

Aerospace Technologies

Canada has earned a reputation throughout the world for supplying high-quality, innovative aerospace products and services in selected niche markets, including regional aircraft, helicopters, commercial full-flight simulators and commercial aircraft landing-gear systems. Canadian companies are also recognized internationally for their excellence in aerospace training, specializing in flight simulation and air traffic control, diagnostics and pilot training.

Canada's aerospace industry, the world's third largest, is made up of about 500 firms, over half of which are located in or around Montréal, Québec, including Bombardier Aerospace, Bell Helicopter Textron and CAE Electronics Ltd., as well as Pratt & Whitney and Rolls-Royce, two important aircraft engine manufacturers and R&D performers. Supported by Montréal's four major research universities, these and other companies corner 27 percent of the global corporate aircraft market; more than 40 percent of the world production of commercial helicopters; more than 70 percent of the market for commercial flight simulators; and 60 percent of the world market for landing gear. National Research Council Canada will also locate its new Aerospace Manufacturing Technology Centre in Montréal.

In addition, the **Canadian Space Agency (CSA)** is located in Saint-Hubert, a suburb of Montréal. The CSA works with industry on global satellite navigation, remote sensing and space robotics. It is also working to advance knowledge about space microgravity and life science, and participate in new international space astronomy and planetary exploration missions, which offer new challenges to the scientific community, as well as industry.

The space industry in Canada has come into its own in the past 10 years, becoming a supplier of high-quality niche products and services to large foreign prime contractors. By focusing on strategic areas of expertise, most notably satellite communications, Earth observation, space robotics and space sciences, 350 firms have been able to compete more effectively and capture a larger share of world markets.

Technology for safer search and rescue

A plane goes down in Northern Ontario on a dark, stormy night. People must be rescued, but these are less than ideal conditions under which to conduct a search and rescue mission. Thanks to a project that brings together Defence R&D Canada, National Research Council Canada, and Canadian companies CAE Electronics Ltd. and BAE Systems Canada, poor conditions will be less of a consideration than ever before. These partners are looking at enhanced and synthetic vision systems to improve the safety and efficiency of search and rescue operations. The systems create a virtual flight environment displayed in a pilot's helmet, based on powerful image generation from terrain databases combined with weather-penetrating sensor technology. Although the testing is still in the early stages, the technology may be ready for use in as little as 10 years.

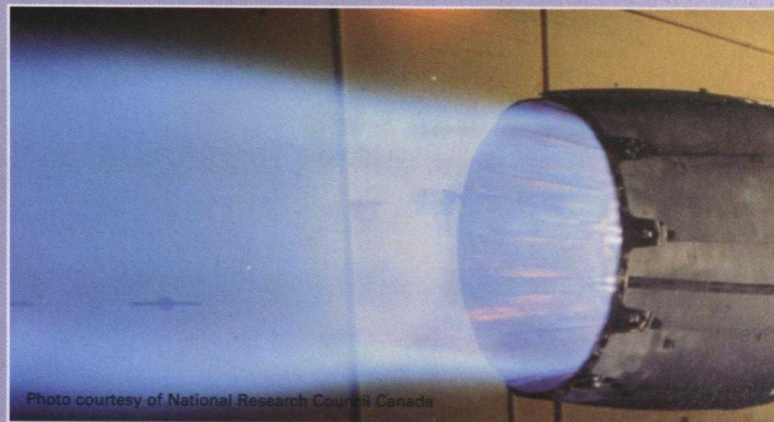


Photo courtesy of National Research Council Canada