



COLLABORATING FOR SUCCESS

STRENGTHENING
AEROSPACE
INNOVATION IN
WESTERN CANADA

Photo courtesy the Department of National Defence

THE ABUNDANCE OF NATURAL RESOURCES THAT BLANKET WESTERN CANADA'S vast landscape has always been crucial to the region's economic growth and prosperity. While these resources are a key economic driver, Western Canada has been turning to the sky and the stars to diversify its economic base. Today, technological innovation in the aerospace sector is quickly becoming the hallmark of the western economy.

Currently, Western Canada's thriving aerospace sector boasts annual revenues of more than \$4 billion, and employs 15,000 people, with the majority providing engineering, technical or management expertise. Many of the 450 companies involved in aerospace in Western Canada are now developing a global customer base that spans the commercial aviation, defence and security, and space market segments.

This progress complements a nationwide trend. Overall, Canada's aerospace industry has become the fourth largest in the world, next to the United States, Britain and France.

To help strengthen Western Canada's aerospace industry, Western Economic Diversification Canada works in partnership on projects that enhance aerospace innovation and training in Western Canada.

The department also partners with the Western Aerospace Alliance (WAA) to identify national and international procurement opportunities for Western Canada's aerospace sector by facilitating business development opportunities. It also supports WAA's participation in key industry tradeshows.

In 2007, WD organized a trade mission to the United States to link western Canadian companies with Boeing and Lockheed Martin. A year later, Boeing announced contracts worth more than \$157 million to companies in Western Canada, including Avcorp for 747 light sheet metal assemblies; Hydratech Ltd. for direct work on the Canadian Forces C-17 Globemaster fleet; and SED for feeder link Earth stations and telemetry. Boeing, in partnership with Lockheed Martin and Rockwell Collins, also made an investment towards the establishment of an Aircraft Maintenance Engineer (AME) program at the Saskatchewan Indian Institute of Technology.

In 2008, WD was represented at the Farnborough International Air Show. In 2009, the Department worked in partnership with the WAA to help coordinate WAA's presence at the Paris Airshow.



WD plays a key role in helping Western companies take advantage of the federal government's Industrial and Regional Benefits (IRB) policy. The policy requires contractors to do business in Canada, ensuring Canada gets extra value for money spent in the form of industrial and regional investments.

Photo courtesy of the Department of National Defence.

AEROSPACE INNOVATION ACROSS THE WEST



SASKATCHEWAN: NATO FLYING TRAINING IN CANADA

In partnership with industry, the federal government is providing world-class training to military pilots from Canada and around the world at the NATO Flying Training in Canada (NFTC) program in Moose Jaw, Saskatchewan and Cold Lake, Alberta.

(Photo Courtesy of NFTC.)



MANITOBA: SATELLITE DESIGN AND DEVELOPMENT

Bristol Aerospace Ltd. in Winnipeg was selected by the Canadian Space Agency to design and develop the MAC-200 small satellite bus, a unique technology adaptable for different types of missions. The satellite will launch in 2009 as part of the Cassiope mission, which will conduct space environment research and an advanced telecommunications technology demonstration.

(Photo courtesy of Bristol Aerospace Ltd.)



BRITISH COLUMBIA: RADARSAT CONSTELLATION MISSION

MacDonald, Dettwiler and Associates Ltd. (MDA) is working on the RADARSAT Constellation Mission (RCM), a constellation of three identical spacecraft that will ensure C-Band data continuity for RADARSAT-2 data users. The RCM will support Canadian efforts to assure sustainable development, better manage natural resources and ecosystems, and enforce security and sovereignty in the Canadian Arctic.

(Photo courtesy of MDA.)

NORTHERN MANITOBA TO GET NEW STATE- OF-THE- ART COLD WEATHER TESTING FACILITY

ALREADY KNOWN AS MANITOBA'S "HUB OF THE NORTH", THE CITY OF THOMPSON is quickly earning a reputation as the hub for cold weather testing and research in North America. For years, major automobile manufacturers have taken advantage of Thompson's unique geographic location, strong infrastructure and subarctic climate to conduct comprehensive cold weather testing on their vehicles. Now aircraft are getting onboard.

To capitalize on Western Canada's aerospace expertise and Thompson's cold weather, WD has worked in collaboration with aerospace industry partners and the Province of Manitoba to establish the Canadian Environmental Test Research and Education Centre (CanETREC). The facility is scheduled to be operational by August 2010 and will be the world's most advanced, large engine, cold weather testing and research facility.

Operating year-round, CanETREC will specialize in supporting engine icing certification and research and development of new, more efficient and advanced aerospace designs. In addition this testing technology will be applicable to other sectors such as the bus and automotive manufacturing industry.

MDS Aero Support Corporation will manage the facility, which is being built by the Global Aerospace Centre for Icing and Environmental Research Inc. (GLACIER). This state-of-the-art facility is a new joint venture between Rolls-Royce Canada Limited and Pratt & Whitney. The National Research Council Canada (NRC) will supply, own and operate the icing system in GLACIER. It will also be partnering with CanETREC.

CanETREC's geographic location benefits from Thompson's consistently cold weather and an expanded window for testing. During off-peak testing periods, CanETREC will focus on research and education to drive new aerospace designs. Over the long-term, the facility will expand its research infrastructure and develop expertise in noise and emission reduction, and alternative fuels and lubricants.

WD's \$8.4 million investment will help establish the CanETREC facility and will support leading-edge R&D in aerospace. The facility will also offer a wide variety of aeronautical sciences and aviation maintenance training programs through partnerships with post-secondary institutions.

With large-engine testing accounting for 22 per cent of annual global icing certification business and the aerospace industry conservatively estimating the need for 21,000 engines, including maintenance routines, CanETREC is poised to become a world leader in cold weather testing and certification and research.

CANETREC WILL OPERATE YEAR-ROUND AND OFFER A VARIETY OF DIFFERENT SERVICES, INCLUDING:

- engine ingestion testing;
- cold soak testing;
- endurance testing; and
- blade-off certification.





WESTERN CANADIAN REPRESENTATION AT THE 2009 PARIS AIRSHOW

Western Canada's aerospace sector is collaborating for success. More than 20 companies from Western Canada will attend the 2009 Paris Airshow. Here's a snapshot of each Western province's aerospace strengths and a list of companies that will be in Paris. The Western Aerospace Alliance will also attend, representing more than 300 companies involved in aerospace.

MANITOBA

Manitoba is home to North America's premier narrow-body maintenance shop and western Canada's largest independent small turbine engine Maintenance Repair and Overhaul (MRO) facility. The province also has excellent advanced composites capabilities and is western North America's leading low-cost manufacturing centre.

- Bristol Aerospace Ltd.
- Government of Manitoba
- Hindtech Canada
- Manitoba Aerospace Association
- Micropilot
- StandardAero
- Thompson Unlimited

SASKATCHEWAN

Saskatchewan, home to NATO Flying Training in Canada and a thriving satellite technology sector delivers cutting-edge support to numerous international aerospace companies and agencies.

BRITISH COLUMBIA

British Columbia is a leader in advanced aviation applications and turnkey aerospace systems development and delivery. It also has a growing network of aircraft component specialists and repair and overhaul companies.

- Asco
- Avcorp Industries
- Cascade Aerospace
- Kelowna Flightcraft Ltd.
- MacDonald, Dettwiler and Associates Ltd.
- NGRain
- Viking Air

ALBERTA

Alberta is a leader in unmanned vehicle systems and offers a wide array of research and testing facilities. The province also has proven expertise in aerospace based geomatics and space science.

- Aerospace Engineering Test Establishment
- Aerotech International
- Aviation Alberta
- Canadian Center for Unmanned Vehicle Systems
- Canadian General Aircraft
- CDL Systems Ltd.
- Evans Consoles
- FLYHT (Aeromechanical Services)
- Government of Alberta
- Panvion Technology Corporation
- Stonecracker Scientific Law Office



THE WESTERN AEROSPACE ALLIANCE

The Western Aerospace Alliance (WAA), formed in 1997, comprises the provincial aerospace associations of Canada's four western provinces – British Columbia, Alberta, Saskatchewan and Manitoba – with representatives from provincial departments that work closely to support the aerospace sector.

The WAA enhances aerospace industry growth and diversification by facilitating technology and knowledge transfer among industry sector stakeholders.

(Photo courtesy of NATO Flying Training in Canada.)