



**IVEY**

Lawrence National Centre  
for Policy and Management

A large industrial robotic arm with a red and white body is welding the front of a dark blue car chassis. The car is positioned on a metal frame in a factory setting. The robotic arm's nozzle is emitting a bright light as it welds the car's body.

# **THE FUTURE OF CANADIAN MANUFACTURING:** LEARNING FROM LEADING FIRMS

Canadian Auto-Parts  
Manufacturing

Paul Boothe

# CANADIAN AUTO-PARTS MANUFACTURING

PAUL BOOTHE

A key traditional source of manufacturing strength for Canada has been the auto sector, representing 8.4 per cent of Canadian manufacturing gross domestic product (GDP) and 1.1 per cent of total GDP in 2011.<sup>1</sup> Employment in the sector stood at 105,673 or 0.6 per cent of total Canadian employment.<sup>2</sup>

Analysts usually divide the sector into two categories: assembly and parts. Canada is home to five assemblers: Chrysler, Toyota, General Motors, Ford and Honda. Assemblers are in turn, supplied by a large number of part suppliers, including three leading firms: Linamar Corporation, Magna International and Martinrea International. Canadian auto manufacturing is part of the integrated auto North American (NA) sector that includes the United States (for analytical purposes usually divided into North and South) and Mexico.

*Cover image courtesy of Linamar*

1. Statistics Canada (2013). CANSIM Table 379-0031. Real GDP at basic prices, by North American Industry Classification System (NAICS), monthly as of December 1 (chained 2007 Canadian dollars, millions).

2. Statistics Canada (2013). CANSIM table 281-0024. Employment (SEPH), unadjusted for seasonal variation, by type of employee for selected industries classified under the NAICS, annual (persons).

The 2008/2009 financial crisis and recession were a massive shock to the NA auto sector, with sales declining from a previous peak of 17,659,700 in 2000, to 8,760,965 units in 2009.<sup>3</sup> Subsequently, sales recovered substantially, but the recession had a lasting impact on the auto sector, especially parts manufacturing. According to leading auto industry analyst Dennis Desrosiers, the number of establishments declined by approximately 16 per cent from 2004 to 2010. Employment (for which more recent data is available) declined by almost 43 percent from 2004 to 2012.<sup>4</sup>

Canadian parts manufacturers have been challenged by the migration of assembly to the southern U.S. and Mexico, which have substantially lower labour costs (especially Mexico) and generous location incentives. In addition, their competitiveness was affected by the rise in the Canadian dollar, from \$0.75 in 2004, to near parity in 2007.<sup>5</sup> Despite these challenges, leading Canadian parts manufacturers emerged strongly from the recession and continued to expand as auto sales recovered.

3. WardsAuto (2013). Global Auto Industry Statistics. North American vehicle production by vehicle type for 1951-2012. Available at: <http://wardsauto.com/datasheet/north-america-car-and-truck-production-1951-2012>.

4. Desrosier Automotive Consultants Inc. (2013). The Canadian Automotive OE Parts Sector – Key Metrics and Issues. Prepared for Industry Canada.

5. Bank of Canada (2013). CAD-USD Exchange Rate Lookup. Available at: <http://www.bankofcanada.ca/rates/exchange/cad-usd-rate-lookup/>.

# MAGNA INTERNATIONAL

## COMPANY PROFILE<sup>6</sup>

Magna International Inc. is a leading global company that designs and produces auto parts with regard for all aspects of modern automobiles. It counts virtually all major auto assemblers as its customers. Headquartered in Aurora, Ontario, it is the largest Canadian auto parts maker and the only one that produces such a wide range of products. The company had sales of more than \$30 billion in 2012, and earnings before interest, tax, depreciation and amortization (EBITDA) of \$2.5 billion. Magna employs almost 120,000 people in 313 manufacturing facilities and 88 product development, engineering and sales centres located in 29 countries.

International sales accounted for 79 per cent of total production and 46 of Magna's 266 manufacturing facilities are located in Canada. Of its roughly 120,000 employees, almost 100,000 work outside of Canada.

## COMPETITIVE ENVIRONMENT

Magna competes with other global suppliers, local suppliers and, in some instances, auto assemblers themselves. As assemblers move to global vehicle platforms, they are sourcing parts from both global (50 per cent) and local (50 per cent) suppliers.

It is difficult to compete with suppliers in emerging economies in product segments with high labour costs (i.e. in the 20 per cent range) unless the product or process is protected by patents. For this reason, Magna focuses its efforts in areas where direct labour costs are relatively low (4 to 10 per cent range) or where Magna can offer innovative design or processes.

Magna's key competitors include firms like Dana Holding Corp, Johnson Controls, Lear Corp, Robert Bosch Corp and BorgWarner Inc. The firm also competes directly with assemblers who may decide to make some parts (usually large, bulky ones) in house — i.e., the 'make or buy' decision.

Finally, with assemblers aiming for lean manufacturing processes that require just-in-time (JIT) parts supply, proximity to assembly plants is often critical. As North American assembly activity grows in the southern U.S. and Mexico, parts suppliers must locate nearby (usually within 50 miles) to qualify as suppliers.

Magna identifies a number of market trends affecting its business now and in the future:

- The move to global platforms, which makes the ability to supply to different markets important;
- Growth of non-traditional (for Magna) markets: China, India, Brazil, Russia;
- Demand for smaller vehicles;
- Increased government environmental and safety regulation;
- Shift towards fuel-efficient, environmentally responsible vehicles;
- Growing number of cooperative arrangements between firms (i.e. assemblers);
- Ongoing supplier consolidation;
- Ongoing pricing pressure — planned and retroactive cost reductions, absorption of design and engineering costs, commodity costs (steel, resin, etc.), inflationary costs to production, own and amortize tooling costs, etc.

6. Magna International Inc. (2013) Annual Information Form. Available at: <http://www.magna.com/docs/default-source/corporate-governance/2013aif.pdf?sfvrsn=2>; and Lawrence Centre (2013). Future of Canadian Manufacturing case study interviews. Magna International Inc. Conducted on July 30, 2013. Senior executives Don Walker, Chief Executive Officer, and Mike Sinneave, Vice President Operational Improvement and Quality at Magna International Inc., were interviewed by Paul Boothe and Brook Coatsworth in Magna's Aurora, Ontario headquarters.



## BUSINESS STRATEGIES

Magna views its decentralized business model (championed by founder Frank Stronach) as a major factor in its success. Responsibility and authority are focused on the plant General Managers (GMs), of which there are more than 300 globally. GMs' pay is strongly influenced by the profitability of their plants. GMs must solve production problems, work with customers, manage overhead and work well with employees.

Magna believes there are no bad employees, only bad managers; in other words, management is responsible for preventing or solving labour problems. Most plants are non-unionized, with the exception of legacy plants making seats (i.e. taking over work from assemblers). Employees share in the firm's overall profit. Vice Presidents (VPs) of each product segment and corporate team also share in the firm's overall profit.

Magna relies on three primary or overarching strategies beyond a decentralized, entrepreneurial structure:

- World-class manufacturing: Every Magna part should be 'best in class' — i.e., no other supplier should have a better price/quality combination to offer.
- Innovation: The firm needs a continuous stream of product and process innovation to stay ahead of the competition.
- Leadership development: In-house development is used to produce senior managers. This process is evidenced not just by Magna's success but by the success of former Magna employees in firms like Linamar and Martinrea as well. Magna observes that it is very difficult to recruit senior employees with the right combination of entrepreneurial spirit, technical skills and people-management skills, and therefore in-house leadership development is critical.

## ORGANIZATIONAL STRUCTURE

Magna divides its business into three geographical regions — North America, Europe and Rest of World — and each has its own GM. Within each region, up to 10 product groups operate. Groups are led by regional management teams that possess a deep knowledge of local markets and customers.

Product groups include: interior systems, seating systems, closure systems, body and chassis systems, vision systems, electronic systems, exterior systems, powertrain systems, roof systems, vehicle engineering and contract assembly.

New business is pursued by GMs, group VPs and corporate office. Additionally, regional GMs advocate for support for new opportunities from the corporate team.

## SKILLED LABOUR

Magna plants are primarily non-unionized. Management regards requests for unionization as a failure to properly involve employees in operational decision-making processes. The Magna Employee Charter provides for job security, a safe and healthy workplace, fair treatment, competitive wages (information is provided to employees on competitors' compensation), employee equity and profit participation. Adherence to the Charter is monitored by the Employee Relations Advisory Board. In-house employee training is done by quality instructors and employee recognition spans the entire firm. Magna has comparable arrangements in place for unionized employees.

## INNOVATION

Magna focuses on both process and product innovation. In both cases, innovations come from formal research and development (R&D) as well as the factory floor. Product innovations are focused on areas of customer need: weight reduction, fuel efficiency, safety and comfort, and hybrid and alternative energy propulsion.

Recent innovations include the 'Active Grill Shutter System' to control airflow through the engine and around the vehicle, 'Intellifold Seat Structures' to allow more flexible seating and cargo arrangement within the vehicle, and 'Eyeris Vision System,' incorporating a windshield mounted camera to improve visibility and safety. Innovations are tracked and measured extensively, with a focus on quality rather than quantity.

Process innovation allows Magna to remain cost competitive despite the pricing and other competitive pressures it faces. A key element of process innovation is sharing of best practices across plants and regions.

## MARKETING

Magna sales are business-to-business and it seeks to be a leading supplier to all major assemblers. The firm grows both by acquisition and by greenfield investments, either to service new customers, or existing customers in new locations. Acquisitions are made either to acquire technology or customers.

China is the biggest undeveloped market for auto parts and Magna has approximately 9,000 employees across its Chinese operations. The Leadership Development System will be a key factor to sustaining growth in the region. Magna also sees Russia and India as new markets in which to gain market share.

## PUBLIC POLICY

Magna makes use of Canada's system of R&D tax credits (the Scientific Research and Experimental Development (SR&ED) program) and does more R&D in Canada than in the United States as a result of the program. Transportation and logistics are key, and Highway 407 and border speed passes are recognized as contributing to congestion-reducing improvements.

In terms of broad public policy themes, Magna management emphasizes four issues:

- Trade policy: Canada needs to develop a strategy to grow Canadian manufacturing jobs rather than buying manufactured products and selling raw materials. Related to this may be a policy that encourages technically skilled immigrants who will be the manufacturing entrepreneurs of the future.
- Duplication of regulations: The retesting of equipment from countries with high environmental and safety standards (like Germany or the United States) wastes time and money and adds no value.
- Exchange rate: The rise of the Canadian dollar contributed to the shift of manufacturing away from Canada.
- Training: Secondary and post-secondary education systems should promote technical skills needed in manufacturing. Government funding for educational programs should relate to the demand for skills in that area.

# LINAMAR CORPORATION

## COMPANY PROFILE<sup>7</sup>

Linamar Corporation is a leading producer of precision-machined auto parts. Additionally, it manufactures mobile industrial aerial platforms systems through its Skyjack Inc. subsidiary. Headquartered in Guelph, Ontario, it is the second-largest Canadian auto parts maker after Magna International.

In 2012, Linamar had sales in excess of \$3 billion and EBITDA of \$440 million. The company employs approximately 17,000 people in 33 manufacturing locations, five R&D centres and 15 sales offices in 12 countries. About 36 per cent of sales are international. Linamar has 16 foreign manufacturing facilities and 23 in Canada. The firm employs about 17,000 employees overall, half of which are international.

## COMPETITIVE ENVIRONMENT

Linamar is a global manufacturer of precision metal components competing with Canadian firm Magna International and U.S. firms Dana Holdings, Federal-Mogul Inc., Johnson Controls and Delphi Automotive PLC. Manufacturing is conducted in Canada, Europe, Mexico, the United States and China. The firm has two major manufacturing divisions: Powerline and Driveline Division, and Industrial, Commercial and Energy Division, which includes Skyjack Inc. Almost 60 per cent of revenues are derived from sales to four automotive assemblers. Linamar also faces some competition from assemblers themselves should they elect to manufacture rather than buy parts (the 'buy or make' decision).

Winning new business often begins with winning a design competition that, in turn, leads to long-term (life of vehicle offering) contracts. Assemblers generally assess at least two competing bids to ensure price competition among suppliers.

Linamar is given a contract without price competition if the product is unique to Linamar. Like other Tier 1 suppliers, Linamar faces demands from assemblers to locate close to assembly facilities, and some of the company's growth in the United States and Mexico reflects that reality. However, Linamar's Canadian facilities maintain overall cost competitiveness with U.S. counterparts. The precision nature of Linamar's products makes production in emerging economies like Mexico more challenging.

Linamar uses continuous innovation to remain competitive. Innovations span both products (to improve fuel efficiency and reduce weight and noise) and processes (to improve quality and timeliness and to reduce cost).

## BUSINESS STRATEGIES

Linamar's business focuses on precision machining. The components it produces are highly engineered and complex, making them difficult to replicate. The nature of the products also makes it difficult for firms in emerging economies to obtain the skilled labour needed to compete. Most low-value-added parts are therefore outsourced to low-labour-cost countries.

7. Linamar Corporation (2013). Annual Information Form. Available at: <http://www.linamar.com/investorrelations/Annual%20Meeting%20Material/2012/2012%20AIF.pdf>; and Lawrence Centre (2013). Future of Canadian Manufacturing case study interviews. Linamar Corporation. Conducted on July 8, 2013. Senior executives Linda Hasenfratz, Chief Executive Officer, Jim Jarrel, President and Chief Operating Officer, and Mark Stoddard, Chief Technology Officer and Executive Vice President of Marketing, were interviewed by Paul Boothe and Brook Coatsworth in Linamar's Guelph, Ontario headquarters.

Linamar uses a decentralized business model similar to Magna's. Founder Frank Hasenfratz and Magna founder Frank Stronach were associates early in their careers. Substantial responsibility and authority rest with plant managers for both sides of the balance sheet — i.e., for maintaining high-quality/low-cost production as well as looking for new business opportunities. Managers' pay contains an important performance component to reinforce their entrepreneurial responsibilities.

Linamar's motto, "Think Big — Act Small," captures its ambition to be a global leader in its business, but also encapsulates the need to strive to be responsive to customers, as well as nimble, collaborative and lean in management.

New facilities are initially managed by experienced Linamar management teams from other plants for seamless integration into market and effective communication with new and/or existing (acquired operations) clients. Facilities in the same geographic region benefit from close proximity to experienced management teams and sharing of resources, support and ideas.

Linamar believes that plants with more than approximately 500 employees are not conducive to its 'thinking small' culture, and so limits facilities to that capacity. As a result, the company has 22 separate facilities in the Guelph area. Linamar's growth strategy has three components: diversification, globalization and green technologies. Diversification has caused the firm to acquire and grow its aerial platform business and to begin moving into the precision-machining element of the wind power sector. Linamar is also growing its auto parts business (both organically and through acquisition) to attract new clients and is willing provide either components or full systems to auto assemblers.

Globalization is leading to acquisitions in Europe and emerging markets, again to attract new customers in those regions or to get access to complementary capabilities. The demand for improved environmental performance is causing Linamar to focus innovation on reducing vehicle weight and developing systems for hybrid and other fuel-efficient vehicles.

## **ORGANIZATIONAL STRUCTURE**

Linamar has two major manufacturing divisions: Powerline and Driveline Division, and Industrial, Commercial and Energy Division, which includes Skyjack Inc. Linamar works to be an "easy company to do business with," and to maintain the Hasenfratz family culture of 'hands-on' management.

Each plant is treated as a business with full profit and loss responsibilities. Central purchasing works with plant managers who have final signoff on purchases and can negotiate with head office regarding process, plan, equipment, etc. Linamar's strategy is to run relatively small (up to 500 employees), efficient plants in clusters. Clusters are designed to be autonomous "centres of excellence" and employees can move within each cluster as needed. The firm fosters a culture of entrepreneurship among employees.

## **SKILLED LABOUR**

Linamar plants are primarily non-unionized and the firm takes a systematic approach to employee development. Linamar works with high schools and colleges and uses apprenticeships to develop required technical skills. The company has a strong focus on employee recognition and celebrating success that comes from sharing and solving problems as a group. Linamar believes in a 'grow-your-own' strategy; its management employees are trained in leadership and management in case-based courses to learn both skills and the Linamar culture.



## INNOVATION

Linamar has two major R&D facilities in Guelph and Detroit, and smaller R&D facilities in Europe. The Guelph facility validates parts, tests performance and showcases innovations to customers. The Detroit facility, McLaren Performance, focuses on engine development and performance parts. The European centres focus on all-wheel-drive systems.

All employees are expected to contribute suggested innovations each year. Across all facilities, 88,000 process innovations from employees on plant floors are implemented annually. Linamar uses Cost Attack Teams (CAT) to drive down costs and share results across facilities.

## MARKETING

Linamar is a business-to-business supplier. The firm may provide components or complete systems/assemblies depending on what the customer needs. It is also able to design and engineer parts, again, depending on customer need.

The company employs several complementary strategies to increase market share. In North America, its growth strategy is to use innovation to win business. To this end, Linamar partners with smaller firms that possess advanced technology but lack resources (time, research capacity, capital) to capitalize on it. In addition, Linamar is expanding in Europe and Asia to capture emerging market share.

## PUBLIC POLICY

Federal and provincial programs to promote investment and innovation have benefited Linamar significantly. For example, the firm installed solar panels on facility flat rooftops to take advantage of Ontario's Feed-in Tariff program, although the impact of rising electricity costs on competitiveness is a concern.

Linamar believes that governments need to do a better job of publicizing the success of manufacturing. Manufacturing employment is not a dirty or low-skill career. Canada needs more highly trainable recruits primed to enter the manufacturing industry. To this end, Linamar points to Germany, a country with a large number of trade schools and apprenticeship programs, as a best-practice example.

Incentives for assemblers will be critical to the Canadian auto parts industry. Linamar argues that each assembly job brings six additional jobs in related industries and support services. Governments can achieve an 18-month payback in terms of tax revenue.

In many ways, Linamar asserts, Canada must compete with the United States and Mexico. As part of this competition, Canada needs more trade agreements. Mexico has 40 such agreements and such agreements open the door for high-value-added exports.

Greater progress can also be made to reduce regulatory burden. One strategy would be to benchmark on advanced economies with limited red tape for manufacturing. Finally, Linamar argues for the need for government to showcase manufacturing successes, importance and investments, rather than focusing on dismal average rates of innovation.

# MARTINREA INTERNATIONAL

## COMPANY PROFILE<sup>8</sup>

Martinrea International Inc. is a leading Canadian Tier 1 auto parts supplier. Headquartered in Vaughan, Ontario, it is the third-largest Canadian auto parts manufacturer after Magna and Linamar. Of Martinrea's 37 plants, 12 are located in Canada with the rest divided between the United States, Mexico, Europe, China and Brazil. Roughly 2,400 of the firm's 12,000 employees are located in Canada and about 72 per cent of its \$2.9 billion of sales are international.

## COMPETITIVE ENVIRONMENT

Martinrea is a global supplier of auto parts in three key areas: metal stamping and forming, fluid-handling systems and complex aluminum parts. Key competitors include Magna International and Linamar Corp. as well as Johnson Controls, Lear Corp., Aisin Seiki Co. and BorgWarner Inc.

Within its three lines of business, the company produces more than 60 products divided into eight primary manufacturing divisions. The company is a leading competitor in all three lines of business in North America, in aluminum parts and fluid-handling systems in Europe, and is beginning, through alliances, to develop capacity in China and Brazil to serve its global assembly customers. Customers include virtually all major global assemblers.

The combination of parts and systems produced allows Martinrea to offer 'one-stop shopping' for assembler clients purchasing, for example, an engine block, all the components of which are produced and assembled by Martinrea close to the customer, reducing logistics costs and supply chain risk. The company also operates a small industrial division that produces frames for larger vehicles like buses, and front-loading buckets for tractors and heavy construction equipment.

Martinrea faces the same global pressures as Magna and Linamar but is not as active in Europe as the other two firms (a conscious strategy of the company), or as active in China as Magna. Martinrea employs the same decentralized management system as Magna and Linamar, vesting each individual plant manager with substantial authority and treating each plant as a separate profit centre.

## BUSINESS STRATEGIES

Martinrea's strategy is to "buy or build" to gain competitive advantage in the NA market with five main assembler clients. Given the type of products produced in the company's first two lines of business, the firm must be willing to "go to the customer."

Martinrea acquires companies to gain access to new customers or new capabilities. Its growth strategy includes buying troubled or poorly managed companies and turning them around using Martinrea management and production systems. Experienced Canadian management is often utilized to launch new acquisitions. The company also builds greenfield facilities to serve customers.

The firm's geographic strategy is "not everywhere, but in the right place." For example, in Europe, Martinrea's fluids-handling business is based in Slovakia and is growing slowly because of massive overcapacity of European assemblers and needed consolidation. In China, Martinrea is partnering with a subsidiary of SAIC Motor and Shac-Auto Technology Company Ltd. Overall, the firm is looking to grow its manufacturing footprint and thereby take a long-term approach to profits and profit margins.

Quality is a key driver for Martinrea and it seeks to be best in class in every product it sells. The company also focuses on proximity to customers to reduce logistics cost and supply chain risk.

8. Martinrea International Inc. (2013) Annual Information Form. Available at: [http://www.martinrea.com/Common/Library/lmgs/24\\_AIF.pdf](http://www.martinrea.com/Common/Library/lmgs/24_AIF.pdf); and Lawrence Centre (2013). Future of Canadian Manufacturing case study interviews. Martinrea International Inc. Conducted on June 19, 2013. Executive Chairman Rob Wildeboer was interviewed by Paul Boothe and Brook Coatsworth in Burlington, Ontario.

## ORGANIZATIONAL STRUCTURE

Martinrea uses the same decentralized model and culture of entrepreneurship as Magna and Linamar. Each plant GM is independently responsible for scheduling, as well as employee and customer relations. The corporate office is very lean. Each product line has a Managing Director who coordinates between corporate office and the GMs. Knowledge and skills from existing plants are shared with greenfield and acquired facilities to integrate them into the Martinrea system.

## SKILLED LABOUR

Martinrea has a mix of unionized and non-unionized employees in its Canadian and European plants. The firm has an employee charter similar to Magna. Martinrea looks for employees with a strong work ethic and willingness to learn both for apprenticeships (especially tool and die) and management. The firm welcomes two kinds of employees: those who work hard and then go home to enjoy family and personal pursuits, and those who work hard and want to learn and advance in the business with the support of the firm. Pay is set at market rates to remain competitive and retain good employees.

Martinrea management observes differences across jurisdictions in worker skills and attitudes relative to Canadian workers. For example, workers in the U.S. South sometimes lack both general and specific skills needed for manufacturing. In the U.S. North, workers have skills and motivation similar to those found in Canada. Mexican workers have strong motivation and a great willingness to develop skills.

## INNOVATION

Martinrea focuses its efforts on process innovation by empowering employees to improve processes in order to achieve high-quality competitive cost combination. Competitors' product innovations are quickly adopted. The firm finds this to be the most cost-effective approach to innovation.

## MARKETING

Like Magna and Linamar, Martinrea is a business-to-business supplier. The firm focuses on being close to the customer and offering one-stop shopping whenever possible. Martinrea notes that assemblers will typically try to have a diverse group of suppliers, so if your firm is foremost in quality, price, timeliness and reliability, you will win business.

## PUBLIC POLICY

Martinrea's views on public policy are both specific to the firm and general to the industry. Specific to Martinrea, the firm makes substantial use of Export Development Canada trade financing to grow globally, and views this financing as a crucial exporting tool for Canadian firms.

With respect to general policy views, Martinrea observes that parts manufacturers need to cluster around assemblers to compete on logistics costs and reduce supply chain risk. This implies that Canada must compete with other jurisdictions in offering location incentives to attract mandates from assemblers in order to facilitate a flourishing auto parts industry.

Crossing the border is a key potential bottleneck, so government efforts to improve border crossings are essential. Firms also need fast movement of management personnel across borders.

# OUR FINDINGS

## ANALYSIS

Our analysis of firm information and structured interviews reveals some important differences among the participating companies, but also some clear similarities. We will focus first on differences, then move to similarities and end with policy issues mentioned by the three leading auto parts firms studied.

## KEY DIFFERENCES

The most obvious difference across companies is size. Measured in terms of sales, at \$30 billion, Magna is about 10 times the size of Linamar and Martinrea. Measured in terms of employees, Magna is about seven times the size of Linamar and 10 times the size of Martinrea.

Product scope is another key difference, perhaps related to size. Magna produces a full range of auto parts, while Linamar focuses its efforts on complex parts that require precision machining. Martinrea focuses on metal stamping and forming, fluid-handling systems and aluminum parts.

Geographical scope also differs across companies. While all have a key presence in North America, Magna is well represented both in Europe and in emerging markets. Linamar is well represented in Europe and is starting to increase its presence in emerging markets like China. Martinrea has a limited presence in Europe (some fluid-handling and aluminum parts) and is starting cautiously in China to grow the company as a global supplier to global assemblers.

While all three companies strive for a flat organization, by virtue of its size, Magna requires more upper-level management to ensure strong coordination. Linamar and Martinrea are still at a size that allows coordination with little additional management. The companies take different approaches to product innovation.

A key focus of both Magna and Linamar. Martinrea does not invest significantly in this area. Perhaps due to the nature of the type of parts they produce, Magna and Martinrea put more focus on proximity to customers, although Linamar is represented in all three North American countries.

Finally, Linamar has put the most emphasis on product diversification in developing its aerial platform business.

## KEY SIMILARITIES

Despite their differences, the three firms share some striking similarities. Not surprisingly, all are responding to the same set of marketplace trends (global platforms, growth of emerging markets, fuel efficiency, reduced emissions for autos, pricing pressures from customers, etc.). By necessity, all focus on products with a relatively low labour cost component, thus avoiding competition with low-wage economies.

Interestingly, fostering an entrepreneurial culture among both management and workers is a focal point in all three companies. Two have a mix of union and non-union employees, but all three share a strong company focus on engaging and incenting employees. Additionally, all three firms focus on in-house training for skilled trades and management, and look to develop talent within the organization. As noted, all strive for a flat organization, minimizing the number of layers of management. Each plant is a separate profit centre and plant managers have significant responsibility and authority.

In addition, the firms all highlight quality and process innovation to arrive at the optimal mix of quality and cost in order to win business from assemblers. Finally, all companies emphasize teamwork, as well as technology and knowledge transfer within plants and across the organization to solve production problems and keep costs as low as possible.

## PUBLIC POLICY PRIORITIES

All three of the firms make use of different Canadian programs. In the case of Magna it is the R&D tax credit (SR&ED); for Linamar it is federal and provincial programs to support innovation; and in the case of Martinrea, it is the trade financing of Export Development Canada. However, some common themes emerge as they discuss government policy more generally.

All companies emphasize the need for Canadian governments to compete with other jurisdictions to attract assembly plants and mandates to Canada. Competition is fierce and Canada's inherent manufacturing advantages are not enough to overcome the attraction of incentives from governments in the United States and Mexico.

The benefits of winning assembly work are judged to be substantial — a six-to-one jobs multiplier, and a less than two-year payback in terms of incremental taxes paid. Firms recognize that Canadian taxation levels are a plus; in the case of some firms, these are enough to overcome lower labour costs in other jurisdictions.

All firms stress that high school and post-secondary education should foster the skills required of manufacturing workers, as well as provide information to help students understand the high wages that skilled workers can command in manufacturing.

Transportation congestion is recognized as a growing problem, although for Magna and Martinrea, the 407 toll highway has been very helpful. Canadian efforts to ease border wait times are also applauded, as is the importance of a second Detroit River crossing.

All three companies discuss two other international issues: trade policy and overlapping regulation. All feel that Canadian trade policy should promote Canadian manufacturing, rather than just the export of raw material. The need for more trade agreements is also underlined. Freer trade with Mexico and the United States has made those jurisdictions relatively more attractive for parts that are readily exported.

Finally, firms emphasize the need to reduce regulatory overlap and duplication; this is especially acute when importing machinery from countries that have strong environmental and safety regimes, such as Germany and the United States.



# ABOUT THE AUTHOR



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Paul Boothe is Director of the Lawrence National Centre for Policy and Management. His work experience has included university research and teaching, independent consulting to Canadian and international

organizations, and serving as a senior public servant in Canada's provincial and federal governments. At the provincial level, he served as Saskatchewan's Deputy Minister of Finance and Secretary to Treasury Board. At the federal level, his appointments included Associate Deputy Minister of Finance and G7 Deputy, Senior Associate Deputy Minister of Industry and, most recently, Deputy Minister of the Environment.

# ABOUT THE LAWRENCE CENTRE

The Lawrence National Centre for Policy and Management aims to bridge the gap between business strategy and government policy by providing a forum for business and government to discuss policy development and implementation.

As a policy and management centre within a world-class business school, the Lawrence Centre is uniquely positioned to explore the areas of public policy that have the greatest impact on business. The Lawrence Centre educates future business leaders in public policy and government leaders in business strategy and conducts leading-edge research on major issues that involve business-government coordination.

The Centre was established in 2001 with a generous gift from Canadian businessman, Jack Lawrence, HBA '56, who was a strong proponent of business playing an active role in Canadian public policy.

## PROJECT PARTNERS



