

10th September 2019

12th Unmanned Systems Canada Student UAS Competition 2019-2020

There is a medical emergency facing remote communities in Manitoba. The company running the medical clinic network needs an Unmanned System to deliver critical medications and supplies from their depot to the communities inaccessible by road. University and college teams from across Canada are invited to design an Unmanned System, using both an unmanned ground vehicle (UGV) and an unmanned aerial vehicle (UAV), to support the mission. The addition of a UGV is first in competition history. Will it be an east or west “Company” with the life-saving prescription?

Scenario

This is a Beyond Visual Line of Sight scenario. Although the UAV will be required to go Beyond Visual Line of Sight (BVLOS), the competition spotters will have it in sight at all times.

Rapid response times and the ability to travel routes and distances that are not conveniently accessed by conventional methods, make Unmanned Aircraft Systems (UAS) a promising medical delivery system. Applications of Unmanned Systems for medical delivery include shuttling biological samples between facilities for testing, delivering medication to the homes and hospital rooms of patients, and reaching individuals in need of life-saving medical attention sooner than by ambulance. The possibilities Unmanned Systems provide to the future of the health care industry have the potential to save time, resources and lives!

These possibilities are currently being tested in Canada and implemented across the world; from local emergency medical services teams promptly delivering defibrillators to individuals in cardiac arrest, to delivering otherwise inaccessible supplies and pharmaceuticals. Canadian organizations such as Renfrew County Paramedics, InDro Robotics, Drone Delivery Canada, London Drugs, and Canada Post are hard at work applying these technologies to deliver medical supplies to Canadian locations.

The competition takes place in two phases with the Phase I design report from each team due on **January 12th 2020**, and the Phase II operational demonstration taking place **May 1 – 3rd 2020** at Southport MB. Teams will be graded on the quality and

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completeness of their design reports and the results of their flight demonstrations. Prizes will be awarded for each phase and for notable team accomplishments.

Purpose of the Competition

The purpose of the competition is to promote and develop Canadian expertise and experience in unmanned systems technologies at the university and college levels. Even small scale unmanned vehicles are complex systems requiring a well planned and executed design and rehearsed operational approach. In addition, safety considerations are important factors in this competition as in any other vehicle design project.

Sponsorship Opportunities

Thanks to the enthusiasm and support from past sponsors, each year the bar is raised to attract first class teams with innovative ideas. This world class event provides opportunities for the best and brightest to display leadership, real world problem solving and team work all in a stressful competitive environment; a real-life job interview. Results have paid off as a number of UAS competitors have been hired by a sponsoring company. When tested on the international stage, our Canadian teams not only take-home various awards, but consistently place at or near the top. Canada is on the UAS Podium! Sponsors and students will have the opportunity to connect during the competition. To become involved as a sponsor, and invest in these talented students, the future of the Canadian UAS sector, contact competition@unmannedsystems.ca.

Eligibility

The competitors shall be teams from a recognized Canadian university or college, organized internally at the discretion of their respective members. Online registration is due **November 8th 2019** at www.unmannedsystems.ca.

All relevant competition information will be located on www.unmannedsystems.ca. Check the competition website regularly for updates. Registered teams have access to more information and documents in a shared folder. All questions should be addressed to: competition@unmannedsystems.ca

2018-2019 Team List and Sponsors follow

2018-2019 Teams

Carleton University – Blackbird
Concordia University – UAV Concordia
École de technologie supérieure – Dronolab
Polytechnique Montreal – Élikos
McGill University- Aero McGill Drones
Queens University – Queens Aero Design Team
Ryerson University – RUAV
University of British Columbia – UAS
University of British Columbia Okanagan – UBCO AERO
University of Manitoba – UMUAS
Université de Sherbrooke – VAMUdeS
University of Toronto – AeRo
University of Toronto – UAV
University of Victoria – UVic Aero



Student UAS Competition 2019



3 - 5 May CED Alma QC 2019

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Michael Levesque Leduc