



Unmanned Systems  
Systèmes Télécommandés

**CANADA**

8 September 2018

## **11<sup>th</sup> Unmanned Systems Canada Student UAS Competition 2018-2019**

**Attention All UAS Teams:** Severe thunder storms generated from this summer's severe heat have damaged a solar farm near Alma, Québec. The utility company responsible for power in the Lac St Jean area is anxious to identify the damage, make the repairs and restore power. They need a competent UAV company to do the job. Will your "company" win the bid?

### **Scenario**

This is a "made in Canada" Simulated BVLOS UAS Student Competition. 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.

Solar power is the fastest growing source of new energy, and it is predicted that its capacity growth will be higher than any other renewable energy by 2022. Solar farms are required by law to be scanned annually with an infrared camera to inspect their efficiency, although it is recommended that more regular inspections be completed to maintain the solar farm at peak performance and minimize potential power loss. Due to the large size of these solar farms, which can range from 1 to 100 acres or more, UAS are being deployed to provide accurate imagery and greater accuracy than possible with inspectors using handheld cameras. This allows the company to understand the scope of the repair and get the job done more efficiently.

The mission for the competition is to provide support to a utility company after a wind storm, including surveying a field of solar panels (solar farm) with the UAV not in operator line of sight, locating any major damage to individual solar panels, identifying significant changes to the solar field, and placing inspection markers adjacent to critical cells on damaged panels.

The competition takes place in two phases with the Phase I design report from each team due on **January 13<sup>th</sup> 2019**, and the Phase II operational demonstration taking place **May 3 – 5<sup>th</sup> 2019** at Centre d'Excellence sur les Drone - CED Alma, Québec. Teams will be graded on the quality and completeness of their design reports and the results of their flight demonstrations. Prizes will be awarded for each phase and for notable team accomplishments.

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## **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! To become involved as a sponsor, and invest in these talented students, the future of the Canadian UAS sector, contact [competition@unmannedsystems.ca](mailto: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.

## **Application and Registration.**

Watch for the online registration on [www.unmannedsystems.ca](http://www.unmannedsystems.ca). Registration, including the non-refundable fee of 500\$ is due **November 9<sup>th</sup> 2018**.

All relevant competition information will be located on [www.unmannedsystems.ca](http://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](mailto:competition@unmannedsystems.ca)

For further information please contact Sue Chapman:

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2018 Sponsors follow.



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