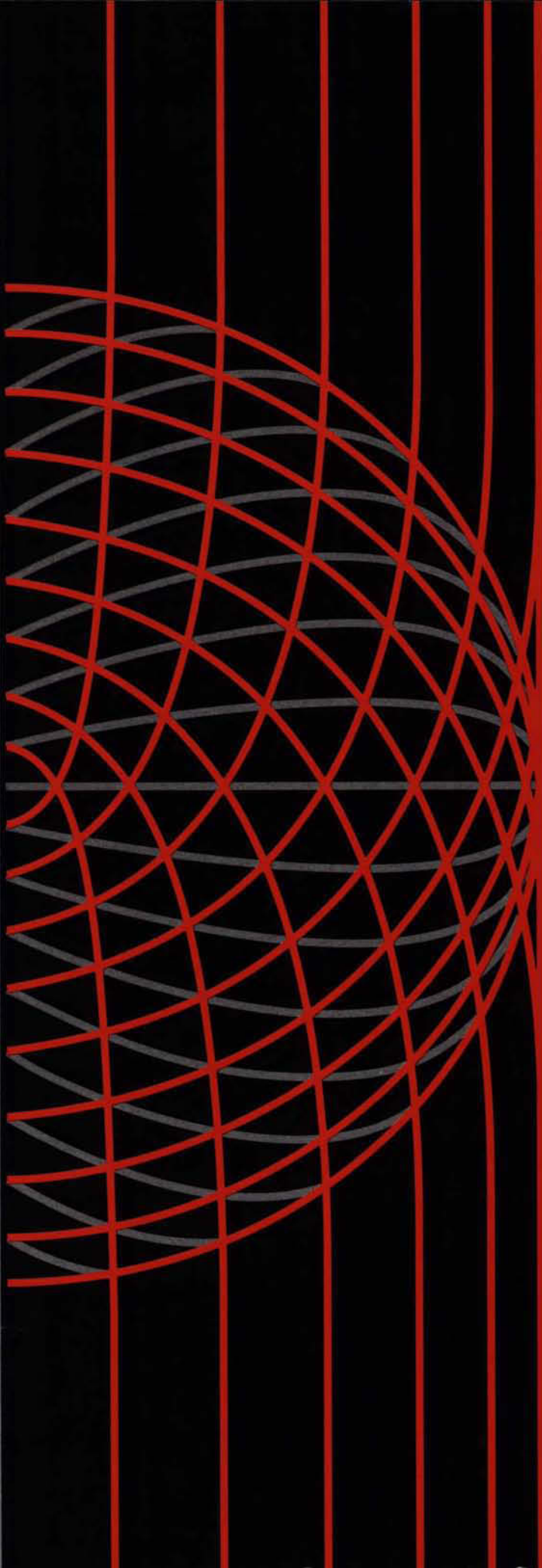
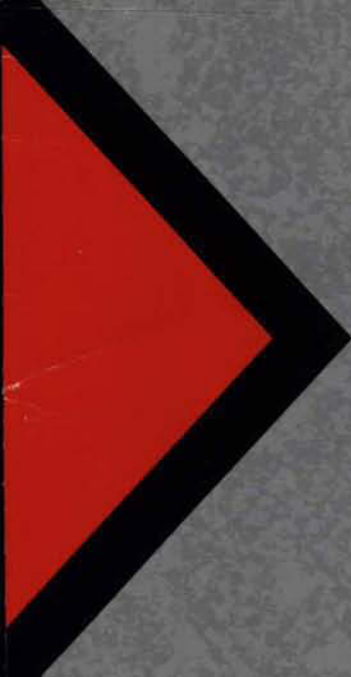


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1990-1991

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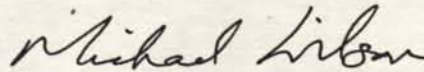
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BIBLIOTHÈQUE
INDUSTRIE, SCIENCES ET
TECHNOLOGIE CANADA**FOREWORD**

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

Introduction

Several firms making materials handling equipment in Canada also make similar equipment for other industries. The category assigned by Statistics Canada to a piece of equipment therefore frequently depends on how it is used rather than on its physical characteristics. Statistics Canada groups data on machinery and equipment under SIC 3192.¹ Five profiles have been prepared from this SIC category:

- *Construction Machinery*
- *Forestry Equipment*
- *Materials Handling Equipment*
- *Mining Equipment*
- *Oil and Gas Field Equipment*

In preparing these industry profiles, the Statistics Canada data have been sorted by Industry, Science and

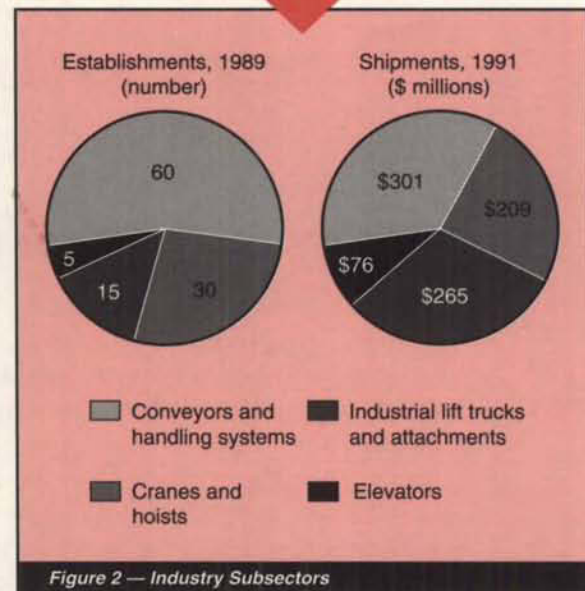
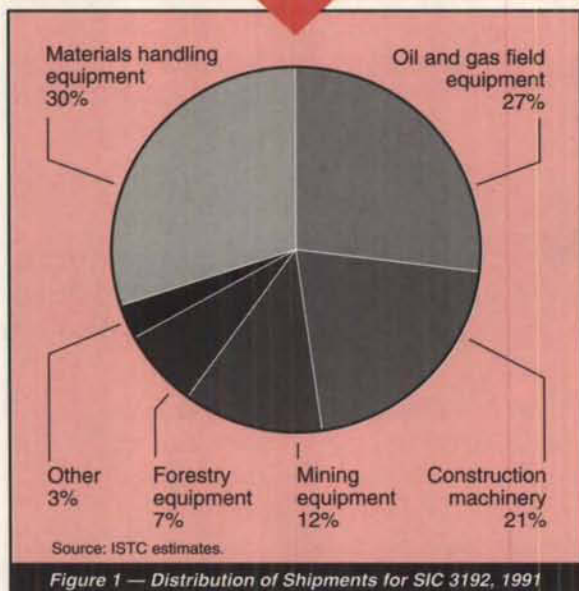
Technology Canada (ISTC) according to the industry in which the machinery or equipment is used or the service is performed. Care has been taken to avoid double-counting in the disaggregation of these statistics.

The value of shipments for the industries in SIC 3192 in 1991 was estimated by Statistics Canada to be \$2 841 million. Figure 1 shows the share of that total allocated to the particular industries. ISTC estimates that materials handling equipment was the largest, representing 30 percent of total shipments.

Structure and Performance**Structure**

The materials handling equipment industry consists of firms that are primarily concerned with the manufacture of machinery and systems designed to lift, convey and position

¹See *Standard Industrial Classification, 1980*, Statistics Canada Catalogue No. 12-501 (SIC 3192, construction and mining machinery and materials handling equipment industry).



various materials or items. The industry also includes firms that make equipment used to transfer people and freight vertically. This breakout of machinery and equipment differs from that of Statistics Canada; therefore, all non-trade data are ISTC estimates and trade data are based on aggregates of ISTC and Revenue Canada codes.

In its peak year, 1989, there were 110 establishments in Canada directly involved in manufacturing these types of equipment, with total direct employment of approximately 8 500 people. Most production facilities were located in Ontario (43 percent), with significant manufacturing also taking place in the Prairies (26 percent), Quebec (16 percent) and British Columbia (12 percent). Firms in the industry are predominantly owned by U.S. and other multinational enterprises. These subsidiaries had been established to serve the Canadian domestic market in the 1950s, when Canadian tariff rates on imports were between 20 and 25 percent.

The industry is composed of four subsectors (Figure 2). The conveyors and handling systems subsector consists of belt conveyors, stacker-reclaimers, shiploaders, feeders, pneumatic conveyors and radial stackers used for transporting goods in bulk and for applications in the resource industry, and also includes unit conveyors, roller conveyors, overhead chain conveyor systems, wire mesh conveyors, automatic storage-retrieval systems and palletizers used in unit handling applications. The cranes and hoists subsector includes overhead travelling bridge cranes, jib cranes, gantry cranes and winches, all of which are used in lifting or pulling operations. The industrial lift trucks and attachments subsector includes pneumatic-tired

counterbalanced forklifts, motorized pallet trucks, telescopic boom-type lift trucks, hand trucks and fork attachments used to pick up and transfer payloads by forklift. The elevators subsector consists of gearless machines, geared machines and hydraulic units used in the vertical transfer of passengers and freight, and includes escalators and moving sidewalks.

Industry shipments, in real or constant 1988 dollars, peaked over the period 1988 to 1990 at \$994.2 million to \$997.1 million. The industry exported between \$313.7 million to \$332.9 million of its shipments, of which 84 to 89 percent went to the United States. Similarly, the United States dominated foreign suppliers, providing 63 to 69 percent of total imports worth \$745.1 million to \$867.4 million. The bulk of these imports were in the lift truck subsector. After taking trade into account, the Canadian market was then some \$1 428.5 million to \$1 528.7 million.

By 1991, shipments in real 1988 dollars are estimated by ISTC to have fallen to \$777.6 million. Trade was reduced with exports falling to \$245.3 million and imports decreasing to \$578.7 million (Figure 3). This reflected a shrinkage of the Canadian market to \$1 111.0 million, or a 22.2 percent real decline from the 1990 level.

Some 60 firms account for the majority of the activity in the conveyors and handling systems subsector. Shipments, in current dollars in 1991, were valued at \$301 million or 35 percent of the industry total, and consisted of products for unit handling and bulk handling applications. Exports in 1991 amounted to \$45 million. Imports in 1991 were worth \$96 million and consisted largely of components originating

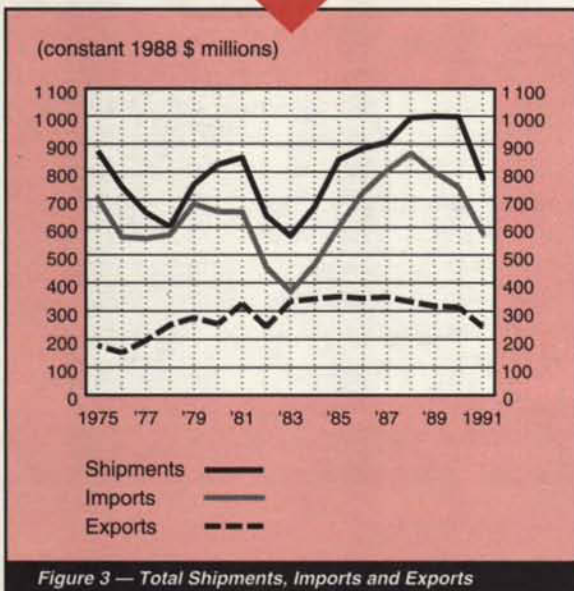


Figure 3 — Total Shipments, Imports and Exports

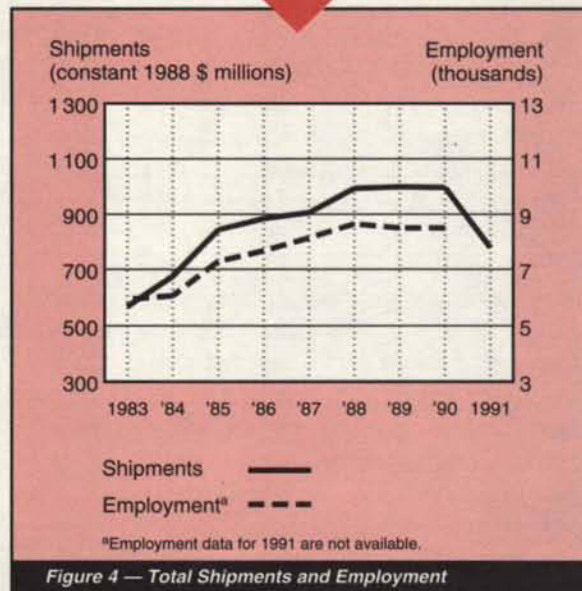


Figure 4 — Total Shipments and Employment

in the United States, Japan and Europe. This subsector is dominated by U.S.-owned multinationals. Some Canadian subsidiaries of these firms are restricted from supplying the U.S. market from their Canadian plants.

Approximately 30 firms, most of which are Canadian-owned, operate in the cranes and hoists subsector. In current dollars, this subsector had shipments of \$209 million in 1991, amounting to 25 percent of the industry total. Exports in 1991 were valued at \$35 million. Imports, amounting to \$146 million in 1991, consisted of products not manufactured in Canada, such as construction tower cranes, crawler cranes and all-terrain hydraulic cranes. Most hoists are imported, although some assembly is completed in Canada. The subsector is dominated by about 15 companies with well-established manufacturing facilities and custom-engineering capabilities. They produce industrial bridge cranes, gantry cranes and such standard items as floor cranes and lift tables. Smaller companies tend to concentrate their activity in such areas as crane carriers, hydraulic winches and lift platforms.

Shipments of industrial lift trucks and attachments in 1991 in current dollars were worth \$265 million, or 31 percent of the industry total. The Canadian market for industrial lift trucks, however, was valued at \$420 million that year. Exports of \$157 million were directed entirely to the United States. Imports worth \$312 million consisted of vehicle types not manufactured in Canada. Some 15 firms operate in this subsector within narrowly defined product areas.

The elevators subsector had shipments worth \$76 million in 1991 in current dollars, or 9 percent of the industry

total. Exports, consisting largely of fabricated parts, amounted to \$32 million. Imports in 1991 were valued at \$80 million. Most domestic shipments are manufactured by five companies, of which two are dominant. Installations are done by all of the major manufacturers, who must also provide aftermarket service, with full coverage of locally available maintenance activities.

Performance

The 1981–1982 recession resulted in a decline in total shipments of materials handling equipment in 1983. Consequently, the industry restructured by downsizing its production facilities and emphasizing productivity in response to the highly competitive market that emerged.

From 1983 to 1988, the Canadian market for materials handling equipment increased from \$600.7 million to \$1 528.7 million (in constant 1988 dollars), reflecting the trend of industry sectors at large to become more mechanized in the handling of their materials. Over the same period, shipments increased from \$567.7 million to \$994.2 million (in constant 1988 dollars), representing a real annual growth rate of 11.9 percent per year (Figure 4). Exports, expressed as a percentage of shipments, declined from 59 percent in 1983 to 33 percent in 1988. These statistics show that the industry became more domestically oriented, concentrating on the growing needs of the Canadian market.

Adverse shifts in trade resulted from adjustments in the globalization of manufacturing and rationalization of production. The Canadian market grew two and a half times from



1983 to 1988. Imports increased by 236 percent from 1983 to 1988, while exports fell by less than 1 percent in real terms. Value shipped by the Canadian industry grew by 75 percent, thereby failing to keep pace with market growth.

The industry remains strong in its ability to custom-engineer system solutions, but some closures have taken place as firms have rationalized their operations in order to improve their economies of scale and maintain their competitive position.

Exports in the conveyors and handling systems subsector have decreased since 1983, while imports in 1988 were more than double those of 1983. Demand for unit conveyors has remained strong as many companies have sought to mechanize and improve the cost-effectiveness of their handling operations. The demand for bulk conveyors, however, has been slow due to the reduction of new, large resource-related projects and port-handling systems.

Shipments in the cranes and hoists subsector showed modest growth from 1983 to 1989. Estimated data indicate a decline in the demand for cranes and hoists from 1989 to 1991, which has given rise to concerns expressed among the largest firms in this subsector, where facilities are operating at very low capacities. Efforts are being made to diversify into such other areas of heavy-duty fabrication as steel structures and conveyors.

The industrial lift trucks and attachments subsector is highly competitive. The range of available units in North America is extensive. The U.S. market requires some 120 000 units annually, largely for factory and warehouse purposes. Canadian production is estimated at 7 500 units, about 6 percent of the total U.S. market need. The volume of the U.S. market for industrial lift trucks and attachments has attracted significant Japanese investment in highly automated, U.S.-based manufacturing facilities. To remain competitive, manufacturers have rationalized on a North American basis by focusing Canadian manufacturing on particular model types, such as narrow-aisle units. Major restructuring has taken place, thereby improving economies of scale and specialization. To meet the needs of the Canadian market, on the other hand, Canadian producers concentrate on units peculiar to Canadian geography and requirements such as rough-terrain forklifts with specific-purpose attachments.

Geographical centralization of facilities to improve economies of scale and initiatives to increase the installed equipment base have become important factors in the elevators subsector. This trend is shown by the recent acquisition by Schindler of the worldwide Westinghouse Elevator Division operations and the closure of the Otis manufacturing operation in 1987 to centralize activity in the United States.

In summary, the materials handling equipment industry performed well from 1983 to 1990, concentrating its efforts on supporting the needs of the domestic market. Because of the slowdown in capital investments, a period of decline has occurred recently. In 1991, constant 1988 dollar shipments fell by \$219.5 million from 1990, and the Canadian market fell by \$317.5 million. Slow growth is now anticipated to adversely affect shipment volumes into the early 1990s, particularly for those subsectors influenced by resource-based projects, capital equipment investments and construction of highrise buildings. Consequently, the export market is expected to become an area of increased attention.

Strengths and Weaknesses

Structural Factors

The development of the Canadian materials handling equipment market has paralleled that of the U.S. market over the past several years. As neighbours and as major trading partners, Canada and the United States have experienced similar economic conditions. The Canadian industry is dominated by U.S. subsidiaries whose autonomy is restricted by a mandate to serve the Canadian market or to operate within a rationalized manufacturing system organized on a North American basis. As a result, most Canadian-owned companies have concentrated on improving their competitiveness in unique products or systems for niche markets.

This focus has created a multifaceted industry that offers a broad range of specialized products and customized systems operating from well-equipped and modern manufacturing facilities. Modern production procedures are employed and supported by stable costs for labour and material with excellent custom-engineering capabilities. Management is seasoned and experienced and has strong product knowledge. Production labour is skilled, but in some product areas is in short supply, largely due to the lack of training. Some companies have developed their own internal training programs in order to avoid the problems caused by these shortages.

The materials handling equipment industry as a whole is mature (Figure 5), and substantial investments have been made in equipment and facilities. Most companies have strong engineering capabilities and have incorporated computer-aided design (CAD) and computer-aided engineering (CAE) systems. While the manufacturing techniques employed are traditional and depend largely on skilled labour in the production process, companies have adopted just-in-time (JIT) inventory controls and computer-aided manufacturing (CAM) to improve their efficiency, throughput and competitiveness.

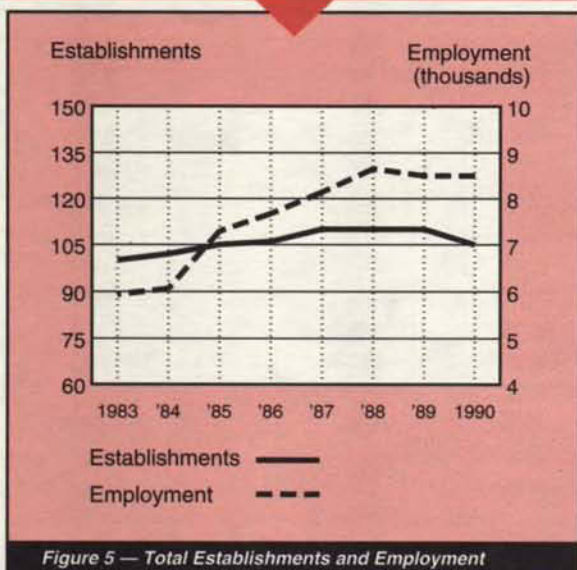


Figure 5 — Total Establishments and Employment

In general, the Canadian materials handling equipment industry is perceived by its U.S. counterpart as being competitive. The unavailability of specific products from U.S. sources (e.g., rough-terrain vehicles) still remains the unique factor influencing acceptance by the U.S. market of imported products from Canada. Economies of scale, however, remain a major influence where a standard product is involved, particularly for forklift trucks and conveyor systems.

The key factors influencing competitiveness in the conveyors and handling systems subsector are proven experience and quality. This equipment is used to move material continuously from one point to another without significant downtime. Product quality and service coverage therefore become major considerations, and company reputation, particularly for the larger projects, is significant in the selection process.

Canadian capabilities in the conveyors and handling systems subsector range from basic gravity-roller conveyors to highly automated conveyor systems. Additional strengths include well-equipped and efficient job-shop-oriented manufacturing facilities, excellent system engineering and competitive marketing expertise. Manufacturers of conveyors and handling systems have an effective supplier base for such materials as steel conveyor belting and drive motors. The use of automation, including computer controls, linear induction motors and robotics, will continue to grow in the future.

A weakness of the conveyors and handling systems subsector is its failure to invest more heavily in new product development, such as automated guided vehicles or electrified monorail systems. As a result, Canadian firms in this industry possess limited manufacturing capabilities to produce these

systems, for which early market demands are being experienced. These systems require a high degree of engineering in both their specification and design, and the presence of a strong engineering capability as well as full-service support is needed to properly serve the customer. Large complex conveyor systems require significant custom-engineering and attract worldwide competition from established companies. Although Canadian companies have international capabilities in such systems, margins are often less attractive than those on domestic projects, shipping costs are significant and ongoing service coverage is required. Canadian firms will need to keep pace with this technology development by committing more resources to research and development (R&D) in these areas.

Canadian capabilities in the cranes and hoists subsector, particularly for heavy-duty bridge cranes, vehicle-mounted cranes and hydraulic winches, have proven to be internationally competitive in meeting specific customer requirements, although shipping costs are a significant element in pricing. Strengths include large heavy-duty manufacturing facilities; world-class machining capabilities; a well-established reputation for quality and custom designs, particularly for overhead bridge cranes and heavy-duty winches; and the support of a solid supplier base for materials, steel fabrication and components. There is some specialization in the more standard products such as utility cranes, lift platforms, hydraulic winches and crane carriers. With the exception of utility cranes and winches, the subsector does not manufacture pre-engineered standard products, for which demand has recently increased.

The strengths of the industrial lift trucks and attachments subsector include its modern assembly shop operations that use JIT inventory methods, its excellent design expertise in specialized classes of lift trucks, its stable and competitive supplier base, and its access to North American distribution channels. Of all the materials handling equipment subsectors, the development of market niches has been most successfully used in lift truck manufacturing. Most firms in Canada are competitive in adjacent North American markets, particularly for such types as pneumatic-tired rider units.

A weakness of the industrial lift trucks and attachments subsector is that it has been rationalized to manufacture only a limited range of product types, as the Canadian demand is insufficient in terms of economies of scale to justify producing a full range of vehicle types. Further deterioration may result as Japanese companies, utilizing automated manufacturing systems, establish large-volume manufacturing operations in the United States.

The strength of the elevators subsector stems from its modern and efficient production facilities, which achieve satisfactory economies of scale in the fabrication of components.



They offer a full range of products, including specialized and utility elevators, escalators and moving sidewalks. Firms in the subsector have a solid reputation for quality and safety as well as for service and maintenance programs that offer broad-based repairs and aftermarket parts. Worldwide rationalization of manufacturing has taken place in order to reduce costs by increasing the economies of scale. The machinery produced in Canada incorporates advanced electronic subsystems to enhance its functional and safety factors. Shortages of skilled labour in the Canadian elevators subsector have largely been avoided by adopting industrial training programs.

Trade-Related Factors

Tariffs on materials handling equipment imported from countries having Most Favoured Nation (MFN) status with Canada are 9.2 percent, whereas the comparable tariffs levied by Canada's major trading partners are 3.6 percent in the United States, 3.4 percent in Japan and 4.9 percent in the European Community (EC).

Under the Canada-U.S. Free Trade Agreement (FTA), implemented on 1 January 1989, most tariffs in this industry were eliminated in five annual, equal stages and reached zero on 1 January 1993. During 1992, U.S. tariffs on most of these products were 1.8 percent. Based on total U.S. imports of materials handling equipment of U.S.\$700 million in 1988, the elimination of these tariffs on imports from Canada presents a sizable market opportunity for Canadian manufacturers. The FTA contains provisions to ease travel of service personnel between the two countries, which will increase the ability of Canadian firms to sell in the United States by removing obstacles to aftersales support.

Non-tariff barriers (NTBs) are generally not a significant factor in Canada and the United States; product safety and performance standards are almost identical in both countries and are not a source of concern. Some Canadian safety standards are recognized as being more stringent and often exceed many local U.S. requirements, particularly those in the elevators subsector.

However, significant NTBs limit Canadian access to other markets. For example, technical standards in the EC often differ from those in Canada. Some Canadian manufacturers have experienced difficulties in obtaining product certification, although some attempts are being made to standardize safety and design requirements. Similarly, Japanese product safety codes are elaborate and involve a complicated processing procedure. Because materials handling equipment is often very heavy, shipping costs also impede Canadian access to more distant offshore markets.

On 12 August 1992, Canada, Mexico and the United States completed the negotiation of a North American Free Trade Agreement (NAFTA). The Agreement, when ratified by each country, will come into force on 1 January 1994. The NAFTA will phase out tariffs on virtually all Canadian exports to Mexico over 10 years, with a small number being eliminated over 15 years. The NAFTA will also eliminate most Mexican import licensing requirements and open up major government procurement opportunities in Mexico. It will also streamline customs procedures, and make them more certain and less subject to unilateral interpretation. Further, it will liberalize Mexico's investment policies, thus providing opportunities for Canadian investors.

Additional clauses in the NAFTA will liberalize trade in a number of areas including land transportation and other service sectors. The NAFTA is the first trade agreement to contain provisions for the protection of intellectual property rights. The NAFTA also clarifies North American content rules and obliges U.S. and Canadian energy regulators to avoid disruption of contractual arrangements. It improves the dispute settlement mechanisms contained in the FTA and reduces the scope for using standards as barriers to trade. The NAFTA extends Canada's duty drawback provisions for two years, beyond the elimination provided for in the FTA, to 1996 and then replaces duty drawback with a permanent duty refund system.

The Canadian materials handling equipment industry has recently undergone basic restructuring and adaptation to a more price-competitive environment as a result of declining tariffs under the General Agreement on Tariffs and Trade (GATT) and the FTA. The NAFTA may have a limited impact on the Canadian industry. Export opportunities may exist for Canadian products in some niche markets. Canadian heavy machinery sales abroad could be combined with some local manufacturing and assembly to minimize the shipping cost, thereby maintaining the price competitiveness of Canadian-based firms.

Eastern Europe will provide excellent market opportunities, as extensive industrial modernization may be required in the wake of current restructuring. The proximity of European materials handling equipment manufacturers, however, will provide strong competition to Canadian manufacturers.

Technological Factors

While R&D in general is not extensive in the industry, Canadian-owned firms have a strong capability to custom-engineer products. Canadian subsidiaries of foreign-owned multinationals normally have access to the technology base of their parent company. Firms often adopt the innovations being made in the United States because there is a general acceptance of U.S. technical standards. The use of automated



systems and more efficient modular designs continues to influence product development. Automated cranes and intelligent conveyors are being developed and often utilize technology adopted from other industrial sectors. Canadian elevator manufacturers have developed new control and drive systems and some have made large investments in test facilities.

Future requirements of industry products will include innovation, improvements in manufacturing and assembly techniques, and sophistication in design and use. Solutions involving advanced manufacturing technologies (AMTs) will be applied to overall system control and material routing, to monitoring and data collection, and to data communication for inventory and cost control as users require more cost-effective equipment.

Other Factors

The shortage of skilled labour will be a concern in most market areas, including the United States, Japan and Europe, since the industry appears to be unable to attract engineering graduates. Safety and environmental issues will also have to be considered in the power systems being used, particularly in industrial lift trucks, where safety issues such as driver training are already attracting attention because of the high number of accidents.

At the time of writing, the Canadian and U.S. economies were showing signs of recovering from a recessionary period. During the recession, companies in the industry generally experienced reduced demand for their outputs, in addition to longer-term underlying pressures to adjust. In some cases, the cyclical pressures may have accelerated adjustments and restructuring. With the signs of recovery, though still uneven, the medium-term outlook will correspondingly gradually improve. The overall impact on the industry will depend on the pace of the recovery.

Evolving Environment

Three factors are likely to have a major impact on the profitability of companies comprising the materials handling equipment industry: globalization of the marketplace; international competitiveness, including the emerging competition from countries other than the United States, particularly Japan and Europe; and new technology development responding to the demand for greater automation and increased sophistication.

Volume production has not been a traditional strength of Canadian manufacturers of materials handling equipment because of the absence of a large market. Capabilities, however, do exist to develop specialized products and create niche

markets, and the Canadian industry has been reasonably successful in doing so. It is anticipated that the industry will continue to restructure and adapt to a mature environment in a global marketplace.

Canadian-owned firms throughout the industry would benefit by adopting strategies involving technology transfer, international licensing and joint ventures and by modernizing production methods. There is increasing competition from Europe, where materials handling systems are more sophisticated, and from Asia, where counterparts are more price-competitive. These competitive pressures are likely to intensify in the future. Evidence of this trend is seen in the rising proportion of Canadian imports coming from countries other than the United States, which increased from 15 percent in 1983 to 31 percent in 1990.

The industry appears to be starting to incorporate AMTs in its production processes. Using CAD and CAE programs and other AMTs can further develop the relationship between the customer and the manufacturer by increasing communication during both the design and implementation phases. To compete more vigorously in the global marketplace, its designs will have to be international in concept and continue to incorporate developments in new technology.

Economic projections for Europe in the 1990s foresee increased growth rates and lower inflation than in the United States or Japan. Europe is likely to be the centre of attention for the next few years following the integration of the EC economies after 1992 and the opening up of the Eastern European bloc after the reunification of Germany in 1990. The European market may therefore become larger, and capital investment may expand as needed industrial restructuring in Eastern Europe occurs.

The conveyors and handling systems subsector may need to respond to a variety of demands. Systems will likely be required to meet the end-user requirements for both high-rate and medium-rate production, JIT inventory control and CAM techniques. Strategic alliances and technology transfers may be the best mechanism to satisfy demands for complex automated systems and high-technology products in cases where the Canadian volume could not justify specific product development.

The custom-engineering capabilities existing within most companies in the cranes and hoists subsector could likely be applied to the development of various specialized products as new opportunities emerge in custom-designed cranes and winches. In this mature market, Canadian manufacturers may have to compete in an aggressive international environment. Further development in control systems may be expected in automated cranes where repetitive tasks are involved and weights and distances exclude the use of robotics or conveyor systems.



Intense international competition is expected to continue in the industrial lift trucks and attachments subsector. The rationalization of the industry since the mid-1980s was based on volume production of standardized units. Canadian-owned manufacturers, however, have developed a capability to design such specialized products for the world marketplace as rough-terrain vehicles.

The electronic revolution is likely to continue to impact upon the elevators subsector with the challenge to develop faster and more specialized units. Competition for utility units for apartment and industrial usage will probably continue to be strong. Globalization and corporate consolidations are reducing the number of producers, as shown by the decline in the number of Canadian elevator producers during the late 1980s. Canadian manufacturers may expect increases in their share of the domestic market, particularly in the area of complex elevator systems with sophisticated design requirements, as these systems can often be influenced by architectural requirements determined at the building definition stage. Relationships with developers are therefore important. This increased volume should improve competitiveness and therefore enhance opportunities to capture a greater portion of the U.S. and world markets. The importance of local installations and service will continue.

Competitiveness Assessment

The materials handling equipment industry represents a broad range of machinery manufacturers. Overall, Canadian firms have a well-established capability to supply quality products in niche market areas. These products fully meet internationally accepted engineering standards and are comparable to the best in other industrialized nations.

Rationalization within the various subsectors has taken place, particularly among U.S.-owned multinationals, and future major adjustments are not anticipated. The ability to custom-engineer and specialize, combined with the restructuring that has already occurred, has placed the industry in Canada in a good position to further develop North American sales. Opportunities for technological transfer with European firms have been identified, and such strategic alliances will improve Canadian market penetration and the ability to extend their product offerings.

The major challenge will likely be to keep pace with the growing innovation in sophisticated, electronically controlled, automated machinery, particularly from the United States, Japan and the EC. Furthermore, the industry may have to shift its general orientation from the North American market to a more global arena. The development of internationally

competitive products will likely be necessary in order to meet emerging competition from the Republic of Korea, Taiwan and Brazil.

Access to the North American market has been secured under the FTA, which allows companies to take advantage of their competitive strengths. Canadian companies must increase their awareness of U.S. product and manufacturing capabilities. There has been an early settling period under the FTA, with rationalization and globalization adjustments having been made.

For further information concerning the subject matter contained in this profile, contact

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PRINCIPAL STATISTICS^a

| | 1973 ^b | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 |
|-----------------------------|-------------------|-------|-------|-------|-------|-------|-------|---------|---------|-------|
| Establishments | 70 | 100 | 102 | 105 | 106 | 110 | 110 | 110 | 105 | N/A |
| Employment | N/A | 5 940 | 6 060 | 7 290 | 7 670 | 8 140 | 8 650 | 8 500 | 8 500 | N/A |
| Shipments (\$ millions) | 266.5 | 475.7 | 589.8 | 749.3 | 823.8 | 878.9 | 994.2 | 1 051.8 | 1 064.6 | 851.3 |
| (constant 1988 \$ millions) | 822.3 | 567.7 | 675.6 | 843.6 | 884.5 | 905.8 | 994.2 | 999.5 | 997.1 | 777.6 |

^aISTC estimates.

^bData for this year are not strictly comparable with data for other years shown due to changes in the definition of the industries that were introduced in the revised edition of *Standard Industrial Classification, 1980*, Statistics Canada Catalogue No. 12-501.

N/A: not available

TRADE STATISTICS

| | 1973 ^a | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 ^e | 1989 ^e | 1990 ^e | 1991 ^e |
|--|-------------------|-------|-------|---------|---------|---------|-------------------|-------------------|-------------------|-------------------|
| Exports ^b (\$ millions) | 42.1 | 286.1 | 309.3 | 321.3 | 326.1 | 343.7 | 332.9 | 334.6 | 334.9 | 268.6 |
| (constant 1988 \$ millions) | 133.5 | 334.6 | 343.7 | 351.0 | 345.3 | 349.8 | 332.9 | 318.0 | 313.7 | 245.3 |
| Domestic shipments ^c (\$ millions) | 224.4 | 189.6 | 280.5 | 428.0 | 497.7 | 535.2 | 661.3 | 717.2 | 729.7 | 582.7 |
| (constant 1988 \$ millions) | 688.8 | 233.1 | 331.9 | 492.6 | 539.2 | 556.0 | 661.3 | 681.5 | 683.4 | 532.3 |
| Imports ^d (\$ millions) | 181.2 | 316.1 | 422.6 | 547.4 | 683.7 | 788.6 | 867.4 | 841.3 | 795.5 | 633.5 |
| (constant 1988 \$ millions) | 549.4 | 367.6 | 465.9 | 602.4 | 725.8 | 804.4 | 867.4 | 799.5 | 745.1 | 578.7 |
| Canadian market ^e (\$ millions) | 405.6 | 505.7 | 703.1 | 975.4 | 1 181.4 | 1 323.8 | 1 528.7 | 1 558.5 | 1 525.2 | 1 216.2 |
| (constant 1988 \$ millions) | 1 238.2 | 600.7 | 797.8 | 1 095.0 | 1 265.0 | 1 360.4 | 1 528.7 | 1 481.0 | 1 428.5 | 1 111.0 |

^aData for this year are not strictly comparable with data for other years shown due to changes in the definition of the industries that were introduced in the revised edition of *Standard Industrial Classification, 1980*, Statistics Canada Catalogue No. 12-501.

^bSee *Exports by Commodity*, Statistics Canada Catalogue No. 65-004, monthly.

^cISTC estimates.

^dSee *Imports by Commodity*, Statistics Canada Catalogue No. 65-007, monthly.

^eIt is important to note that data for 1988 and after are based on the Harmonized Commodity Description and Coding System (HS). Prior to 1988, the shipments, exports and imports data were classified using the Industrial Commodity Classification (ICC), the Export Commodity Classification (XCC) and the Canadian International Trade Classification (CITC), respectively. Although the data are shown as a continuous historical series, users are reminded that HS and previous classifications are not fully compatible. Therefore, changes in the levels for 1988 and after reflect not only changes in shipment, export and import trends, but also changes in the classification systems. It is impossible to assess with any degree of precision the respective contribution of each of these two factors to the total reported changes in these levels.



SOURCES OF IMPORTS^a (% of total value)

| | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 ^b | 1989 ^b | 1990 ^b |
|--------------------|------|------|------|------|------|-------------------|-------------------|-------------------|
| United States | 85 | 78 | 72 | 65 | 69 | 63 | 65 | 69 |
| European Community | 8 | 11 | 17 | 18 | 21 | 13 | 16 | 17 |
| Asia | 5 | 8 | 5 | 9 | 8 | 17 | 11 | 7 |
| Other | 2 | 3 | 6 | 8 | 2 | 7 | 8 | 7 |

^aSee *Imports by Commodity*, Statistics Canada Catalogue No. 65-007, monthly.

^bAlthough the data are shown as a continuous historical series, users are reminded that HS and previous classifications are not fully compatible. Therefore, changes in the levels for 1988 and after reflect not only changes in import trends, but also changes in the classification systems.

DESTINATIONS OF EXPORTS^a (% of total value)

| | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 ^b | 1989 ^b | 1990 ^b |
|--------------------|------|------|------|------|------|-------------------|-------------------|-------------------|
| United States | 71 | 79 | 90 | 88 | 90 | 89 | 88 | 84 |
| European Community | 5 | 2 | 1 | 2 | 5 | 3 | 4 | 5 |
| Asia | 5 | 5 | 3 | 3 | — | 3 | 2 | 6 |
| Other | 19 | 14 | 6 | 7 | 5 | 5 | 6 | 5 |

^aSee *Exports by Commodity*, Statistics Canada Catalogue No. 65-004, monthly.

^bAlthough the data are shown as a continuous historical series, users are reminded that HS and previous classifications are not fully compatible. Therefore, changes in the levels for 1988 and after reflect not only changes in export trends, but also changes in the classification systems.

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

| | Atlantic | Quebec | Ontario | Prairies | British Columbia |
|-----------------------------|----------|--------|---------|----------|------------------|
| Establishments (% of total) | 3 | 16 | 43 | 26 | 12 |
| Employment (% of total) | 2 | 13 | 59 | 20 | 6 |
| Shipments (% of total) | 2 | 12 | 60 | 20 | 6 |

^aISTC estimates.



MAJOR FIRMS

| Name | Country of ownership | Location of major plants |
|--|----------------------|--------------------------|
| Conveyors and Handling Systems | | |
| Mathews Conveyor (Division of Babcock Industries Canada Inc.) | United Kingdom | Port Hope, Ontario |
| Rapistan Demag Limited | United States | Mississauga, Ontario |
| Stephens-Adamson | Sweden | Belleville, Ontario |
| Strong Equipment Corporation | Canada | Downsview, Ontario |
| Jervis B. Webb Co. of Canada Ltd. | United States | Hamilton, Ontario |
| Cranes and Hoists | | |
| John T. Hepburn Limited | Canada | Toronto, Ontario |
| King Equipment Manufacturing Corp. | Canada | Woodstock, Ontario |
| Lift Trucks and Attachments | | |
| Raymond Industrial Equipment Ltd. | United States | Brantford, Ontario |
| Sellick Equipment Limited | Canada | Harrow, Ontario |
| Elevators | | |
| Dover Corporation (Canada) Limited | United States | Mississauga, Ontario |

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