



ALBERTA

CFB Cold Lake

INVESTMENT OPPORTUNITIES IN UNMANNED VEHICLE SYSTEMS

The Alberta HUB region is uniquely positioned to explore opportunities with the Unmanned Vehicle Systems (UVS) sector. The region encompasses a large land space of over 43,000 sq. kms, with a substantial percentage covering boreal forest, parkland and cultivated cropland. Investors can also benefit from the region's strong research base, training programs, proven UVS applications and the Canadian Forces Base (CFB) Cold Lake 4-Wing located within the region.

Canada/International

Recent advances in computing, power and materials technologies are fueling rapid growth in unmanned systems capabilities and applications development.

Unmanned Aerial Vehicles (UAV), related hardware, and specialized services are set to dominate military spending growth in the coming decade.



Canada is Investor-Ready

Built-in Canada Innovation Program

National Research Council IRAP Program

Strong R&D Base and Funding Highly Technical Workforce

RPAS Task Force (Transport Canada)

10 year projected expenditure growth in Unmanned Aerial Vehicles (UAV) worldwide

\$5.9B - \$94B

Source: Study, Association for Unmanned Vehicle Systems International



OPPORTUNITIES IN THE ALBERTA HUB REGION

UNMANNED VEHICLE SYSTEMS

Alberta

Alberta's UVS industry is globally competitive and strategically networked to take advantage of opportunities in commercial, civilian and industrial sectors.

Alberta leads with expertise in:

- · Systems Integration
- Wireless Communications
- Nanotechnology
- Manufacturing
- · Commands and Control Systems
- · Remote Sensing
- · Avionics and Navigation Systems
- · Global Positioning Systems

Provincial Strengths

- · Competitive corporate tax structure
- Ideal weather and facilities for testing UVS prototypes
- Strong connections between government, academia and businesses
- · Foremost UAS Range
- Canadian Centre for Unmanned Vehicle Systems (CCUV)
- Four military bases; one located in Alberta HUB region

Alberta HUB Region

The Alberta HUB region, in Northeast Alberta, welcomes investors to tap into its existing assets, strengths and opportunities in Unmanned Systems.

Applied Research and Development

The Alberta HUB region's combined Science, Technology, Engineering and Math (STEM) knowledge-focus and large land space of over 43,000 sq. kms makes us ideal for Unmanned Vehicle System (UVS) development, testing and application.

The region is home to Lakeland College, who acquired an Unmanned Aircraft System (UAS) equipped with image acquisition and processing technologies.

Students and faculty interact with industry and enhance research and learning in a broad array of disciplines including agriculture, energy, environmental sciences and fire and emergency services.

St. Paul
Search and Rescue works
with the Government of Alberta,
Transport Canada, Civil Air
Search and Rescue and others
testing drone operations and
Beyond Line of Sight.

- Airspace technology integration will test broad-based Electronic Conspicuity (EC) and common operating pictures as part of an overall localized Unmanned Traffic management system.
 - Project promises to be the largest EC test in the world.

Investment Opportunities:

Build research and development consortium between post-secondaries and SME(s).

Expand on the region's STEM knowledge offerings and facilities.

Work with CFB and indigenous communities on identifying new drone-friendly zones and commercial business opportunities.

Defence primes receive 5x multiplier when they work with Canada's colleges and universities, as part of Canada's Industrial and Technological Benefit (ITB) framework.

30%

Company Headquarters in Alberta

over 70

UVS companies, military agencies and educational institutions



OPPORTUNITIES IN THE ALBERTA HUB REGION

UNMANNED VEHICLE SYSTEMS

GROW

...ROI in region's top industries for UVS application: agriculture, energy, aerospace, research and environment

Indigenous Communities

Cold Lake First Nations, Kehewin Cree nation, Whitefish First Nation and four Metis Settlements (Buffalo Lake, Elizabeth, Fishing Lake, Kikino) generate significant economic activity in the region. There are unmanned systems training and business opportunities to be explored with these communities covering numerous sectors.

Top Industry Applications



Agriculture

Agriculture is one of the Alberta HUB region's strongest and longstanding industries with over 3 Million acres of cultivated cropland. There is a substantial market to offer aerial platforms that capture data and turn it into information that producers and field researchers can use to make critical farming decisions.

UVS Applications:

- · Crop monitoring (eg. disease, irrigation, crop health)
- · Water absorption and retention of soil
- Targeted pest management
- Precision agriculture (various applications)

Energy/Industrial

The Alberta HUB region is located on one of the largest oil and gas reserves in Alberta. The region covers the entire Cold Lake Oil Sands area as well as overlapping into the southern part of the Athabasca Oil Sands.

UVS Applications:

- Pipeline management and detection in thousands
- of oil and gas wells in region
- · Mineral exploration/exploitation
- · Spill tracking
- · Power transmission line monitoring
- · Infrastructure Monitoring

Aerospace

The Alberta HUB region is home to the Canadian Forces Base (CFB) Cold Lake 4-wing. The Base has an operating budget of over \$106 Million and world class aerospace companies located within the region include Bombardier, CAE and L3 Communications.



UVS Applications:

- Airport surveillance and inspection
- · Bird and wildlife control
- · Flight path testing and visual recording
- Automated aircraft inventory
- Environmental
- · Reclamation efforts
- · Remote research
- · Wildlife monitoring and behavioral research
- · Forestry and prairie monitoring
- Tree disease detection, cutting and harvesting



OPPORTUNITIES IN THE ALBERTA HUB REGION

UNMANNED VEHICLE SYSTEMS



Investment Opportunities:

- Potential for new commercial test facility at CFB Weapons Range.
- Leverage large agricultural land base as new drone-friendly zones for Beyond Visual Line of Sight testing.
- Reclamation opportunities in thousands of shut-in oil and gas wells.
- Unmanned Aerial Vehicle surveying within the CFB Weapons Range or for land development.



Cold Lake Air Weapons Range: 11,700 sq. kms (1.17 million hectares), over twice the size of Prince Edward Island.

THE ALBERTA HUB INVESTMENT ADVANTAGE

Access to Markets

- Highways 41 and 36 are main corridors running north-south connecting to U.S. and Mexican markets. Highway 16 (The Yellowhead) connects the region east-west to the strategic ports in BC.
- CN and CP Rail both have mainline or secondary lines with direct rail access points in seven counties.
- Nine regional airports, daily air service from Lloydminster Airport and access to the Edmonton International Airport.

Demographics

 A regional population of over 134,000 providing excellent labour access and immediate market access to the Edmonton Economic Region with a population of well over 1.2 million.

Investment

• Major project value in the region is \$31 Billion.

Applied Research

- The region has over 43,000 sq. kms of land for research, with a substantial percentage covering boreal forest, parkland and cropland.
- InnoTech Alberta conducts the majority of alternative crop research in Alberta including Industrial Hemp.
- 'Advanced innovation-based applied research programs' at Lakeland College in Crop Research, Livestock Research, Energy Research and Business Development.
- Portage College is home to Canada's first Pipeline Training Centre in Boyle, Alberta.

Education

 Skilled labour is available regionally through postsecondary education at two Colleges: Lakeland and Portage as well as the University at Blue Quills. 10 campuses are located across the region. Over 38,000 have a post-secondary certificate, diploma or degree in the region.



Northeast Alberta Information HUB Ltd. www.albertahub.com

Alberta HUB strives to provide current/accurate information but it is subject to change. Contact Alberta HUB for the latest information. Published: December 6, 2019

