

Manitoba

YOUR INVESTMENT DESTINATION
IN THE HEAVY VEHICLE INDUSTRY



Manitoba Trade
and Investment





If you want to do business in the heavy vehicle industry,
Manitoba is the place to be.

Driven by world-class companies, Manitoba's long-time success in the heavy vehicle industry is rooted in its unique and robust cluster of outstanding manufacturers, parts and component suppliers, research institutes and educational institutions.

CAPABILITIES

Original equipment manufacturing:

- bus assembly
- motor homes
- fire engines
- step vans
- semi-trailers
- recreational vehicles
- tractors and agricultural equipment

Component supplies and services:

- metal supply and fabrication
- castings and machining
- electronics
- composites parts and components
- plastic and rubber processing
- finishes (coatings, electroplating and decals)
- components for military vehicles





MANITOBA'S HEAVY VEHICLE INDUSTRY

The heavy vehicle manufacturing industry is a cornerstone of manufacturing in Manitoba, directly employing about 10 per cent of Manitoba's manufacturing workforce and indirectly employing many more. Intensely export-oriented, the industry annually accounts for about **\$1 billion** in exports. Manitoba's heavy vehicle manufacturers produce urban and intercity buses, fire trucks, motor homes, recreational vehicles, trailers, agricultural equipment and associated parts and components.

Manitoba is home to North America's two largest bus manufacturers (New Flyer Industries and Motor Coach Industries), Canada's largest fire truck manufacturer (Fort Garry Fire Trucks) and Canada's largest tractor manufacturer (Buhler Industries).

Manitoba has a well-diversified infrastructure of suppliers of raw materials, parts, component assemblies and services. Many of these suppliers also serve the aerospace and agricultural equipment sectors.



- Manitoba companies supply more than a third of the bus market in North America. **Motor Coach Industries (MCI)** is the major manufacturer of intercity coaches and **New Flyer Industries** is the largest supplier of urban transit buses.

- **New Flyer Industries** is a North American leader in developing buses powered by alternative fuels. It demonstrated this to the world when it produced a fleet of hydrogen fuel cell buses used for shuttle transport during the 2010 Winter Olympics. New Flyer is currently testing a prototype battery-electric bus that it developed in partnership with Mitsubishi Heavy Industries, Red River College, Manitoba Hydro and the Manitoba government.

- **MCI** coaches make up about 90 per cent of Greyhound's North American fleet.

- **Fort Garry Fire Trucks** is Canada's largest manufacturer of fire-fighting equipment.

- **Buhler Industries** is a leading Canadian manufacturer of agricultural equipment under the *Farm King* and *Versatile* brands. Buhler operates and distributes throughout North America and parts of Eastern Europe.

- **MacDon Industries Ltd.** is a leading manufacturer of harvesting equipment, whose products are sold across Canada, the United States, Australia, Russia and in more than 30 other countries around the world.

- **Parker Hannifin's Electronic Controls Division**, located in Winnipeg, designs, develops and manufactures electronic, electro-mechanical and electrohydraulic controls for manufacturers of agricultural and construction equipment, buses, trucks and recreational vehicles.

- Winnipeg's **Cubex Limited** is an industry-leading manufacturer of mining and geo-technical drilling equipment, available in tracked or rubber-tired versions. Drills built by Cubex are used globally for a wide variety of mining applications.

RESEARCH AND DEVELOPMENT, ENGINEERING AND DESIGN

Manitoba's original equipment manufacturers and their suppliers continually innovate to improve performance, efficiency and safety while reducing emissions.

Private firms conducting research and development in Manitoba often work with universities, colleges, research institutes and government agencies. Manitoba's research and development infrastructure is a network of expertise linked through formal professional associations and informal groups.

Red River College manages key facilities that form a Centre of Excellence for transportation technology:

- Heavy Equipment Transportation Centre - a 5,570-square-metre (60,000 sq. ft.) facility that allows students to work on real-world problems for the transportation and heavy equipment sector, such as the application of cleaner energy sources and alternative fuels. The facility has an enhanced electrical and mechanical infrastructure, an overhead crane, engine dynamometers, emission testing equipment, a small environmental chamber suitable for electric vehicles and plans for the installation of a chassis dynamometer and environmental chamber.
- Advanced Transportation and Energy Centre - a 278-square-metre (3,000 sq. ft.) facility for research in emissions reduction and renewable fuels.
- Electric Vehicle Technology and Education Centre - a virtual centre supporting electric vehicle development in Manitoba.

University of Manitoba Faculty of Engineering has exceptionally equipped laboratories for researching applied mechanics and design, materials science, manufacturing processes, thermofluids and energy systems. The faculty is home to a new Natural Sciences and Engineering Research Council of Canada (NSERC) Industrial Research Chair in mechanical engineering focused on heavy vehicles.

The Industrial Research Chair will play a critical role in technology innovation and dissemination, while helping to produce highly skilled engineering professionals.

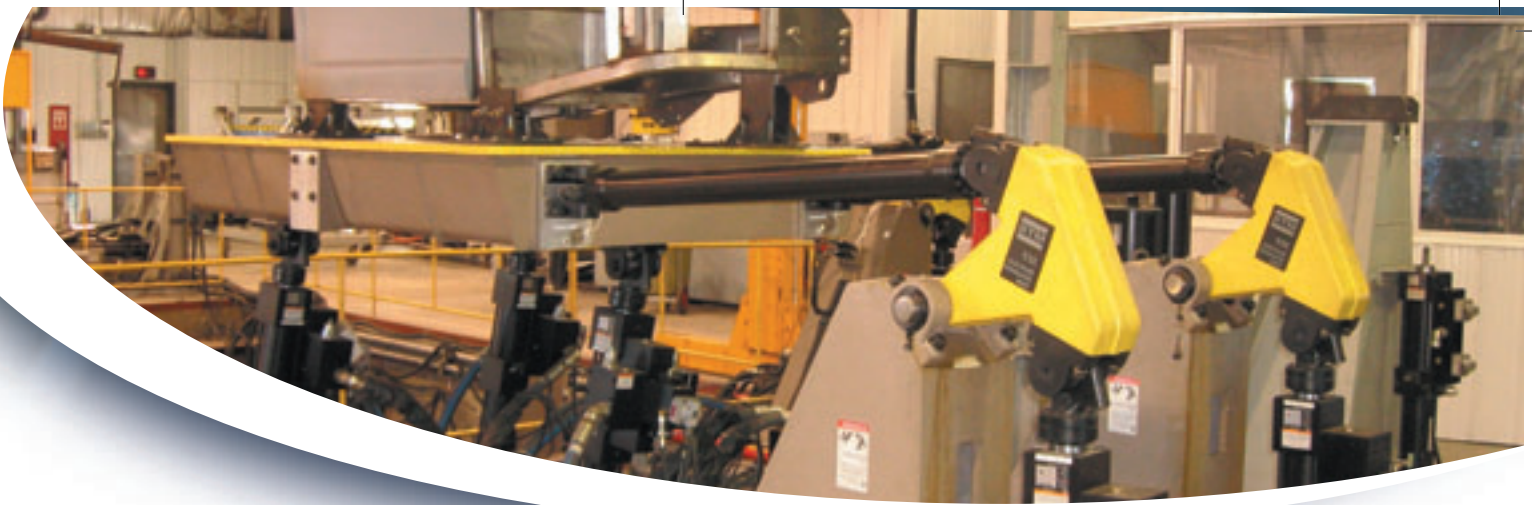
The University's engineering students also gain valuable practical experience through leading extracurricular programming. The University's chapter of SAE International is the second largest worldwide. UMSAE prepares students for industry with hands-on experience in the design, development and construction of vehicles for entry into international competitions. The experience and project management skills that they gain ensure that graduates will excel in industry.

Composites Innovation Centre (CIC)

Manitoba has the largest concentration of composites research, development and fabrication firms in Canada. The CIC conducts research in applications for composite materials in aerospace, ground transportation, biomaterials and civil infrastructure. Projects are undertaken in partnership with industry, government agencies and educational establishments. The CIC also manages global consortia exploring new technologies and materials.

Prairie Agricultural Machinery Institute (PAMI)

An engineering-based R&D organization, PAMI's design and mechanical expertise is advantageous for equipment manufacturers serving markets in agriculture, vehicles and



transportation, mining and forestry, and security and defence.

PAMI's many years of testing experience provide practical knowledge that extends beyond engineering theory to the core of how machines and processes perform in the real world. This results in cost-effective, durable solutions and designs that save clients time and money.

Western Canada Testing (WESTEST)

An affiliate of PAMI, WESTEST is an industrial testing and engineering facility that delivers advanced product development and physical testing services for equipment and vehicle manufacturers across North America. WESTEST recently opened a unique vehicle performance centre that can simulate on-road vehicle operation in a controlled laboratory environment, allowing year-round use with full air temperature control. The facility can validate designs with precise, repeatable results.

Industrial Technology Centre (ITC)

For more than 30 years, ITC has been providing engineering, technical, advisory and information services in sectors including aerospace, transportation, energy, environment, general manufacturing and construction.

National Research Council of Canada Industrial Research Assistance Program (NRC-IRAP)

NRC-IRAP brings together a diverse network of organizations, services and programs to help Canadian small and medium-sized enterprises develop and commercialize new technologies. The program provides expert technical and business advice, financial assistance, access to business information, contacts and national and international networks.

Vehicle Technology Centre Inc. (VTC)

The VTC is a non-profit organization that fosters the continued success of Manitoba's heavy vehicle manufacturing sector by promoting the development and adoption of new technologies. Through its **OEM Supplier Development Program**, it has encouraged original equipment manufacturers to partner with their suppliers in developing new products and processes.



A sampling of leading companies in the cluster includes:

Original Equipment Manufacturers

New Flyer Industries, Motor Coach Industries, Fort Garry Fire Trucks, Buhler Industries, MacDon Industries, Triple E Recreational Vehicles, Lode King Industries, Arne's Trailers, Cormer Defense, Cubex Limited

Suppliers

Ancast Industries, Black Cat Blades, Canadian Tool & Die, Central Precision Ltd., Custom Steel Manufacturing, Franklin Enterprises, Phillips & Temro Industries, Princess Auto, The Pritchard Group, Carlson Engineered Composites, Frank Fair Industries, The Eastside Group, Fort Garry Industries, Parker Hannifin Electronic Controls Division, JCA Electronics

Research and Technical Organizations

Red River College, University of Manitoba Faculty of Engineering, Composites Innovation Centre, Prairie Agricultural Machinery Institute, Western Canada Testing (WESTEST), Industrial Technology Centre, National Research Council of Canada Industrial Research Assistance Program, Vehicle Technology Centre

MANITOBA'S HEAVY VEHICLE ADVANTAGE

Manitoba offers numerous advantages to businesses seeking to locate here:

- a core of firmly established industrial companies in Winnipeg
- a supplier network with a broad spectrum of capabilities
- a network of leading universities and colleges
- high quality research and development
- tax incentives that encourage manufacturing investment and industrial research and development
- an outstanding pool of labour with diverse skills
- competitive operating costs
- the perfect geographical location to serve North American markets

A Robust Cluster

Major original equipment manufacturers, a thriving network of suppliers, excellent technical centres and exceptional education and training distinguish Manitoba's heavy vehicle industry.

This industry cluster is unique in Western Canada. The key players have a long tradition of working in partnership and sharing knowledge and expertise. There is also considerable overlap and sharing of knowledge with Manitoba's major industries in aerospace (Western Canada's largest) and agricultural manufacturing.

A Network of Innovators

Manitoba's leading market position is driven by industry innovation. For example:

- Buhler's Versatile brand is credited with introducing the world's first mass-produced, four-wheel drive tractor.
- MacDon Industries pioneered the development of self-propelled windrowers in the early 1950s and continues to play an important role in developing windrowing technology around the world.
- New Flyer Industries broke new ground with the first low-floor bus, the first diesel-electric bus and the world's first fleet of zero-emission hydrogen fuel cell buses. More recently, the company has produced an all-electric bus prototype and is introducing North America's first midi bus.

- Over the last 50 Years, Motor Coach Industries has produced top-selling highway coaches in its MC-9, MCI D-Series and now its J4500. In 1997, MCI introduced a new era in motor coach manufacturing with its luxurious E4500. Today, MCI is focusing on merging luxury and eco-friendliness by using fuel-saving, EPA-compliant, clean-diesel engines with near-zero emissions, as well as offering hybrid and compressed natural gas options.

Tax Credits for Key Investments

Manufacturing Investment Tax Credit

Corporations engaged in manufacturing in Manitoba qualify for a 10 per cent Manufacturing Investment Tax Credit on new and used machinery, equipment and buildings. Seventy (70) per cent of the credit is refundable and the remainder reduces Manitoba corporate income tax.

Research and Development Tax Incentive

The tax environment in Manitoba encourages industry to continuously develop new and innovative products and processes. Programs like the Manitoba Research and Development Tax Credit and the federal Scientific Research and Experimental Development Tax Credit provide Manitoba companies with considerable leverage for their investments in research and development. Studies comparing research and development tax incentives among the world's industrialized countries have repeatedly found that combined federal and provincial incentives in Canada are the most generous and stable offerings in the industrialized world.

Leading-edge Training

A key advantage in Manitoba's heavy vehicle manufacturing industry is the high quality of its labour pool, grounded in education and training received in the province's educational institutions. Universities, colleges and technical learning centres all offer programs that combine theoretical background with practical, hands-on learning experiences to

ensure that graduates are well-prepared for the challenges of industry. Manitoba's post-secondary institutes work closely with industry in setting curricula and in providing specialized training for particular corporate needs. Red River College, Winnipeg Technical College and others can deliver flexible training solutions customized for individual companies.

Competitive Business Costs

In studies published in 2010 and 2012, the prestigious accounting and consulting group KPMG found that Winnipeg, Manitoba offers the lowest overall operating costs among 25 cities in the North American Midwest. The studies compared business costs across numerous industries.

Strategic Central Location

Manitoba's position at the heart of the continent puts it in easy reach of a central North American market of 100 million people. Winnipeg is home to **CentrePort Canada**, a 20,000-acre inland port offering unique access to multiple modes of transport (road, rail and air) and easy access to major national and international markets. CentrePort is Canada's first Foreign Trade Zone where import duties and taxes are deferred, reduced or eliminated to expedite movement of goods and to promote value-added manufacturing.



If you are looking for a place to build your heavy vehicle-related business, your first step should be to call Manitoba Trade and Investment.

OUR TEAM OF EXPERTS CAN:

- offer insight into the opportunities in Manitoba
- introduce you to potential strategic alliance partners and local business development officials
- help you find a location that suits your needs

QUICK FACTS – MANITOBA'S HEAVY VEHICLE MANUFACTURING INDUSTRY

EST. ANNUAL SALES	\$2 BILLION
EXPORTS	\$1 BILLION
COMPANIES	OVER 120
EMPLOYEES	OVER 6,500

Call Today

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