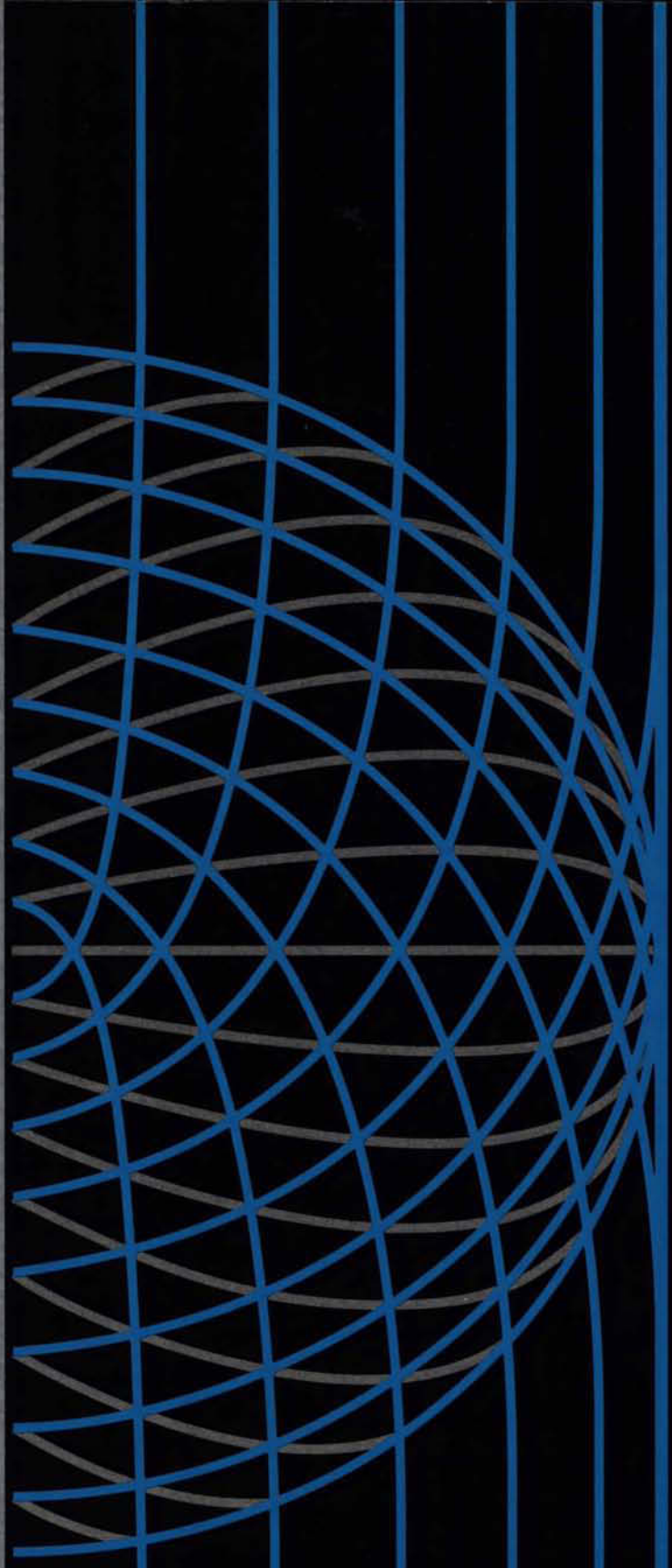
Architectural Services



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Canada

(V.6.92.04)

INDUSTRY PROFILE

1990–1991

ARCHITECTURAL SERVICES

FOREWORD

In a rapidly changing global trade environment, the international competitiveness of Canadian industry is the key to growth and prosperity. Promoting improved performance by Canadian firms in the global marketplace is a central element of the mandates of Industry, Science and Technology Canada and International Trade Canada. This Industry Profile is one of a series of papers in which Industry, Science and Technology Canada assesses, in a summary form, the current competitiveness of Canada's industrial sectors, taking into account technological, human resource and other critical factors. Industry, Science and Technology Canada and International Trade Canada assess the most recent changes in access to markets, including the implications of the Canada-U.S. Free Trade Agreement. Industry participants were consulted in the preparation of the profiles.

Ensuring that Canada remains prosperous over the next decade and into the next century is a challenge that affects us all. These profiles are intended to be informative and to serve as a basis for discussion of industrial prospects, strategic directions and the need for new approaches. This 1990–1991 series represents an updating and revision of the series published in 1988–1989. The Government will continue to update the series on a regular basis.

Michael H. Wilson
Minister of Industry, Science and Technology
and Minister for International Trade

Structure and Performance

Structure

The architectural services industry comprises private firms licensed under provincial legislation to provide independent architectural design and consulting services to the public. This industry is often considered an integral part of the larger building construction sector. Profiles have also been prepared for the related industries of

- *Construction Contracting*
- *Consulting Engineering*
- *Real Estate Development*

Architects specialize in integrating the needs of the client and human occupants with the physical configuration of a space. Traditionally, architects play the dominant role in the design of buildings that are primarily people-oriented rather than industrial. Architects design buildings used for educational, health care, residential, commercial, religious, sport, medical and institutional purposes. In addition, architects carry out such non-design functions as feasibility studies, heritage restoration, urban planning and project management. Architectural firms act as the principal consultant to the client, usually a building owner. They receive, or assist in defining, the client's requirements, translate them into the overall building design, produce working drawings and contract documents, review the construction process, and authorize payment. This traditional role is now expanding to include a managing or co-ordinating consulting role.

On projects that are large and technically sophisticated, consulting engineers are also engaged. Consulting engineers

are usually specialists in structural, electrical, mechanical or other engineering design services and are normally subcontracted by the architect. The roles of principal consultant and subcontracting consultant are sometimes reversed when the engineering aspect of a project is the major component, as in the cases of industrial or chemical plants, where the primary focus of the work relates to the efficiency of the industrial process. Engineers apply expertise to some technical aspect of a building, whereas architects create or design not only the efficient use of space for the client's purposes, but also features that contribute to the comfort, health, safety, enjoyment and aesthetic pleasure of the occupants.

Architects in Canada are self-governing professionals, operating under authority granted to them by provincial legislation. This provincial legislation, known as the *Architects Act* in each province, gives the architectural association in each province the authority to determine the qualifications for registration, to license all architects within the province, to allow the practice of architecture to only those holding such licences, and to ensure that all holders of licences maintain an acceptable level of professional service. The purpose of these Acts is to ensure that architects responsible for the design of buildings used by the public are properly trained and qualified. These procedures are similar to those of most countries throughout the world, although some countries, notably Sweden, Norway, Finland, the Netherlands and Yugoslavia, have no legislation. In these countries, anyone is permitted to call himself or herself an architect. In other countries, regulation and legislation differ from those in Canada and often are not as rigidly enforced.

Architectural firms are generally small businesses, with an average of five employees each. One reason for the small firm size is the preference of most architects to maintain direct personal involvement in the design aspect of their projects. Perhaps because managing a large organization usually leaves little opportunity for such personal involvement, only about 6 percent of the 3 200 architectural firms operating in Canada maintained more than one office in 1991. Total employment that year was estimated at 11 500 people.

Only about one-quarter of Canadian architectural firms are incorporated. Architectural firms, like other businesses in Canada, can incorporate and receive business or contract limitation to liability in all provinces except Quebec. However, in all parts of Canada, unlike other businesses, architectural firms do not receive any limitation of professional liability because provincial legislation holds architects liable for their work for life. This liability effectively eliminates one of the main advantages of incorporation.

The industry is almost totally Canadian-owned. While some of the leading Canadian firms are active abroad, architectural firms in general are not. Only five Canadian firms are known to have permanent branch offices outside Canada. A number of others have associated themselves with local firms in other countries under local registration requirements. Such links allow them to gain local professional knowledge.

Firms with established offices in foreign markets, frequently employ local staff and managers because of difficulties in obtaining visas and work permits for foreign personnel in those countries. The actual architectural work may be carried out in either the foreign office or the home office. The major export market for Canadian architectural services is the United States, which provides about 35 percent of Canadian industry revenues from foreign markets.

More than half of the foreign projects carried out by Canadian firms involve architects in less than their full range of services, mainly because of the foreign licensing requirement and the practical advantages of having a local joint venture partner. Canadian architects often provide only conceptual designs in co-operation with a local firm or perform only related services, such as facilities management, urban design or technology transfers. Most countries have a fairly high degree of domestic capability to meet their own requirements and employ foreign firms only for expertise not available locally.

Performance

From the limited data available, it is estimated that the industry experienced a lower growth rate after 1975 than it enjoyed in the 1950s and 1960s. From 1977 to 1982, the industry experienced an average real growth in revenue (in constant 1981 dollars) of less than 2 percent per year. During the same period, the number of firms increased by an average of 14 percent per year.

From 1982 to 1985, the growth in revenues in constant 1981 dollars increased somewhat to about 4 percent per year. In 1986, the latest year for which reliable statistics are available, an improvement in business resulted in an estimated average real growth of about 5 percent per year. This growth occurred primarily in Ontario and Quebec.

Strengths and Weaknesses

Structural Factors

Legislation controlling architects and the practice of architecture varies slightly from province to province. This causes minor impediments to architects wishing to do business in provinces other than the one in which they are licensed (e.g., a firm registered to practise in Ontario but wishing to do business in Alberta or British Columbia). Provincial legislation controls not only the licensing of architects, but also many of the business aspects of architectural

practice, including the type of service they can offer to the public, the right of architectural firms to integrate with firms offering related services such as consulting engineering and interior design, and ownership of architectural firms. Provincial legislation, while not prohibiting an architect from acting as a developer, does restrict the activities of architectural design firms, prohibiting them from engaging in the design-build business for a client. The purpose of the legislation is to ensure that the architect has no financial interest in construction contracts in order to avoid conflicts of interest arising from a dual capacity as the client's representative and the builder. Two of the many services the architect traditionally provides to a client are to certify that the building has been built in accordance with the plans, specifications and all applicable codes and regulations and to authorize payment to the builder.

Ownership of architectural firms in Canada is usually restricted to a majority control by licensed architects. Architects in Canada are professionals who usually enter this industry because of their personal interest in designing buildings. Generally, they are not interested in developing large corporate organizations. Consequently, even in Ontario and other provinces where it is permitted, architectural firms have shown little interest in integration with other professionals.

In Canada, design-build projects are usually promoted and undertaken by developers, who then engage an architectural firm or use in-house design capability. In these cases, if an architect is engaged, the client is the developer and not the ultimate building user or purchaser. While this approach can result in effective construction projects, the independent, unbiased, professional opinion may be overshadowed by the economic priorities of the developer.

Most large integrated corporations in other countries that provide architectural services do so as part of a broad range of services, which often include a turnkey capability. These firms are often national or multinational corporations, organized and directed by engineers, developers or others with a more general financial or business type of orientation, rather than by professional architects.

The U.S. architectural industry serves as a useful comparison, as it is Canada's nearest neighbour and major competitor. In 1989, the U.S. architectural industry consisted of about 18 000 firms, employing an estimated 140 000 persons. In both countries, the industry is composed of a vast number of very small firms. Fifty percent of the firms have a staff of only five people, while over 50 percent of the total revenues are produced by the top 7 percent of firms. One major difference between the United States and Canada is the number and size of these large firms. In 1989, the United States had 54 firms with over $7 million in revenue, while Canada had 7 firms in that range. These very large firms account for a significantly high proportion of the domestic revenues and virtually all of the foreign billings.

In proportion to its population, Canada has almost twice as many architectural firms as the United States. This is largely because the building construction industry in Canada is also approximately twice the size of the U.S. industry as a proportion of gross domestic product (GDP), possibly indicating that the U.S. infrastructure is at a more mature level of development or that Canada's more severe climate entails costlier building requirements.

There is a much higher proportion of architectural firms with engineering capability in the United States than in Canada. In the United States, these integrated firms are able to offer a larger staff with a wider range of services, and they account for 45 percent of all foreign billings. Only 55 of the top 300 U.S. design firms are purely architectural. Although no accurate statistics are available, it is estimated that about 10 architectural firms in Canada are able to offer integrated architectural and engineering services. The number of engineering firms that offer integrated engineering and architectural services is much larger in both countries.

One significant difference between the two countries is that the licensing authority in the United States is a board appointed by the state government rather than the architectural association. Under this system, American architects have less influence or control in establishing the licensing requirements or qualifications than Canadian architects. This may account in part for the greater uniformity in licensing qualifications between provinces in Canada than between states in the United States.

Canadian billings in foreign markets are relatively small. Some Canadian firms have been successful in international markets, but the majority lack the size, experience and large financial resources required to organize an effective foreign marketing effort. Moreover, only a few Canadian firms have been able to develop an expertise in any one field of architecture. This places them at a disadvantage, as foreign clients usually go abroad to seek a specialist with an expertise that is not available locally.

The strength of the leading Canadian firms lies in their quality of design and use of technology. The Canadian construction industry is a leader in the development and use of new materials and construction techniques, and Canadian architects are quick to incorporate these into their new building designs.

Canada's leading firms are very competitive in the purely architectural role, as can be illustrated by the number of international competitions they have won. However, as previously noted, as an industry of predominantly small firms, they lack the resources to maintain a sustained foreign marketing effort.

As a result, Canadian billings in foreign markets in 1986 were estimated to account for only 1 percent of total revenues. The low involvement of Canadian architects in foreign markets is partly because they are prohibited from acting as contractors or providing turnkey services, unlike large corporations from the United States, the United Kingdom, France and Japan. Consortia or joint ventures are permitted between independent firms, and these techniques are used by Canadian architects on a project-by-project basis.

Having architects as independent consultants serves clients well, but inhibits the formation of large, integrated corporations. As a consequence, the substantial portion of the export market that is composed of turnkey projects appears to be lost to Canadian architectural firms. The real extent of this business opportunity is difficult to estimate, however, because the majority of firms from other countries undertaking turnkey projects are neither architectural firms nor firms headed by architects. They are more often engineering, contracting or manufacturing corporations that take the lead in organizing a design-build team, which includes an architectural firm or in-house architectural capability. While this foregone business may be significant, it is not considered to be part of the normal architectural market for Canadian architects. The turnkey project is more closely related to the normal market for real estate developers than for independent architectural services. Under a turnkey operation, a client requires a firm price for the combined design and construction phases of the project. It is impossible for the architect, as an independent designer, to guarantee the price of a project when another firm has the responsibility for the contracting or construction part of the project. The loss of this potential market is offset to some extent by the reputation gained by Canadian architects as being pre-eminently disposed to providing an unbiased professional service to their clients. This role would be forfeited if the architect acted as the designer and developer.

Trade-Related Factors

There are no tariffs in architectural consulting services, as no product is imported or exported. However, most countries, including Canada and the United States, have non-tariff restrictions that control the provision of traditional architectural services by foreign firms. These restrictions are more irritants than barriers, as many experienced firms have found ways to circumvent them through local joint ventures or subcontract arrangements. Other professions, such as consulting engineering, are also affected by similar irritants, which include professional licensing, requirements for temporary entry of professionals, work permits and local preferential procurement practices.

All architectural firms operating in the United States must be registered and licensed by state licensing boards, whose regulations vary from state to state. Often in the past, some states have required a Canadian architect to write examinations to obtain a licence.

American or other foreign architectural firms attempting to compete in Canada face a similar regulatory regime. They must meet provincial licensing requirements, obtain a temporary licence or enter into a joint venture with a Canadian firm. There are no specific restrictions against foreign architects registering in any province if the provincial architectural association recognizes the association of architects of which the applicant is a member as one with similar objectives and standards as the host provincial association.

The Canada-U.S. Free Trade Agreement (FTA), implemented on 1 January 1989, has aided the Canadian industry in three ways:

- Temporary-entry permits for professionals have been made much easier to obtain. Entry into each country for business purposes is now a routine procedure. Firms must still meet the appropriate licensing requirements of the jurisdiction in which they wish to practise.
- Future regulations cannot be more restrictive than the current ones.
- An accord between American and Canadian architectural associations sets out a plan and timetable for both countries to work towards the harmonization of their licensing and work practices as well as the regulation of professional conduct before the end of 1991.

Progress towards a reciprocity agreement between architects in Canada and the United States has been significant. In 1991, an agreement was reached between the Committee of Architectural Councils and the National Council of Architectural Registration Boards, the umbrella organizations responsible for co-ordinating architectural regulatory matters in Canada and the United States, respectively. The agreement ratified standards that will allow qualified architects from each country to be registered in the other. The establishment of mutually recognized criteria completed an intensive two-year effort.

Within Canada, provincial barriers to practice have also been removed. In 1989, the provincial architectural associations agreed upon the common goal of guaranteeing the right to practise on a national basis to a competent Canadian registered architect. Once granted, no re-examination or further qualification of that professional is necessary, except for specific regional issues such as laws, language and local conditions that have been identified within the boundaries and jurisdiction of each professional association. This goal was achieved in December 1991.

This elimination of provincial barriers is based on a uniform standard of certification by all provincial associations with respect to education, postsecondary experience and registration examination requirements.

The provincial associations recognize that shaping the commitment to full reciprocity in Canada should be done with the understanding that the effort eventually should satisfy international standards. They have also adopted common admission standards, which would allow portability of individual registration with the United States as well as between provinces. Local preferential procurement practices exist in both Canada and the United States. While having no restrictions against foreign firms, the General Services Administration of the U.S. government awards contracts only to firms with an operational office in the specific location of the project. This will not change under the FTA. Most provincial and municipal governments in Canada also have local preference practices. The Canadian federal government does not have specific restrictions relating to the engagement of non-Canadian architectural firms. However, foreign firms must meet the same registration criteria as Canadian firms, including being licensed to practise in the province of the project. Preference is often also given to firms that have an operational office in the region of the project, but this can, for legitimate reasons, be related to the need for close communication between the architect and the client or supervision on the site. As in the United States, it is anticipated that this policy will be unaffected by the FTA.

Four major handicaps facing Canadian firms restrict the export of Canadian architectural services:

- strong competition arising when Canadians attempt to establish themselves in markets where other foreign firms are already firmly entrenched;
- licensing restrictions and immigration regulations imposed by other nations, including newly industrialized countries (NICs), that have developed or are in the process of developing their own architectural capability, which usually fulfils most of their requirements;
- the small size of Canadian firms, which tend to lack the human and financial resources of their international competitors; and
- the lack of integrated architectural firms with design-build or turnkey capability in Canada.

Architectural consulting requires a concerted effort to promote the capabilities of the firm and to secure contracts. It is more difficult to gain the confidence of a client when selling an intangible concept than when selling a tangible product. A number of visits to potential clients are usually required for the architect to develop credibility. In the export market, this need translates into high travel costs. In addition, the need to provide clients with preliminary plans and drawings that illustrate the architect's concept before signing a contract can cost hundreds of thousands of dollars, money that is not reimbursed to unsuccessful firms.

Technological Factors

Architects perform little scientific research and development (R&D), although they often act in a consulting role in testing or applying the results of R&D. However, they play an important role in the innovation process by developing new uses for existing materials or by identifying requirements for new ones. Architectural design by definition is highly innovative. New concepts for building often require or encourage R&D by material or component manufacturers, resulting in the development of new materials or products. Architects frequently work closely with manufacturers to advise on and encourage the development of a specific product for use in a building. In this way, while not actively involved in R&D per se, architects can be considered active participants in the national R&D effort.

There are barriers that impede effective innovation by architects. The provincial government legislation and related by-laws under which architectural firms are licensed restrict the financial interest of architects in any building material or product, as this may conflict with the best interests of the clients. The scale of building projects can be very large, and may exceed the financial risk or liability that architectural firms may be willing to accept in using innovative materials or techniques. Since architectural innovation is usually non-proprietary, the results seldom benefit the individual architect directly but rather benefit the client, the building industry at large and the general public. The growing pressure from clients to reduce fees militates against improvements in building design. While the architect carries the liability for innovation and the increased costs of the time and effort required to develop innovative concepts, the results do not benefit the architect financially. In addition to the lack of financial return, innovative concepts carry an additional disincentive in the unlimited professional liability imposed on the architect by the provincial legislation.

It is estimated that 75 percent of all firms are using computers in some way, primarily for word processing. Only very small firms are believed to be without computers. However, the technology for computer-aided design (CAD) or computer-aided drawings often used by consulting engineers does not usually produce the same cost-benefit returns when applied to the more complex, less standardized architectural

field. A 1990 survey of U.S. architects showed that only about 25 percent of all firms, or 35 percent of firms with computers, were using CAD. Within most of these offices, fewer than half of all drawings were produced using computer techniques.[1] It is estimated that the proportion is no greater and possibly less in Canada. The highly artistic and subjective nature of architectural design still limits the economical application of computer technology on a scale appropriate to the relatively small architectural office.

The lack of efficiency and the expense of computer workstations, software and training, when coupled with the lack of financial return, has added a significant financial load to the operation of an architectural office. Architects have traditionally operated with relatively little investment in physical assets. This has enabled small firms to get a ready start and then grow to their potential. The increased adoption of computer technology has greatly increased the need for capital investment in office operation, and opening a new office is now a larger financial undertaking. Computers are required as much to present an appearance of being up to date as to increase economic efficiency. Many clients now demand CAD technology, even if there is no direct benefit to the client. This industry is still very labour-intensive, even with the introduction of computers and computer-aided drafting.

The adoption of computer technology by architects appears to be slower and at a lower technical level in Canada than in the United States. The greater number of larger, better-financed, high-profile American firms using CAD may account for this impression.

Evolving Environment

The demand for architectural services is influenced primarily by general economic activity and its effect on building construction. If business is improving and new buildings are required, the demand for architects grows. The future growth of the industry appears limited, however. National projections by a major Canadian economic forecaster for building construction into the next decade indicate very little growth in real terms between 1990 and 1995.[2] From 1992 to 1995, for example, Canadian growth in non-residential construction is forecast at 2 percent per year. At present, an overcapacity of constructed buildings for the commercial and residential markets is developing in many regions. This overcapacity is leading to a reduced demand for architectural services.

The demand for architectural services can also be affected by government spending. In the fields of health and education, for example, most projects depend to a great degree on government funding. In these times of budgetary restraint, funds available for building construction have decreased; consequently, the forecast demand for architectural services in these areas over the next decade is not optimistic.

The architectural services industry is constantly evolving. Traditionally, more than 85 percent of architectural fees were derived from institutional, commercial and multifamily residential buildings. The activity in these markets relates closely to the patterns of overall economic growth. Even though the market for traditional design services is static at this time, opportunities are emerging in non-traditional areas. As a result, aggressive firms are exploring new markets and are offering a broader range of services, including urban and housing policy development, urban and community planning, urban design, prefeasibility and feasibility studies, architectural programming (a detailed analysis of client needs translated into building terms), facility planning, interior design, project management and building evaluations.

Joint ventures between architectural and engineering firms are becoming more common, as are co-operative projects with Canadian developers, material suppliers and financial institutions. Because these joint ventures are usually on a project-by-project basis, however, they do not give rise to the sustained marketing effort needed for effective export promotion. A few more aggressive firms have created loose marketing groups or an association between individual firms offering related services. For purposes of marketing, a distinctive group name may be used together with common or joint promotional material. A formal corporate unit is seldom created due, in many cases, to the restrictions placed on the ownership of architectural firms. One method firms have utilized to operate within these restrictions is to form a corporation of partnerships.

The FTA will increase opportunities and competition in both countries. However, other than easing immigration procedures, the FTA is expected to have little immediate impact on the exchange of architectural services between Canada and the United States. U.S. firms will provide strong competition due to their larger financial base, broader range of services offered and more sophisticated management.

[1] American Institute of Architects, *Architectural Factbook: Industrial Statistics* (Washington, D.C.: AIA, 1990).

[2] Informetrica, *The Canadian Economy to 2000* (Ottawa: Informetrica, November 1990).

Competitiveness Assessment

The Canadian architectural services industry has not traditionally been a major player in world markets, as firms have focused primarily on meeting domestic needs. In fact, until the mid-1970s, Canadian architects were fully employed in Canada. Since that time, a few firms, despite their relatively small size and modest financial resources, have been slowly breaking into the export market.

Canada's leading firms now have established an international reputation for design excellence in all regions of the world from the United States and the United Kingdom to Hong Kong, India and the Middle East. These leading firms have won contracts for large, high-profile projects abroad against stiff foreign competition from larger companies. However, despite these achievements, a significant penetration of the international market is not expected. On average, Canadian architectural firms lack the strong financial base to permit them to carry on a determined international marketing strategy. Also, they have difficulty in competing with large, integrated companies that can provide architectural services as well as engineering, financing, construction and sometimes ongoing facilities management. Although such integrated companies are not considered part of the architectural industry, they may provide increasing competition for architects in the future.

Foreign firms have not penetrated the Canadian market. Canadian architectural firms are highly competitive domestically and provide Canada with a high level of building design and technology. Aesthetically as well as technically, Canadian buildings in general are equal or superior to those built in any other country.

For further information concerning the subject matter contained in this profile or in the ISTC initiative (see page 11), contact

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PRINCIPAL STATISTICS

	1974	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Firms[a]	1 283	2 200	N/A	N/A	2 602	2 629	2 888	3 100	3 200	3 200	3 200
Employment[b]	8 500	9 900	N/A	N/A	N/A	12 700	12 900	12 900	13 000	12 000	11 500
Total billings[b] ($ millions)	314	501	420	480	533	686	700	722	850	N/A	N/A

[a]Data based on figures supplied by the Royal Architectural Institute of Canada.

[b]ISTC estimates.

N/A: not available

TRADE STATISTICS[a]

	1974	1982	1983	1984	1985	1986	1987	1988
Canadian billings in foreign countries ($ millions)	6	12	N/A	N/A	N/A	6	N/A	6
Domestic billings ($ millions)	308	489	N/A	N/A	N/A	680	N/A	716
Foreign billings in Canada ($ millions)	3	2	N/A	N/A	N/A	2	N/A	2
Canadian market ($ millions)	311	491	N/A	N/A	N/A	682	N/A	718
Canadian billings in foreign countries (% of total billings)	2	2	N/A	N/A	N/A	1	N/A	1
Foreign billings in Canada (% of Canadian market)	1	<1	N/A	N/A	N/A	<1	N/A	<1

[a]One of the major problems in identifying trends in this industry is the lack of reliable statistical data. What little data exist come from a number of sources, including Statistics Canada, each collected by a different method; therefore, collating data from the different sources is virtually impossible. Most numbers in this table are ISTC estimates.

N/A: not available

REGIONAL DISTRIBUTION[a] (average over the period 1986 to 1988)

	Atlantic	Quebec	Ontario	Prairies	British Columbia
Establishments (% of total)	4	30	39	13	14
Employment (% of total)	5	26	42	13	14

[a]ISTC estimates.

MAJOR FIRMS

Name	Country of ownership	Location of head office
Adamson Associates Architects Planners	Canada	Toronto, Ontario
Architects Crang and Boake Inc.	Canada	Toronto, Ontario
ARCOP Associates	Canada	Montreal, Quebec
The Cohos Evamy Partners	Canada	Calgary, Alberta
Dunlop Farrow Inc. Architects	Canada	Toronto, Ontario
Hemingway Nelson Architects	Canada	Vancouver, British Columbia
Musson Cattell Mackey Partnership	Canada	Vancouver, British Columbia
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SECTORAL STUDIES AND INITIATIVES

The Construction Industry and Capital Projects Directorate of ISTC is working closely with the national association, the Royal Architectural Institute of Canada (RAIC). Co-operative initiatives are being undertaken to address commercial issues and serious data gaps relating to this industry.

ISTC has financially supported industry-initiated negotiations aimed at developing a detailed agreement with U.S. architects. These agreements may become an integral part of the Canada-U.S. Free Trade Agreement.

The RAIC embarked on an in-depth analysis and study of trends facing the future of architects. This study, called *Architecture in the Year 2000*, was conducted parallel to a similar study in the United States by the American Institute of Architects. The objective of this study was to identify the social, technological, economic, environmental and political trends anticipated over the next decade. Once identified, an analysis of their impact on the future of architects was studied. The results will assist the practising architect to be better prepared to adjust to changes arising in the future.

Architecture in the Year 2000 was presented at the annual meeting of the RAIC in Toronto, 24-25 October 1991. This report shows that the architectural industry will be facing a changing environment over the next decade, which will significantly challenge the profession. The attitude of society towards the preservation of the environment and the impact of this on the construction industry will challenge the architects to lead or be led. The rapidly changing technology and greater availability of information on this technology is producing a more sophisticated and enlightened clientele, who will be demanding more information and a high level of service from the architect. The traditional leadership role of the architect in the design team will be under increasing pressure from both the client and other professions. It is forecast that the market for architectural services is also changing. It is expected that the market for new building will decrease, with more interest being directed towards conserving and reconditioning the existing building stock. Participants in the survey have expressed the opinion that Canada is less prepared at this time for this transition and that it lags behind other countries in the development and application of new science and technology in the construction industry. The future of this segment of the Canadian industry may depend on how well the industry reacts to this report and prepares to meet the year 2000.

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