Mexico but they are growing rapidly.

## SERVICE SECTOR

The service sector is growing rapidly, and accounts for 14 percent of the computer market. The demand covers the whole range of packaged software. Companies offering consulting services to business are under increasing pressure to become competitive and many of them are computerizing their operations. Typical applications include project planning and professional billing. Companies offering services to the public are under less competitive pressure.

## EDUCATIONAL INSTITUTIONS

Educational institutions, especially the larger universities, are important users of computer systems. The *Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM)*, Monterrey Technological Institute, and the *Universidad Nacional Autónoma de México (UNAM)*, National Autonomous University of Mexico, have the largest installed base. In 1994, the *Secretaría de Educación Pública (SEP)*, Secretariat of Public Education, launched a pilot program to grant students attending public schools access to computer equipment, but computer training is not extensive at this level. The majority of Mexican families make every effort to send their children to private schools that tend to have active computer education programs. These schools also use computers for their own administrative purposes.

## COMPETITION

*American-based multinational corporations dominate the market for packaged software, but Mexican firms are taking advantage of the crisis to solidify niches both in custom software and services.*

Most of the major computer manufacturers are active in the Mexican market. The market shares established by these companies influence software sales because of the software that is usually bundled with them. The market is dominated by the large international companies. ACER alone claimed 29 percent of the market in 1994, and the top ten companies combined hold a market share of almost 90 percent.



## COMPUTER SALES BY BRAND (IN UNITS)

Brand	1993	1994
ACER	101,666	148,000
IBM	72,000	50,000
Hewlett Packard	53,567	78,305
Compaq	37,100	80,000
Printaform	29,800	18,900
Apple	21,000	20,411
LANIX	17,752	25,327
Dell	11,910	14,910
Olivetti	7,911	6,500
Toshiba	6,600	7,614
<b>Total 10 brands</b>	<b>359,306</b>	<b>449,967</b>
Other brands	50,205	57,444
<b>Total</b>	<b>409,511</b>	<b>507,411</b>

Source: United States Department of Commerce, IMI report 950531.

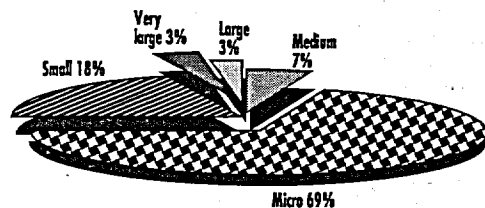
Similarly, the major software publishers are all represented in Mexico. According to industry experts, approximately 90 percent of the packaged software sold in Mexico comes from foreign firms, but imports claim a smaller share of the custom software and services market.

## MAJOR COMPUTER COMPANIES IN MEXICO BY SIZE, 1995

Company	Principal Activity
<b>Medium</b>	
APEMEX	software house
Autodesk, Inc.	software representative
Computadoras y Capacitación Integral	consultants
Grupo TEA	software house
Megaplan	software house
Microsoft México	software representative
Moore de México	software representative
SIGA Desarrollos	software representative
UNISYS de México	hardware distributor

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## MEXICAN COMPUTER COMPANIES BY SIZE, 1995



Source: Asociación Nacional de la Industria de Programas para Computadoras (ANIPCO), National Association of the Computer Programming Industry, 1995, based on membership data.

Company	Principal Activity
<b>Large</b>	
Digital Equipment de México	hardware manufacturer
Oracle de México	software distributor
Tecnología en Desarrollo de Sistemas	software house
Universidad Ibero Americana	academic
<b>Very Large</b>	
AT&T, GIS México	hardware distributor
Hewlett Packard de México	hardware manufacturer
IBM de México	hardware manufacturer
Novell de México	software house

Source: Asociación Nacional de la Industria de Programas para Computadoras (ANIPCO), National Association of the Computer Programming Industry, 1995, based on membership data.

## LEADING SOFTWARE PROVIDERS IN MEXICO

- Apemex
- Cincom
- Computer Associates
- Datanet Sistemas
- Equipos y Procesos Interactivos
- Execuplan
- Grupo Tea
- Kuazar
- Micro Negoplan
- Microsoft Corp.
- Opi de México
- Oracle
- Power House
- Siga Desarrollo
- Sistemas Integrales de Cómputo
- Softron
- Software A.G. de México
- Televideo

Source: Department of Foreign Affairs and International Trade (DFAIT), 1992.

## MEXICAN COMPETITORS

Mexico has no major domestic software firms. About 500 small software developers focus on specialized applications, especially for office automation and government administration. Their share of the overall software and services market is as high as 30 percent. About half of the software they produce is for personal computers, about 30 percent for minicomputers and the rest for mainframes.

Important customers for this custom software include the *Secretaría de Hacienda y Crédito Público (SHCP)*, Secretariat of Finance and Public Credit, the *Departamento del Distrito Federal (DDF)*, Department of the Federal District, *Teléfonos de México (TELMEX)*, the national telephone company and, to some extent, the private sector. The private sector requires accounting software appropriate for the Mexican tax environment, and this has created a demand for domestically-produced software. Many Mexican firms concentrate on adapting and customizing foreign products for the Mexican market.

The advantages that Mexican software companies have over foreign ones is that they know and understand the Mexican market and business culture. These firms have also been offered some advantage by the devaluation, given that Mexican engineers' wages are considerably less than those in industrialized countries.

## TRENDS AND OPPORTUNITIES

*The installed computer base almost doubled between 1992 and 1994. The current trend is toward software and services that can get the most out of this investment in hardware.*

The devaluation of the peso in December 1994 resulted in a sharp reduction in the demand for imported products of all kinds, including computer technology. According to industry observers, the demand fell by at least half in the first few months of the year. Hardware has borne the brunt of the decline because of the involved costs. Most computer users are trying to get by with their existing systems until the crisis passes, but sales of software and services will continue as users try to get the most out of recent hardware purchases. Most observers expect the present situation to last until the end of 1995 and to improve gradually in 1996.

The Mexican computer industry has been severely affected by public sector spending cuts as the government copes with the economic crisis. For example, the *Comisión Federal de Electricidad (CFE)*, Federal Electricity Commission, and the *Secretaría de Hacienda y Crédito Público (SHCP)*, Secretariat of Finance and Public Credit, have both temporarily ceased all purchasing of computer products. Educational institutions have also severely cut back on their computer expenditures.

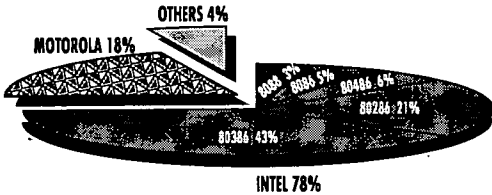
Some of this reduction would have been inevitable even without the devaluation. The first two years of new Mexican administrations are usually characterized by postponed expenditures, as new priorities are set.

Despite the problems created by the crisis, there is much pent-up demand in the private sector for all types of computer software and services. Throughout Mexico, firms are struggling to stay competitive in the face of growing international competition. They are gradually coming to understand the strategic role played by technology in maintaining competitiveness. Even if they do not buy new software products immediately, there will be a large "backlog" of demand when the crisis passes.

It is expected that computer services will be the first part of the industry to resume expansion, as users try to get the most out of their existing systems. Many Mexican software and services firms will not survive the present crisis, but the outlook for the next few years is very positive for those that do.

## INSTALLED BASE

### MICROPROCESSOR MARKET SHARES, 1993



Source: United States Department of Commerce.

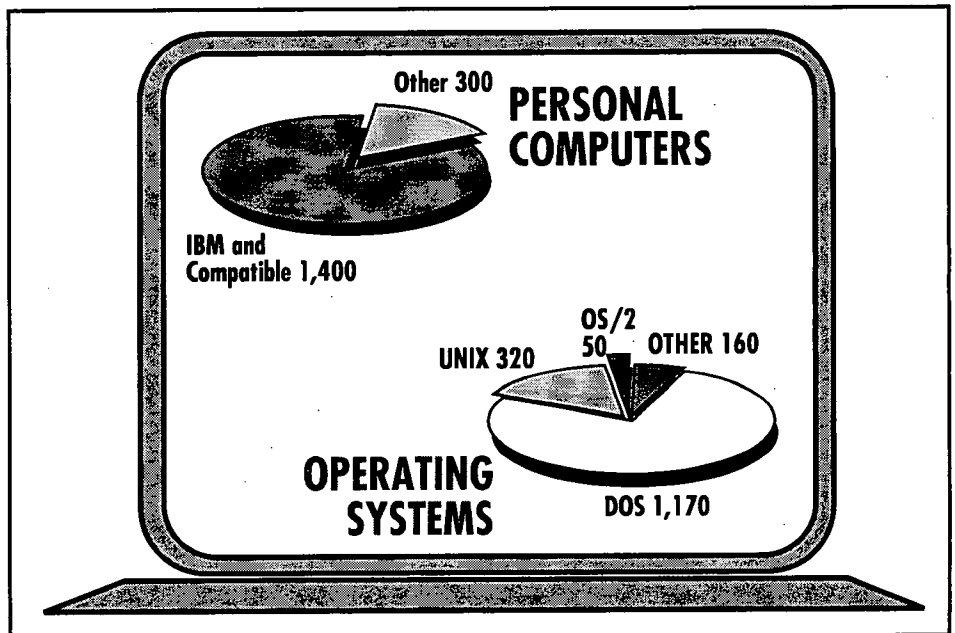
Mexico's installed computer base is estimated at almost 14,000 mainframes and minicomputers and about 2.2 million personal computers. Sales have been encouraged by falling prices and increasing performance, as well as by the need to modernize.

Expansion of the installed base is the driving force behind the growth of the software and services market. The personal computer segment has the largest market share, with approximately 70 percent, minicomputers have 23 percent and mainframes have the remaining 7 percent.

The type of equipment installed also affects software demand. Personal computers based on Intel microprocessors dominate the market, with a 78 percent share of the installed base in 1993.

Among operating systems, Microsoft's MS-DOS/Windows has a 72 percent market share, UNIX has 15 percent, and other operating systems have the remaining 13 percent.

### MEXICO'S INSTALLED BASE



Source: United States Department of Commerce.

Mexican computer users have adopted the most recent developments in computer technology including scanning, multimedia and computer assisted design (CAD). Nonetheless, communications innovations have lagged behind the rest of the market. This is partly because of the poor condition of the Mexican telecommunications infrastructure. There is a long wait and considerable expense associated with new commercial telephone lines, and there are frequent and lengthy interruptions in service.

## **GEOMATICS**

Decision makers interviewed for this profile stressed the long-term need for some sort of integration of geographical information systems (GIS) in Mexico. Ideally, all geographic information would be accessible through a single server platform. Canadian companies able to provide integrated solutions will find a growing market, provided that adequate financing can be found.

Advanced data analysis techniques, data conversion systems and specialized methodologies such as orthomapping will also be needed as the country's backlog of raw data grows.

The expected lull in equipment purchases creates an opportunity for selling knowledge-based services. Many of the larger buyers already have hardware, making education and training a top priority. The provision of training services provides both an immediate market and an opportunity to raise awareness of Canadian technologies. There is a separate market profile available on the geomatics sector.

## **INDUSTRIAL AUTOMATION**

Interviews were conducted with a group of Mexican business leaders in the industrial automation sector. They were asked which equipment and services they considered the best prospects over the medium term. In general, they agreed that a trend toward computer integrated manufacturing (CIM) is in its infancy in most industries. Many companies have automated parts of their operations, but few have gone all the way to integrate their process control and planning functions.

The main exceptions are the automotive industry, where entire systems have been imported under licence, and the beverage industry, which has a history of aggressive competition.

The experts interviewed believe that there will be a gradual shift towards fully integrated systems over the medium term. In the short run, however, smaller-scale projects with fast results will dominate the market.

Products that can be run on high-end personal computers (PCs), rather than workstations, will be in particular demand. Most companies have access to PCs but cannot afford workstations. Solutions in the US \$6,000 range will have the greatest potential.

The most popular computer assisted design (CAD) software products are those that build on an AutoCad base. For production, most companies start with CAD and then move on to CAE and computer assisted manufacturing (CAM) applications. Currently, AutoCad dominates the market for entry-level systems, reportedly because most engineers have pirated copies on their home computers and are thoroughly familiar with it. Manufacturing software is also needed, especially material resource planning (MRP) solutions. The new, user-friendly versions are in particular demand. Products at level II of the CIM model are the emerging trend.

Consulting opportunities are concentrated predominantly in general technical services, including training, as well as in systems integration services.

## ONLINE SERVICES

Although it has recently been affected by the economic crisis, interest in online services has grown dramatically. The Internet has only recently become available to non-academic users in Mexico, but the number of servers increases every month. Despite the devaluation, subscriptions to online services have increased at an estimated 10 per month throughout 1995. At first, installations were limited mainly to universities and research organizations. For example, the *Universidad Nacional Autónoma de México (UNAM)*, National Autonomous University of Mexico, has been online for four years. Corporate and government users are now being connected in rapidly growing numbers.

Since 1994, CompuServe has offered its services in Mexico at roughly the same price as in the United States. It is popular with business users, since it uses a fibre-optic link to the U.S., circumventing the difficulties of using the lines of *Teléfonos de México (TELMEX)*, the national telephone company.

Many Mexican computer firms will enter this market in the immediate future. Electronic mail services to foreign addresses have special appeal in Mexico because voice calls are expensive and can be difficult to complete.

Some experts point out that one obstacle to the expansion of computer communications is the lack of an information culture in Mexico. Only about 15 percent of the population is considered computer literate. The most sophisticated users are under 30, while decision making has traditionally been assigned to the older generation. Most observers say that this is beginning to change.

### MAJOR ONLINE SERVICES IN MEXICO, 1995

System	Company
CompuServe	Infoaccess, S.A. de C.V.
Internet	Internet de México
Pixelnet	Pixelnet
SEInet	REPCOM de México
SPIN	Tecnología Uno-Cero
Tornado	Servicio Total en Computación

Source: Interviews.

### EFFECT OF DEVALUATION ON THE MARKET FOR INFORMATION TECHNOLOGIES

#### PERCENTAGE PROJECTED REDUCTIONS, 1995 COMPARED WITH 1994

	US \$ millions	Exchange rate N \$4.5 pesos	Exchange rate N \$5.5 pesos
Equipment	2,075.7	-35	-43
Software	400.7	-37	-49
Services	1,006.4	-11	-28
<b>Total</b>	<b>3,482.8</b>	<b>-26</b>	<b>-39</b>

Source: *Servicios de Estrategia en Electrónica (Select-IDC), Tecnología y Negocios, January 1995.*

## THE ECONOMIC CRISIS

*Servicios de Estrategia en Electrónica (Select-IDC)* is a consulting firm in Mexico City that studies the computer sector. Following the devaluation, the firm conducted a series of interviews with computer users, to gauge the effect of the crisis. They report widespread plans to cut computer expenditures, at least in terms of spending in US dollars. Because about 70 percent of software is imported, a considerable cutback is expected for 1995.

In projecting the effects on the 1995 computer market, *Select* used a relatively optimistic N \$4.5 pesos per dollar for the year as a whole, as well as a more conservative N \$5.5 pesos. Under the more optimistic scenario, they project a 26 percent drop in the market compared with 1994. The analysis goes on to indicate that hardware and software that are vulnerable to piracy will be particularly hard hit. On the other hand, they predict that the market for computer services will be relatively robust.

According to *Select*, most computer users reported that although increased productivity is still a major priority, their short-run strategies will focus on optimizing the effectiveness of existing systems. And while information and communications technologies are increasingly important, this does not imply that the users are planning to absorb all of the full impact of the crisis through increased technology costs. *Select* points out that there have been large acquisitions of computer technology over the past few years, especially in the major industries. There is, therefore, plenty of room for increased utilization without major new purchases.

Moreover, many of these systems have failed to meet their expectations, and senior managers have become more skeptical of the power of computer technology to solve problems on its own. They have realized that productivity comes not just from investment in hardware and software, but also from fairly radical changes in work practices.

*Select's* analysis points out that many of the more innovative users of technology have paid a price for being leaders. The high costs and substantial risks they have taken have not always resulted in competitive advantages. In the current market, few users will have the luxury of being pioneers.

Source: *Servicios de Estrategia en Electrónica (Select-IDC)*,  
*Tecnología y Negocios*, January 1995.

## PRODUCT OPPORTUNITIES

In today's economic environment, Mexican computer firms are concerned about survival rather than growth. For most of them, survival means making the most of established client bases and dealing in known products that have already earned consumer confidence. This is not considered a good time for innovation. More than ever, customer support is the key to software sales.

The business of customizing or adapting foreign software for Mexican use has good potential. There is also a demand for specialized software designed for particular industries. Examples include packages for tourism, point-of-sale and professional billing.

In the future, government purchases are expected to shift towards packaged software rather than custom-developed systems. The rising use of personal computers will make this increasingly possible.

Industry experts believe the market will gradually shift towards integrated services. Companies that can provide systems integration, including hardware, software and services, are expected to prosper.

There is also market potential for large-scale networks, that are, so far, poorly developed in Mexico. The financial sector is in the midst of a major reorganization and will need much better connectivity in the future. Hospitals have also become aware that they are not taking advantage of the current technology for the exchange of medical information.

Online services are another area with high potential growth. While these services were originally given priority only in education, they have become increasingly important in the private and public sectors.

Education networks are attracting increasing attention in Mexico. The *Universidad del Valle de México* plans to expand its existing network in order to interconnect all of its 12 locations in the Mexico City area and in Querétaro. And the *Instituto Tecnológico y de Estudios Superiores de Monterrey*, Monterrey's Technological Institute, is setting up long-distance education networks with Pennsylvania State University.



## COMPETITIVE FACTORS

The United States is the dominant competitor in the Mexican software and computer services market. Canadian firms enjoy most of the same advantages, except that they are not well known. Canadian experience in a multi-lingual environment could potentially be an advantage. Although Spanish is widely spoken in the U.S., many Mexican buyers perceive that Canadian suppliers are more flexible, and more accepting of cultural differences.

Competition from Asian suppliers is expected to increase substantially. Although the primary focus of the new products will be on price, increased quality, variety and service will be critical as well. Asian companies have been effective in identifying corporate markets and exploiting them with aggressive marketing and financing plans.

## CONSULTING OPPORTUNITIES

Mexican educators have recognized that while there is tremendous demand for computer education, there is also a lack of skilled trainers. The result is that training is narrowly focussed, particularly in smaller cities where computer hardware is inadequate to meet the demand. This creates opportunities for commercial training services, which have not been the usual source of computer training in the past.

There are also consulting opportunities in assisting government departments and large corporations to develop customized applications, particularly if they can take advantage of packaged software. The larger users of computers in Mexico, such as government agencies and the banks, tend to be fairly well-served by local suppliers. Canadian suppliers of custom software, such as SHL Systemhouse and Cognos, have been the most notable Canadian success stories in this market. But there are growing opportunities to supply information technology to small- and medium-sized companies that are only beginning to use computers.

Increasingly, integrated solutions are the key to success in this area. This involves advising customers on which software, hardware and network systems they should use for their particular needs, installing the programs, and providing training and follow-up.

## THE REGULATORY ENVIRONMENT

*The Mexican government has acted to remove barriers to the participation of foreign firms, especially through the reduction of piracy.*

There is virtually no regulation of computer software and services in Mexico. The new telecommunications law apparently includes some coverage of online services, but regulations have not yet been issued. Improved anti-piracy measures are the most important action the government has taken so far. The new administration of President Ernesto Zedillo has strongly supported initiatives by the *Instituto Nacional de Estadística, Geografía e Informática (INEGI)*, National Institute for Statistics, Geography and Informatics, to promote the computer sector as a means of furthering the new administration's economic and social objectives.

## SOFTWARE PIRACY

Piracy is an ongoing concern for software developers, but increased enforcement efforts by the Mexican government have improved the situation considerably. In 1991, new regulations were published which recognized software as intellectual property for the first time. This law sets penalties of up to six years in prison for persons making illegal copies. Industry observers complain, however, that the actual penalties levied are not an adequate deterrent. Some companies, including a few multinationals, have been caught with illegal copies of leading software applications, but have been fined only about US \$2,000.

The *Secretaría de Educación Pública (SEP)*, Secretariat of Public Education, has primary jurisdiction over copyright law and maintains the copyright registry. Charges may be brought against offending firms, organizations and individuals through the *Procuraduría General de la República*, Attorney General's Office.

In spite of these improvements, many industry experts believe that much tougher enforcement is needed. Among other problems, the regulations only affect software. There is no protection for the security of databases and other electronic information. An estimated 25 percent of the software in use in Mexico is thought to be pirated. This figure is probably worse than it sounds, since the vast majority of computers in use in Mexico are operated by businesses and government departments. Pirated software for personal use is much more common. According to some reports, there are five pirated copies of some packages for every legal one. Nonetheless, there are relatively few home computers in Mexico.

The *Secretaría de Programación y Presupuesto (SPP)*, Secretariat of Planning and Budgeting, conducts regular anti-piracy audits of government offices. In the private sector, audits are conducted only on the basis of specific complaints. The *Asociación Mexicana de la Industria de Programas para Computadoras (ANIPCO)*, Mexican Association of the Computer Programming Industry, is leading the effort to reduce piracy.

## GOVERNMENT COMPUTER POLICY

The lack of a well-developed computer sector has severely limited Mexico's economic and industrial development. This fact has been widely recognized in Mexico and the government has acted to develop new policies to replace the self-sufficiency regulations which were rescinded in 1990.

In May 1995, President Zedillo announced the *Plan Nacional de Desarrollo, 1995-2000*, National Development Plan, 1995-2000. Under the Mexican constitution, all presidents are required to prepare a plan for the new administration's six-year term. For the first time, the Zedillo development plan includes strategies for developing the use of computer technology. "Computer science" is recognized as a tool that can support the other objectives of the program, including economic growth, social and democratic development, and sovereignty.

The *Instituto Nacional de Estadística Geografía e Informática (INEGI)*, National Institute for Statistics, Geography and Informatics, has overall responsibility for computer policy in Mexico. It has sponsored a series of progressively broader forums to seek input from the industry and the public. In the first phase, in 1993, *INEGI* assembled a group of 33 experts in the *Grupo Consultivo de Política Informática*, the Computer Policy Consultation Group. This group helped to develop the *Programa de Desarrollo Informático*, Informatics Development Program. *INEGI* published the group's findings and recommendations, *Elementos para un Programa Estratégico en Informática*, Elements for a Strategic Plan in Informatics, in October 1994.

In November 1994, *INEGI* organized a broader national forum on computer science consisting of about 200 experts from the public and private sectors to review the initial findings. It recommended that the government formally recognize the draft policies by incorporating them into the *Plan Nacional de Desarrollo*, National Development Plan. In April 1995, *INEGI* set up an even broader public consultation forum to advise on implementation of the new informatics policies. This time, 260 representatives participated in developing concrete proposals.

### THE NEW FEDERAL TELECOMMUNICATIONS LAW

On June 8, 1995, the *Ley Federal de Telecomunicaciones*, Federal Telecommunications Law, came into effect. It covers the use, development and operation of broadcasting systems, telecommunications networks, and satellite communications. According to the *Instituto Nacional de Estadística, Geografía e Informática (INEGI)*, National Institute for Statistics, Geography and Informatics, the law has the following objectives:

- to promote efficient development of telecommunications;
- to exercise state leadership in order to guarantee national sovereignty; and
- to promote healthy competition between providers of telecommunications services, so that users benefit from suitable pricing, diversity, quality and broad coverage.

#### CONCESSIONS

Concessions from the *Secretaría de Comunicaciones y Transportes (SCT)*, Secretariat of Communications and Transportation, are required for the following:

- use of a frequency band within national boundaries, except for parts of the spectrum that are designated for free or official use;
- installation or operation of a public telecommunications network;
- occupying geostationary orbital positions and orbital satellites assigned to the country, and using their respective frequency bands; and
- reception of signals from foreign satellite systems which are able to provide services within Mexico.

*continued on page 34*

## THE NEW FEDERAL TELECOMMUNICATIONS LAW

continued from page 33

Concessions for public telecommunications networks are granted for terms of up to 30 years, and may be extended under the original conditions.

Public telecommunications networks do not require concessions, permission or registration in order to operate, unless they use broadcast frequency bands.

### PERMITS

Permits from the *SCT* are required for the following:

- operating commercial telecommunications services that are not public networks; and
- operating ground-based transmission stations.

In order to provide value-added services, registration with the *SCT* is all that is required.

Source: *Boletín de Política Informática #7*, Instituto Nacional de Estadística, Geografía e Informática (INEGI), National Institute for Statistics, Geography and Informatics, 1995.

## PROPOSALS OF THE PUBLIC CONSULTATION FORUM

The *Foro de Consulta Popular*, Public Consultation Forum's proposals stress the role of government as a facilitator in developing infrastructure and assisting the private sector in expanding its use of technology. The recommendations focussed on the need to improve productivity and competitiveness, and stressed the need for complementary sectoral policies in education, industry and the public sector. The proposals fall into the following general categories:

- development of human resources;
- promotion of research and development;
- dissemination of market information;
- expansion of computer technology in the private sector, in particular in small- and medium-sized enterprises;
- establishment of technological strategies for the public sector; and
- creation of new financing and administrative structures.

The forum made a series of specific proposals in each of these areas as well as some others.

Public consultation is a normal part of the Mexican legislative process and, so far, experts are mixed in their views about whether this process will result in practical action. For the most part, they see the formal incorporation of computer science in the *Plan Nacional de Desarrollo, 1995-2000*, National Development Plan, 1995-2000 as a strong first step.

Observers also consider the continued participation of the computer science community in the development of the Informatics Program as essential. The *Instituto Nacional de Estadística, Geografía e Informática (INEGI)*, National Institute for Statistics, Geography and Informatics, has now formed six groups in order to continue the work of the first three forums.

## MARKET ENTRY STRATEGIES

*Hardware manufacturers handle two-thirds of software sales, but there is an increasing trend toward systems integrators as major actors in the market. This is creating a demand for partnerships with foreign firms.*

Mexican software distributors are always looking for new products. One distributor interviewed for this profile said that he travels regularly to the United States to see new products. He believes that Canadian products are beginning to gain some recognition in Mexico, especially in the communications sector. In his view, this is largely a result of Canadian government efforts to promote the industry.

The present trend in Mexico is toward systems integration services. Companies that offer such broad services need suppliers capable of filling gaps in their offerings. This is especially true for the more specialized software solutions. There is a growing demand for industry-specific software and services, but customers increasingly want to buy the whole system from one supplier. This trend is creating an increased interest in strategic alliances with foreign firms.

Small- to medium-sized Mexican computer companies see partnerships with foreign companies as a way of competing with the large consulting firms that presently dominate the industry. Canadian companies are not well-known in Mexico, but prospects are good for firms that can provide their own financing.

## DISTRIBUTION

According to industry observers, software sales by hardware manufacturers amount to about 20 percent of their sales. Approximately two-thirds of all software sales are made by hardware manufacturers, either directly or through authorized distributors. The other third is handled by software houses. In the case of microcomputer software, about half of sales are made through software houses.

Software applications packages are promoted mainly through advertising in specialized magazines and newspapers. Advertising on TV and radio is not common.

Some distributors provide catalogues and brochures to their potential customers. Demonstrations are a common sales tool and usually a disk containing a demonstration version of the application is given free. Participation in computer exhibitions is a common practice and technical assistance is appreciated by customers. Upgraded versions are offered at low prices for users of older versions of software.

Government agencies usually are approached by distributors, although some software developers have sales staff who are responsible for this market. In addition, large purchases by government entities are required by law to be done through formal tenders.

The leading software distributor is *Central de Software*, Central Software, which handles over 700 application packages. The leading software developers, such as Microsoft, Symantec, Software Publishing, Corel, Computer Associates, Oracle, Aldus, Borland, Lotus and Novell all have representatives in Mexico.

The most common method of advertising software applications is to emphasize how the application is used to carry out a task efficiently. Delivering demo diskettes is the preferred method of promoting software applications. Some distributors offer free introductory courses and will respond to questions for a month free of charge. Distributors encourage end-users to subscribe to clubs and magazines.

## LOCAL PRESENCE

Perhaps the biggest obstacle to greater participation of Canadian firms in the Mexican software and computer services market is the lack of local presence. Mexicans prefer to purchase imported goods and services from companies with a demonstrated commitment to the local market.

A practical way to establish this presence is to form a strategic alliance or partnership with a Mexican company. Canadian firms can provide expertise and technology that mesh well with the market knowledge and relatively low operating costs of local partners. In today's economic environment, Canadian firms should be prepared to provide capital as well.

Canadians wishing to establish business relations with Mexican firms should have personnel at all levels with a working knowledge of Spanish. Mexican customers require a high level of attention and follow-up. Informality dominates and deals are frequently made only after personal relationships have been built.

## TRADE SHOWS

Many software and computer service providers attend trade shows in order to meet prospective customers and partners. The major computer shows in Mexico include the following:

- *Exposición Internacional de Cómputo, Telecomunicaciones y Electrónica, COMPUTRONICA '95*, International Exhibition of Computing, Telecommunications and Electronics. This show was held in Puebla, in mid-October 1995.
- *COMDEX/COMEXPO* will take place in the *Palacio de los Deportes* in Mexico City, March 5-8, 1996.
- *COMPUEXPO* features computers and related products. This show was held in January 1996 in Guadalajara.
- *TELNETS* features telecommunications and networking products. This show will be held in May 1996 in Monterrey.

The monthly newsletter *Boletín de Política Informática*, published by the *Instituto Nacional de Estadística, Geografía e Informática (INEGI)*, National Institute for Statistics, Geography and Informatics, provides lists of upcoming seminars, conferences and trade shows in the computer industry.

## WHERE TO GET HELP

### CANADIAN GOVERNMENT DEPARTMENTS AND SERVICES IN CANADA

#### DEPARTMENT OF FOREIGN AFFAIRS AND INTERNATIONAL TRADE

DFAIT is the Canadian federal government department most directly responsible for trade development. The InfoCentre should be the first contact point for advice on how to start exporting. It provides information on export-related programs and services, acts as an entry point to DFAIT's trade information network, and can provide copies of specialized export publications and market information to interested companies.

##### InfoCentre

Tel.: 1-800-267-8376 or (613) 944-4000

Fax: (613) 996-9709

FaxLink: (613) 944-4500

InfoCentre Bulletin Board (IBB):

1-800-628-1581 or (613) 944-1581

The Latin America and Caribbean Branch promotes trade with Mexico. There are several trade commissioners at the Embassy of Canada in Mexico City, as well as in the satellite offices in Monterrey and Guadalajara. Trade commissioners can provide a range of services including introducing Canadian companies to potential customers in Mexico, advising on marketing channels, assisting those wishing to participate in trade fairs, helping to identify suitable Mexican firms to act as agents, and compiling strategic business intelligence on potential foreign customers.

##### Latin America and Caribbean Branch

Department of Foreign Affairs and International Trade

Lester B. Pearson Building

125 Sussex Drive

Ottawa, ON K1A 0G2

Tel.: (613) 996-5547

Fax: (613) 996-6142

#### INTERNATIONAL TRADE CENTRES

International Trade Centres have been established across the country as a convenient point of contact to support the exporting efforts of Canadian firms. The centres operate under the guidance of DFAIT and all have resident trade commissioners. They help companies determine whether or not they are ready to export, assist firms with market research and planning, provide access to government programs designed to promote exports, and arrange for assistance from the trade commissioners in Ottawa and trade officers abroad. Contact the International Trade Centre nearest you:

##### Newfoundland

International Trade Centre

P.O. Box 8950

Atlantic Place

215 Water Street

Suite 504

St. John's, NF A1B 3R9

Tel.: (709) 772-5511

Fax: (709) 772-2373

##### Prince Edward Island

International Trade Centre

P.O. Box 1115

Confederation Court Mall

134 Kent Street

Suite 400

Charlottetown, PE C1A 7M8

Tel.: (902) 566-7400

Fax: (902) 566-7450

##### Nova Scotia

International Trade Centre

P.O. Box 940, Station M

1801 Hollis Street

Halifax, NS B3J 2V9

Tel.: (902) 426-7540

Fax: (902) 426-2624

##### New Brunswick

International Trade Centre

1045 Main Street

Unit 103

Moncton, NB E1C 1H1

Tel.: (506) 851-6452

Fax: (506) 851-6429



Quebec  
International Trade Centre  
5 Place Ville-Marie  
Seventh Floor  
Montreal, PQ H3B 2G2  
Tel.: (514) 496-4636  
Fax: (514) 283-8794

Ontario  
International Trade Centre  
Dominion Public Building  
1 Front St. West  
Fourth Floor  
Toronto, ON M5J 1A4  
Tel.: (416) 973-5053  
Fax: (416) 973-8161

Manitoba  
International Trade Centre  
P.O. Box 981  
330 Portage Avenue  
Eighth Floor  
Winnipeg, MB R3C 2V2  
Tel.: (204) 983-4540  
Fax: (204) 983-2187

Saskatchewan  
International Trade Centre  
The S.J. Cohen Building  
119-4th Avenue South  
Suite 401  
Saskatoon, SK S7K 5X2  
Tel.: (306) 975-5315  
Fax: (306) 975-5334

Alberta  
*\*Edmonton office is also responsible for Northwest Territories*  
International Trade Centre  
Canada Place  
9700 Jasper Avenue  
Room 540  
Edmonton, AB T5J 4C3  
Tel.: (403) 495-2944  
Fax: (403) 495-4507

International Trade Centre  
510-5th Street S.W.  
Suite 1100  
Calgary, AB T2P 3S2  
Tel.: (403) 292-6660  
Fax: (403) 292-4578

British Columbia  
*\*Vancouver office is also responsible for the Yukon*  
International Trade Centre  
300 West Georgia Street  
Suite 2000  
Vancouver, BC V6B 6E1  
Tel.: (604) 666-0434  
Fax: (604) 666-8330

## WORLD INFORMATION NETWORK FOR EXPORTS (WIN EXPORTS)

WIN Exports is a computer-based information system designed by DFAIT to help Canada's trade development officers abroad match foreign needs to Canadian capabilities. It provides users with information on the capabilities, experience and interests of more than 23,000 Canadian exporters. To register on WIN Exports, call (613) 996-5701, or fax 1-800-667-3802 or (613) 944-1078.

## PROGRAM FOR EXPORT MARKET DEVELOPMENT (PEMD)

PEMD is DFAIT's primary export promotion program. It supports a variety of activities to help Canadian companies expand into export markets.

PEMD shares up to 50 percent of eligible expenses. Program financial assistance is a repayable contribution, not a grant, and must be approved in advance. Funded activities include:

- Market Development Strategies, which consist of a package of support for visits, trade fairs, and market support initiatives, under one umbrella of the company's marketing plan.
- New to Exporting Companies, which provides a vehicle for these companies to seek out individual export opportunities, either through a market identification visit or participation in an international trade fair.
- Capital Projects Bidding for specific projects outside Canada involving international competition/formal bidding procedures.
- Trade Association Activities undertaken by non-sales national trade or industry associations on behalf of their member companies.

Support is provided for certain types of government-planned activities, such as outgoing trade missions of Canadian business representatives and incoming missions to Canada of foreign business persons and officials who can influence export sales. For general information, call the InfoCentre at 1-800-267-8376. For applications for assistance, call the International Trade Centre nearest you.

## INTERNATIONAL FINANCING

DFAIT helps Canadian exporters interested in pursuing multilateral business opportunities financed by international financing institutions (IFIs). Canadian exporters and trade associations can access market data, obtain a better understanding of the competition, and determine if an IFI-funded market opportunity is practical and worth pursuing. DFAIT can provide information and advice on the availability of Canadian government-funded assistance programs and can assist companies in developing effective export marketing. For further information, contact:

### International Financing Division

Department of Foreign Affairs and International Trade  
Lester B. Pearson Building  
125 Sussex Drive  
Ottawa, ON K1A 0G2  
Tel.: (613) 995-7251  
Fax: (613) 943-1100

## TECHNOLOGY INFLOW PROGRAM (TIP)

Managed by DFAIT and delivered domestically by the National Research Council, TIP is designed to help Canadian companies locate, acquire and adopt foreign technologies by promoting international collaboration. The Department of Industry (DI) also helps in program promotion. TIP officers respond to requests to identify technology sources and opportunities for cooperation between Canadian and foreign firms. The Program also helps Canadian firms make exploratory visits abroad to identify and gain first-hand knowledge of relevant foreign technologies, as well as how to negotiate to acquire them. For information, call (613) 993-5326.

## INVESTMENT DEVELOPMENT PROGRAM

The Investment and Technology Bureau (TID) promotes Canada as an attractive, competitive destination for business investment to potential foreign investors. It actively encourages investments that take the form of new plant and equipment, joint ventures or strategic partnerships. The Bureau is especially interested in attracting investment that introduces new technology into Canada, which is key to creating new jobs and economic opportunities. It also helps Canadian companies to find international investment partners and to access international sources of capital and technologies. TID provides support to the chief executive officers of Canadian subsidiaries of multinationals which are seeking to attract manufacturing and R&D mandates to Canada. It also monitors and analyzes investment trends and perceptions of Canada as an investment site. TID works closely with the "geographic" branches of DFAIT and the investment

counsellors at Canadian missions around the world, as well as with provincial and municipal authorities, and professional and business organizations. For more information, contact:

### Investment and Technology Bureau (TID)

Department of Foreign Affairs and International Trade  
Lester B. Pearson Building  
125 Sussex Drive  
Ottawa, ON K1A 0G2  
Tel.: (613) 995-4128  
Fax: (613) 995-9604

## DEPARTMENT OF INDUSTRY (DI)

DI was created with a broad mandate to make Canada more competitive by fostering the growth of Canadian businesses, by promoting a fair and efficient marketplace for business and consumers, and by encouraging commercial ventures in scientific research and technology. In the area of small business, it has been given specific responsibility to:

- develop, implement and promote national policies to foster the international competitiveness of industry; the enhancement of industrial, scientific and technological development; and the improvement in both the productivity and efficiency of industry;
- promote the mobility of goods, services, and factors of production within Canada;
- develop and implement national policies to foster entrepreneurship and the start-up, growth and expansion of small businesses;
- develop and implement national policies and programs respecting industrial benefits from procurement of goods and services by the Government of Canada; and
- promote and provide support services for the marketing of Canadian goods, services and technology.

The regional offices of DI work directly with Canadian companies to promote industrial, scientific and technological development. They help clients recognize opportunities in a competitive international marketplace by providing services in the areas of business intelligence and information as well as trade and market development. DI also promotes and manages a portfolio of programs and services.

The following are areas in which DI regional offices have special competence:

- access to trade and technology intelligence and expertise;
- entry points to national and international networks;
- industry-sector knowledge base;
- co-location with International Trade Centres connected to DFAIT and Canadian posts abroad;
- client focus on emerging and threshold firms; and
- business intelligence.

For more information, call (613) 941-0222.

#### **International Business Development**

Department of Industry  
235 Queen Street  
Ottawa, ON K1A 0G5  
Tel.: (613) 990-4096  
Fax: (613) 990-4215

#### **Business Service Centre**

Department of Industry  
235 Queen Street  
First Floor, East Tower  
Ottawa, ON K1A 0H5  
Tel.: (613) 952-4782  
Fax: (613) 957-7942

#### **NAFTA Information Desk**

Department of Industry  
235 Queen Street  
Fifth Floor, East Tower  
Ottawa, ON K1A 0H5  
Fax: (613) 952-0540

### **THE BUSINESS OPPORTUNITIES SOURCING SYSTEM (BOSS)**

BOSS is a computerized databank that profiles over 25,000 Canadian companies. It lists basic information on products, services and operations of use to potential customers. The system was established in 1980 by the Department of Industry (DI) in cooperation with participating provincial governments. BOSS was originally established so that trade commissioners posted around the world by DFAIT could find Canadian companies that might be able to take advantage of foreign market opportunities. Today, more than 11,000 domestic and international subscribers use the system, not only to locate Canadian suppliers, but also to obtain market intelligence and identify market opportunities. The majority of subscribers are Canadian companies. For more information, call (613) 954-5031.

### **MARKET INTELLIGENCE SERVICE (MIS)**

MIS provides Canadian businesses with detailed market information on a product-specific basis. The service assists Canadian companies in the exploitation of domestic, export, technology transfer and new manufacturing investment opportunities. The intelligence is used by Canadian businesses in decisions regarding manufacturing, product development, marketing and market expansion. A request for information can be custom-tailored to meet each client's particular need. Previously-published customized reports are also available on request. The database is updated quarterly and annually. MIS is offered free of charge by fax, letter or telephone. For more information, contact:

#### **Strategic Information Branch**

Department of Industry  
235 Queen Street  
First Floor, East Tower  
Ottawa, ON K1A 0H5  
Tel.: (613) 954-5031  
Fax: (613) 954-1894

### **REVENUE CANADA**

Revenue Canada, Customs Program Branch provides a NAFTA Help Desk telephone line with service available in Spanish. Revenue Canada publications and customs notices are available by calling or faxing the NAFTA Information Desk. For more information, contact:

#### **NAFTA Spanish Help Desk**

Tel.: (613) 941-0965

#### **NAFTA Information Desk**

Revenue Canada, Customs Programs Branch  
191 Laurier Avenue West  
Sixth Floor  
Ottawa, ON K1A 0L5  
Tel.: 1-800-661-6121, or (613) 941-0965  
Fax: (613) 952-0022

## **CANADIAN INTERNATIONAL DEVELOPMENT AGENCY (CIDA)**

An important possible source of financing for Canadian ventures in Mexico is the special fund available through CIDA under the Industrial Cooperation Program (CIDA/INC). This program provides financial contributions to stimulate Canadian private-sector involvement in developing countries by supporting long-term business relationships such as joint ventures and licensing arrangements. INC supports the development of linkages with the private sector in Mexico by encouraging Canadian enterprises to share their skills and experiences with partners in Mexico and other countries. A series of INC mechanisms help enterprises to establish mutually beneficial collaborative arrangements for the transfer of technology and the creation of employment in Mexico.

There are five INC mechanisms that help eligible Canadian firms to conduct studies and that provide professional guidance and advice to potential clients. Where a project involves environmental improvement, technology transfer, developmental assistance to women, job training or job creation, early contact with CIDA's Industrial Cooperation Division is suggested. An important CIDA criterion is that the project creates jobs in Mexico without threatening jobs in Canada. In fact, most CIDA-assisted projects have produced net increases in Canadian jobs. For more information, contact:

**Industrial Cooperation Division**  
Canadian International Development Agency  
200 Promenade du Portage  
Hull, PQ K1A 0G4  
Tel.: (819) 997-7905/7906  
Fax: (819) 953-5024

## **ATLANTIC CANADA OPPORTUNITIES AGENCY (ACOA)**

Atlantic Canadian companies seeking to develop exports to Mexico may be eligible for assistance from the ACOA. The Agency works in partnership with entrepreneurs from the Atlantic region to promote self-sustaining economic activity in Atlantic Canada.

ACOA provides support to businesses as they look to expand existing markets through the development of marketing plans. Efforts include monitoring trade opportunities arising from global economic change, communications efforts to promote the region, trade missions and associated activities, as well as better coordination with federal and provincial bodies that influence trade and investment opportunities. For more information, contact:

**Atlantic Canada Opportunities Agency**  
Blue Cross Centre  
644 Main Street  
P.O. Box 6051  
Moncton, NB E1C 9J8  
Tel: 1-800-561-7862  
Fax: (506) 851-7403

## **WESTERN ECONOMIC DIVERSIFICATION CANADA (WD)**

WD is responsible for federal economic development activities in Western Canada. The Department works in partnership with the western provinces, business, industry associations and communities to stimulate the western Canadian economy.

WD's "New Directions" program will work to enhance the export position of western companies by boosting their competitiveness in domestic and global markets.

The Department no longer provides repayable loans to individual companies, but seeks new innovative partnerships within both the public and private sectors. These partnerships will address the needs of small- and medium-sized enterprises for information, business services and capital, particularly for high growth industries critical to Western Canada's economic diversification.

One of WD's new products focused on export development is the International Trade Personnel Program. This federal-provincial initiative links export-focused western firms with recent post-secondary graduates. The program accomplishes two important socio-economic goals: it gives companies the extra person-power they need to penetrate new markets, and it gives recent graduates valuable work experience. Under the new program, the length of export-development projects may vary from one to three years. Approved projects will be eligible for assistance ranging from \$7,500 for one year, to a maximum of \$37,500 per graduate over the 3 year period. For more information, contact:

**Western Economic Diversification Canada**  
The Cargill Building  
240 Graham Avenue  
Suite 712  
P.O. Box 777  
Winnipeg, MB R3C 2L4  
Tel.: (204) 983-4472  
Fax: (204) 983-4694

## EXPORT DEVELOPMENT CORPORATION (EDC)

EDC is a customer-driven, financial services corporation dedicated to helping Canadian businesses succeed in the global marketplace. EDC provides a wide range of risk management services, including insurance, financing and guarantees to Canadian exporters and their customers around the world.

EDC's products fall into four main categories:

- export credit insurance, covering short- and medium-term credits;
- performance-related guarantees and insurance, providing cover for exporters and financial institutions against calls on various performance bonds and obligations normally issued either by banks or surety companies;
- foreign investment insurance, providing political risk protection for Canadian investments abroad; and
- export financing, providing medium- and long-term export financing to foreign buyers of Canadian goods and services.

EDC has established relationships with leading commercial and public sector institutions in Mexico and Latin America. Exporters can call (613) 598-2860 for more information.

Smaller exporters, with annual export sales under C \$1 million, should call the Emerging Exporter Team at 1-800-850-9626.

Exporters in the information technology sector can call EDC's Information Technologies Team at (613) 598-6891.

For information on the full range of EDC services, contact any of the following EDC offices:

**Ottawa** Export Development Corporation  
151 O'Connor Street  
Ottawa, ON K1A 1K3  
Tel.: (613) 598-2500  
Fax: (613) 237-2690

**Vancouver** Export Development Corporation  
One Bentall Centre  
505 Burrard Street  
Suite 1030  
Vancouver, BC V7X 1M5  
Tel.: (604) 666-6234  
Fax: (604) 666-7550

### Calgary

Export Development Corporation  
510-5th Street S.W.  
Suite 1030  
Calgary, AB T2P 3S2  
Tel.: (403) 292-6898  
Fax: (403) 292-6902

### Winnipeg

*\*office also serves  
Saskatchewan*

Export Development Corporation  
330 Portage Avenue  
Eighth Floor  
Winnipeg, MB R3C 0C4  
Tel.: (204) 983-5114  
Fax: (204) 983-2187

### Toronto

Export Development Corporation  
National Bank Building  
150 York Street  
Suite 810  
P.O. Box 810  
Toronto, ON M5H 3S5  
Tel.: (416) 973-6211  
Fax: (416) 862-1267

### London

Export Development Corporation  
Talbot Centre  
148 Fullarton Street  
Suite 1512  
London, ON N6A 5P3  
Tel.: (519) 645-5828  
Fax: (519) 645-5580

### Montreal

Export Development Corporation  
Tour de la Bourse  
800 Victoria Square  
Suite 4520  
P.O. Box 124  
Montreal, PQ H4Z 1C3  
Tel.: (514) 283-3013  
Fax: (514) 878-9891

### Halifax

Export Development Corporation  
Purdy's Wharf, Tower 2  
1969 Upper Water Street  
Suite 1410  
Halifax, NS B3J 3R7  
Tel.: (902) 429-0426  
Fax: (902) 423-0881

## **NATIONAL RESEARCH COUNCIL (NRC)**

Canadian companies hoping to succeed in the Mexican marketplace may require additional technology to improve their competitiveness. The NRC works with Canadian firms of all sizes to develop and apply technology for economic benefit. The Council manages the Industrial Research Assistance Program (IRAP), a national network for the diffusion and transfer of technology.

The IRAP network supports the process of developing, accessing, acquiring, implanting and using technology throughout Canadian industry. IRAP has been in existence for 50 years and has acquired a reputation as one of the most flexible and effective federal programs. IRAP takes advantage of an extensive network of more than 190

different locations within approximately 90 communities across Canada, including numerous provincial technology centres, the NRC's own laboratories and research institutes, federal government departments, and technology transfer offices in Canadian universities. For further information, contact:

**Industrial Research Assistance Program**  
National Research Council  
Montreal Road  
Building M-55  
Ottawa, ON K1A 0R6  
Tel.: (613) 993-1770  
Fax: (613) 952-1086

## **KEY CONTACTS IN CANADA**

### **SPONSORING ORGANIZATIONS**

#### **BAKER & MCKENZIE**

Baker & McKenzie is one of the largest international law firms with offices in 35 countries. They presently have four offices in Mexico, in the cities of Juárez, Mexico City, Monterrey and Tijuana. In addition to providing legal advice, the firm's offices in Canada and Mexico work to assist Canadian companies to find the right partner to enable them to establish or expand their activities in Mexico. For more information, contact:

**Baker & McKenzie**  
Barristers & Solicitors  
BCE Place  
181 Bay Street  
Suite 2100  
Toronto, ON M5J 2T3  
Tel.: (416) 865-6910/6903  
Fax: (416) 863-6275

### **BUSINESS AND PROFESSIONAL ASSOCIATIONS**

**British Columbia Technology Industries Association**  
1122 Mainland Street  
Suite 450  
Vancouver, BC V5B 5L1  
Tel.: (604) 878-0393  
Fax: (604) 683-3879

**Software Productivity Centre**  
1122 Mainland Street  
Suite 450  
Vancouver, BC V6B 5L1  
Tel.: (604) 662-8181  
Fax: (604) 689-0141

**Software Alberta Society**  
10611-98 Avenue  
Suite 1002  
Edmonton, AB T6J 0M1  
Tel.: (403) 426-7762  
Fax: (403) 424-4888

**Software Development Association of Saskatchewan**  
15 Innovation Boulevard  
Saskatoon, SK S7N 2X8  
Tel.: (306) 244-3889  
Fax: (306) 652-1955

**Software Technology Centre**  
Two Research Drive  
Regina, SK S4S 7H9  
Tel.: (306) 791-9111  
Fax: (306) 347-3322

**Manitoba Software Association**  
1313 Border Street  
Unit 68  
Winnipeg, MB R3H 0X4  
Tel.: (204) 697-6020  
Fax: (204) 697-6025

**Information Technology Association of Ontario**  
2800 Skymark Avenue  
Suite 402  
Mississauga, ON L4W 5A6  
Tel.: (406) 602-8345  
Fax: (406) 602-8346

**Canadian Advanced Technology Association**  
388 Albert Street  
Second Floor  
Ottawa, ON K1R 5B2  
Tel.: (613) 236-6550  
Fax: (613) 236-8189

**Centre de promotion du logiciel québécois**  
407 Saint-Laurent Blvd.  
Suite 600  
Montreal, PQ H2Y 2Y5  
Tel.: (504) 874-2667  
Fax: (504) 874-1568

**Conseil de l'industrie du logiciel éducatif et de formation du Québec**  
407 Saint-Laurent Blvd.  
Suite 600  
Montreal, PQ H2Y 2Y5  
Tel.: (514) 874-2667  
Fax: (514) 874-1568

**Canadian Association of Courseware Producers**  
1745 St. Patrick Street  
Suite 202  
Montreal, PQ H3K 3C6  
Tel.: (514) 846-0440  
Fax: (514) 843-1022

**New Brunswick Information Technology Alliance**  
1133 Regent Street  
Suite 109  
P.O. Box 82, Station A  
Fredericton, NB E3B 4Y2  
Tel.: (506) 457-1164  
Fax: (506) 459-0007

**Newfoundland Association of Technical Industries**  
215 Water Street  
Suite 602  
St. John's, NF A1C 6C9  
Tel.: (709) 722-3069  
Fax: (709) 722-3879

**Software Industry Association of Nova Scotia**  
1046 Barrington Street  
P.O. Box 248  
Halifax, NS B3J 2N7  
Tel.: (902) 423-5332  
Fax: (902) 423-9400

#### **Canadian Council for the Americas (CCA)**

The Council is a non-profit organization formed in 1987 to promote business interests in Latin American as well as Caribbean countries. The CCA promotes events and programs targetted at expanding business and building networking contacts between Canada and the countries of the region.

**Canadian Council for the Americas**  
Executive Offices  
360 Bay Street  
Suite 300  
Toronto, ON M5H 2V6  
Tel.: (416) 367-4313  
Fax: (416) 367-5460

**Canadian Exporters' Association**  
99 Bank Street  
Suite 250  
Ottawa, ON K1P 6B9  
Tel.: (613) 238-8888  
Fax: (613) 563-9218

**Canadian Manufacturers' Association**  
75 International Boulevard  
Fourth Floor  
Etobicoke, ON M9W 6L9  
Tel.: (416) 798-8000  
Fax: (416) 798-8050

**The Canadian Chamber of Commerce**  
55 Metcalfe Street  
Suite 1160  
Ottawa, ON K1P 6N4  
Tel.: (613) 238-4000  
Fax: (613) 238-7643

**Forum for International Trade Training Inc.**  
155 Queen Street  
Suite 608  
Ottawa, ON K1P 6L1  
Tel.: (613) 230-3553  
Fax: (613) 230-6808

**Language Information Centre**  
240 Sparks Street RPO  
Box 55011  
Ottawa, ON K1P 1A1  
Tel.: (613) 523-3510

**Open Bidding Service**  
P.O. Box 22011  
Ottawa, ON K1V 0W2  
Tel.: 1-800-361-4637 or (613) 737-3374  
Fax: (613) 737-3643

**Canadian Standards Association**  
178 Rexdale Blvd.  
Rexdale, ON M9W 1R3  
Tel.: (416) 747-4000  
Fax: (416) 747-4149

**Standards Council of Canada**  
45 O'Connor Street  
Suite 1200  
Ottawa, ON K1P 6N7  
Tel.: (613) 238-3222  
Fax: (613) 995-4564

## **MEXICAN GOVERNMENT OFFICES IN CANADA**

The Embassy of Mexico and Mexican consulates can provide assistance and guidance to Canadian companies in need of information about immigration regulations related to doing business in Mexico. For more information, contact:

**Embassy of Mexico**  
45 O'Connor Street  
Suite 1500  
Ottawa, ON K1P 1A4  
Tel.: (613) 233-8988  
Fax: (613) 235-9123

**Mexican Consulate in Ottawa**  
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*Instituto Nacional de Estadística, Geografía e Informática (INEGI)*

*Dirección de Políticas y Normas en Informática*

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Facultad de Ingeniería

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*Asociación Nacional de Importadores y Exportadores de la República Mexicana (ANIERM)*  
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**National Chamber of the Electronic and Electric Communications Industry**  
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