

## Strategic Direction

- Showcase the capabilities and aspiration for partnerships of Canadian AM firms that are ready for international business through a multimedia CD-ROM, which is made available at international events to the government network of trade representatives, the government trade-sourcing unit and stakeholders in foreign countries. Also include in the CD-ROM a directory on Canadian sources of expertise in AM from universities, government and private laboratories. In 1996, the pilot release of the CD-ROM and other electronic information on the above led to a substantial number of contacts and trade leads between foreign and Canadian organizations (Industry Canada [IC], Department of Foreign Affairs and International Trade [DFAIT]);
- Increase the number of Canadian SMEs that are exposed to trade and technology opportunities in the United States and Europe by facilitating their participation at key trade shows, arranging visits with AM institutes and holding firm-to-firm meetings about specific areas of interest. The target is to invite 150 key firms to participate at various international AM trade activities (IC, DFAIT);
- Increase the information flow on markets and technology-transfer opportunities in Asia (Japan, Korea and Taiwan), Latin America (Brazil, Chile and Argentina) and Mexico. Hold fact-finding missions on market opportunities for composite materials in Asia with the co-operation of industry networks such as the network for Advanced Composite Materials in Bridges and Structures, and the Canadian Advanced Composite Structural Materials Association (IC, DFAIT);
- Broaden access to previously untapped sources of research in Central and Eastern Europe. Encourage networking with research institutes and firms by visiting and reporting on activities of several materials-related institutes, universities and industries in Poland and the countries of the former Soviet Union. Obtain Canadian industry feedback and interest for follow-up missions (IC, DFAIT);
- Work with Investment Partnership Canada to identify and nurture new Canadian AM investment in companies with unique capabilities. Open a dialogue with targeted companies as a pilot activity (IC, DFAIT);
- Further Canadian interests in the development of international standards for ceramics (ISO/TC206), and of codes and standards in bridges and structures, through the Advanced Composites Materials in Bridges and Structures (ACMBS) network, by supporting the creation of multi-stakeholder committees (IC); and
- Improve the dissemination of the international information on markets, technology and investments, which is coming from the missions and the event reports through the Strategic Internet site, the Canadian industry associations and networks such as The Canadian Plastics Industry Association (CPIA), the Composite Materials Centre (CMC), ACMBS and the Canadian Ceramics Society (CCS) (IC, DFAIT);

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## AEROSPACE AND DEFENCE

The aerospace and defence (A&D) sector embraces a wide range of associated manufacturing and service subsectors. It consists of firms that develop, produce and maintain commercial and military aerospace products, and defence-related products and services for marine- and land-based applications. It includes manufacturers of aircraft; helicopters; aero-engines; simulators; electronics; major systems and components; aviation-security products as well as naval vessels; military vehicles; and equipment. It also includes services such as repair and overhaul (R&O), training and aerial firefighting.

## Main Challenges

- **International Trade and Business Environment:** Market access is a major issue for Canadian firms, since trade and production are heavily influenced by non-tariff barriers (NTBs) such as set-asides and industrial offset policies, particularly in the military aircraft market.
- Many of Canada's foreign competitors are effective in leveraging the international commitments of their governments in areas of defence or international development.
- **Structural:** Relationships among companies are changing, as firms at every level of the supply chain demand that their subcontractors and system suppliers shoulder more development costs and risks, or provide complete subsystems.
- Customers are placing a greater emphasis on "full-service" packages that include training and after-sales support.
- Product development is increasingly focussed on reducing the design and production times, as well as operating costs, associated with A&D products.
- Business-to-business relationships are increasing in complexity. They require considerable sophistication in terms of the application of electronic data interchange (EDI), innovative financing techniques and technical expertise.
- With the exception of the very largest primes (Bombardier, Pratt & Whitney Canada and Bell Helicopter), most Canadian firms are small by international standards and often lack the financial and technical resources to compete successfully in this type of environment. Few of them can offer the comprehensive capabilities now required by customers, and few have the breadth to bid on major offshore systems without partnering. Yet the level of inter-firm co-operation in Canada lags behind that in competitor countries.
- **International Marketing:** Canadian firms face additional challenges in marketing internationally, given their relatively small size.
- The penetration of foreign markets can be extremely costly.
- It may be difficult to obtain timely and appropriate information and intelligence on foreign markets.
- The need for insights into foreign cultural and business practices may require high-quality foreign representation in the form of agents, alliance partners or key contacts.
- Canadian firms may find it difficult to arrange for export financing that can compete with the terms offered by foreign organizations.
- **Defence-specific:** As a result of the link to national security and the control of advanced technologies, partnering between governments and the defence sector is often mandatory.
- More attention is being paid to price and competitiveness in defence procurement: technical performance and top quality alone are no longer enough.
- There is an increased emphasis on low-cost solutions and the need to reduce the life-cycle costs of military systems.
- Declining defence budgets will lead to stronger protectionist pressures.