CONTRIBUTING STAKEHOLDERS

Unmanned Systems Canada

By Wayne Crowe, President

Unmanned Systems Canada - or, in French, Systèmes Télécommandés Canada - is an independent Canadian federally registered not-for-profit association representing the unmanned vehicle systems community in Canada with the following objectives:

• To be the single voice representing the interests of the Canadian unmanned systems community which includes industry, academia, government, military and other interested persons;
• To promote public awareness, education and appreciation for the Canadian unmanned systems community to itself, to Canada and the world; and
• To promote and facilitate the growth of the Canadian unmanned vehicle systems community through education, advocacy, and exchange of ideas and technologies.

Unmanned Systems Canada was formed in late 2009 from the merger of UVS Canada and AUVSI-Canada. Unmanned Systems Canada maintains a member sharing affiliation agreement with AUVSI and also an informal relationship with UVS International consisting primarily of information sharing.

Summary of Activities for 2010

After just over a year of operation as the newly rebranded Unmanned Systems Canada, we can look back and see a Canadian Association that has transformed into what is now truly the voice of the Canadian unmanned systems sector. The community has embraced the new Association through its membership - from a combined 16 corporate members for the two former Associations, we have grown to 48 corporate members and over 400 individual members and growth continues on a monthly basis.

With the increased membership, the Association is able to speak more convincingly and effectively to governments and agencies which have an effect on the industry. We are increasingly seen as the voice of the community and the place to go to when looking for information on unmanned systems activities in Canada.

2010 Annual Conference Recap

Our 8th annual conference, held in Montreal Canada in November 2010, was a significant success. There were over 325 attendees from around the world including Germany, USA, Great Britain, South Korea, Israel and France, together with a strong Canadian contingent from industry, academia, media, the Department of National Defence and provincial police.
forces. An ever increasing number of students are a welcome addition to our rapidly growing community.

Thirty-one exhibitors in our trade show area represented both large and small manufacturers and operators. We continue to attract a very high rate of return attendees, which is a measure of the importance delegates put on our conference and its networking opportunities.

Over 90 speakers briefed the audience on subjects ranging from the latest achievements in research and development, to a wide range of commercial and civil applications and the operational use of unmanned aircraft systems supporting the Canadian Forces in Afghanistan. The conference themes and break-out sessions continued the expansion of coverage of the rapidly growing civil and commercial segments for applications not only in the air, but also ground and marine unmanned systems.

The opening day plenary speaker, the Director General of Civil Aviation for Transport Canada, updated the attendees on the regulatory framework and progress Transport Canada is making towards integrating unmanned aircraft into Canadian Domestic Airspace, a key element towards greater commercialization of UAS. The second day plenary, which was military focused, was opened by the Director General, Strategic Engagement for the Canadian Air Force, who provided updates on the increasing use of unmanned aircraft systems in theatre.

### UAS Regulatory Development

Following a persistent effort by Unmanned Systems Canada and many of its members, including holding a focused workshop at the 2009 Conference, Transport Canada has commissioned a working group comprising all interested stakeholders to develop the regulations necessary to integrate unmanned aircraft systems (UAS) into Canadian airspace. This is a controversial issue of great importance to our membership; accordingly, Unmanned Systems Canada is well represented - the working group charged with developing the regulations is co-chaired by Transport Canada and Unmanned Systems Canada and many of our members have positions in the actual working group. The work has been subdivided into three sub-groups concentrating on:

- People (pilot, operator & maintenance training, competencies and licensing),
- Product (registration, flight authority and airworthiness),
- Operations and Access to Airspace.

These sub-groups are currently meeting and have divided the exercise into 4 phases:

- Phase 1 - UAS below 25 Kg and operated within visual line of sight
- Phase 2 - UAS below 25 Kg operated beyond visual line of sight
- Phase 3 - all operations of UAS between 25 and 150 Kg
- Phase 4 - all UAS operations in Canadian airspace (file and fly)

It is expected that the working groups will present a set of proposed regulations for the initial phase to the Transport Canada advisory committee by the spring of 2012 and that all phases would be addressed within 6 years. Formal UAS air regulations will be issued following government approval; however, it is anticipated that the results of the deliberations and recommendations will be reflected in internal guidelines for special flight authorizations on an ongoing basis as they are accepted. The sub-group chairs have agreed to participate in a workshop on Regulatory Affairs at the upcoming Unmanned Systems Canada Conference in November 2011. All interested parties are encouraged to attend to learn where regulations are headed and have any comments you may have registered.

Association Members are encouraged to watch the Members Section of the Unmanned Systems Canada web site for updates on the progress of regulation development and to provide their views to the association so that they can be represented in the deliberations.

### Student UAV/UGV Competition

Building on the success of competitions in 2007 and 2009, Unmanned Systems Canada has launched its third Student Competition. Recognizing the breadth of interest within the unmanned systems community, the competition will include both unmanned aircraft systems (UAS) and unmanned ground vehicles (UGVs). The purpose of the competition is to promote and develop Canadian expertise and experience in unmanned systems technologies at the university and college levels.

The theme remains the same as the past year - support to forest fire fighting. This year there will be two parallel competitions, one for UAS and one for UGVs. The eventual aim is to grow the capabilities to the point where we can hold a single competition with UAS and UGVs interacting autonomously to achieve a single objective.

### Arctic Activities

Unmanned Systems Canada has been researching Canada’s commitment in Arctic monitoring and assessment with a view to assisting in the implementation of unmanned vehicles in meeting Canada’s international Arctic obligations. The Arctic Monitoring and Assessment Program (AMAP) is an international organization that reports to the Arctic Council. It is actively supported by the eight Arctic countries, responding to governmental requests for information on the Arctic. Unmanned Systems Canada is a member of the AMAP UAS Expert Group established at the request of the Arctic Council in response to needs voiced by the scientific community for access to gather important environmental and climate data using unmanned aircraft systems (UAS). The UAS Expert Group has been holding a series of meetings in the various Arctic countries to gather interest and support within the national scientific and regulatory communities towards a major international UAS scientific exercise in the 2013/14 timeframe. The next meeting will be held in Ottawa, Canada in May 2011.

### 2011 Unmanned Systems Canada Conference

The 2011 “Canada at the Civil Commercial Forefront” conference, scheduled for 7-10 November, in Halifax will be the 9th Annual Conference and Exhibition. It will emphasize civil and commercial opportunities and challenges associated with unmanned systems in the land, sea and air domains. The first day will focus on potential emerging civil and commercial opportunities, particularly in the oil, gas and hydro sectors. Defence and security remains a central part of the Conference, with the second day being dedicated to national and international security applications and solutions. The final day is devoted to research and development and will highlight the latest advancements in unmanned systems technology.

This will be followed by a demonstration of R&D Programs on unmanned systems (land, sea and air) and some of the Canadian military’s unmanned systems capabilities put on by Defence Research and Development Canada.

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