

In addition to manufacturing, there is also a very large service industry associated with aeronautics. The repair and overhaul (R and O) segment is concerned with keeping the airframes, engines, avionics equipment, etc. flying and does considerable business in converting older aircraft into new configurations, such as from passenger to cargo service. There are also the industry segments that plan and provide all the infrastructure needed to keep the airlines flying; e.g. airports, air traffic control systems, navigation aids, weather services, communications, training systems, etc.

In many respects, the aeronautics service industry is in better shape than its manufacturing counterpart. Budget constraints and economic conditions are placing more emphasis on keeping older aircraft flying longer. New environmental regulations and the availability of more fuel efficient engines are providing repair and overhaul opportunities. There are very large airport developments under way, along with their expanded infrastructure elements, particularly in Pacific Rim and former Eastern Bloc countries. As well, the reduced availability of military trained pilots around the world will create opportunities for more business in the training segment.

## **B Domestic Position**

Canada's aeronautics industry exports about 75 per cent of its approximately \$10 billion annual sales and directly employs some 60,000 people. We have one major airframe manufacturer (Bombardier), one major engine manufacturer (Pratt and Whitney Canada), the major world supplier of flight simulators (Canadian-controlled CAE Electronics) and a substantial infrastructure of smaller companies that make products ranging from small components to major subassemblies. There is also a very strong service segment.

Bombardier, though small compared to Boeing or Airbus, is a large Canadian-owned player in regional transport and general aviation. Since acquiring de Havilland, Bombardier offers a range of turboprop and jet-powered regional transports. Although the regional market at present suffers from a surplus of capacity, the RJ aircraft appears to have good prospects. The company is under pressure to produce a 70-passenger version of the RJ and has announced the Global Express, a transpacific business jet.

With the acquisition of Learjet, the company also offers a family of business aircraft, including the Challenger. The water bomber specialty aircraft has a steady market demand. Bombardier also has a large service component with contracts for repair and overhaul of the Canadian CF-18's and training of pilots for the Department of National Defence.

Bombardier is integrating the operations of its subsidiaries. It is painting its RJ aircraft and re-engineering CL215's in the de Havilland plant and plans to manufacture the wings for the new Learjet Model 45 there. Significant portions of its aircraft are built at Shorts in Northern Ireland, an operation owned by Bombardier.

Pratt and Whitney Canada has a 30 per cent market share in the small engine sector (used by regional transports, general aviation, military utility/trainers and helicopters) and is well positioned to realize its goal of expanding that share to 40 per cent in the coming decade.

There are several other foreign-owned subsidiaries, such as Bell Helicopter (which manufactures all of Bell's civil helicopters), Dowty and Menasco (aircraft undercarriage), Boeing (composite structures) and Allied Signal (avionics, engine controls, etc). These companies tend to operate under different mandates from their parent corporations and must be able to justify their continued existence to their parent operations.

There is a trend among these larger companies to reduce the number of small operations with which they deal, either by bringing more of the work in-house, or by upgrading the capabilities of a few of their better suppliers.

The next tier in manufacturing consists of smaller operations, mostly Canadian-owned, specializing in niche markets. As well, there are machine shops producing components. Fleet Aerospace, for example, is one of the largest of these companies and has the capability to manufacture large assemblies. There are also several Canadian firms that have had international success in airport design and construction, air traffic control, specialized training systems and other service segments.

In addition, Canada has a specialized sector of companies that produces light aircraft, mostly for the private flyer market. Some of these firms design and manufacture complete aircraft or aircraft kits. Others specialize in engines or floats. Since product liability costs in the United States drove Piper and Cessna from the market, a large backlog of demand for aircraft of this type has built up. With the coming of new certification standards for these aircraft, as well as the possibility of revisions to the liability laws in the United States, this market segment could enter a phase of rapid growth.

In today's cyclical economic environment, companies with service specialties, such as those having repair and overhaul capabilities for specific aircraft or engines (Héroux with undercarriage for several military aircraft) or those with special process capabilities, operate reasonably stable businesses.

## **C Strategic Direction**

Canadian companies will maintain or increase their market share by:

Designing and producing aircraft, aircraft engines, avionics and aircraft subassemblies and components that meet world demands for high quality and low life-cycle costs. In order to facilitate this, government and industry will work together to:

- accelerate research and development spending on both product and process technology;
- improve corporate performance through systematic education and training in Total Quality Management; and
- improve long-term planning by strengthening the existing ISTC-AIAC (Aerospace Industries Association of Canada) Memorandum of Understanding.