

systems and engineering. The World Bank continues to lend China large infrastructure loans for energy development and transportation. Private and government-promoted trade consortia are forging new business liaisons to promote Canada-China trade. A number of Chinese rail transportation projects are under scrutiny by Canadian firms. Canadian consulting firms are following closely railway rehabilitation projects involving track, bridges and signalling systems in countries such as Viet Nam, Cambodia and Laos.

For Asia in general, distance is a factor and negotiations are long, which substantially increases the cost of doing business. Culture and language are frequently perceived as barriers, and political instability has affected major projects.

In Australia, the building of standard-gauge systems and the demand for locomotives, rolling stock and control systems provide opportunities for Canadian exports.

Canadian Position

Virtually all Canadian urban transit and rail systems and vehicles are supplied by domestic sources. Over 70 percent of production is exported, mainly to the United States. About 10 000 people are employed in the manufacture of transit vehicles and related parts and supplies. This excludes aftermarket components and products, which cannot always be identified by sector, and consulting services, which are also substantial contributors to sales and employment.

Some of the major products and services provided by the Canadian rail and bus equipment industry are:

- rail rolling stock: passenger and freight;
- buses: large transit conventional, low-floor and alternate-fuelled, intercity coaches, and para-transit and school buses;
- diesel locomotives: DC/AC traction;
- advanced train-control systems;
- locomotive events recorders and simulators;

- radios;
- end-of-train units;
- head-hardened rail and other rail products;
- automatic vehicle location and health-monitoring systems;
- fare-collection technology;
- wheelchair lift and restraint systems for transporting disabled persons;
- linear induction motors;
- systems and software for scheduling and maintenance of bus fleets;
- supervisory control and data acquisition for metro systems;
- use of alternate fuels; and
- consulting services such as the development and implementation of management information systems (MIS) intermodal operations; supervision of rail construction; and locomotive rehabilitation programs.

In addition, some companies have developed specialized manufacturing processes for servicing the rail industry (e.g. transfer lines for stripping, cleaning, inspecting and rebuilding locomotive engines and robot-driven equipment for painting the inside surfaces of tank cars).

Canadian companies with proven technologies and expertise, new products, operational efficiency and proximity to the United States, should be well positioned to continue to expand market share in the United States. "Buy America" requirements with respect to urban transit equipment, however, restrict market access and discourage investment or expansion in Canada. The final assembly requirement has forced Canadian assemblers of buses and rail vehicles to set up facilities in the United States. The 60-percent U.S. content requirement compels Canadian component suppliers to establish an additional plant or relocate to the United States. Pressures to increase the content level will need to be countered. Canadian opportunities to participate in U.S. high-speed rail will also be restricted by local content requirements.