



Open Call for Proposals Unmanned Aerial Systems BVLOS Capability Development

Program Description

LOOKNorth and Unmanned Systems Canada are collaborating to lead a national cluster of industry and academia to develop the Unmanned Aerial Systems (UAS) industry in Canada, with a focus on accelerating the commercialization of UAS-based beyond visual line of sight (BVLOS) remote sensing applications. LOOKNorth/USC are establishing a testbed for collecting relevant performance data from flight trials and to evaluate these data using a common risk assessment tool.

This national testbed is intended to promote collaboration amongst Canadian companies to create and utilize a common risk model for all flight trials. Over time, the aggregation of data and the resulting analyses will support evidence-based recommendations to Transport Canada to support development of BVLOS regulations.

The overall objective of the national industry cluster is to create a risk-based process to assess concepts of operation through a common test bed that utilizes a Transport Canada approved risk model. The results of the flight trials and the associated risk assessments provide data to support evidence-based BVLOS regulations. Ultimately, it is expected that the process will drive the development of new markets, attract investment and improve the competitive position of Canadian companies in a global marketplace.

Scope and Intent

LOOKNorth is soliciting proposals from Canadian-based small and medium sized enterprises (SMEs) with interest in advancing Unmanned Aerial Vehicles and Systems (UAV / UAS) into BVLOS operations and applications. Project funding is currently offered for projects that demonstrate simulated BVLOS concepts of operations.

In February 2018, Transport Canada announced a call for proposals for Canadian companies to submit concepts of operations leading to the approval of BVLOS demonstration projects in 2018. Four successful proposals were selected in June 2018. The objective of these proof-of-concept trials is threefold:

- to provide regulators and other industry stakeholders with operating experience and resulting data to model and profile risk associated with BVLOS operations across a range of application scenarios;
- to validate and demonstrate new technologies that enable safe BVLOS operations; and
- to inform stakeholders regarding the development of BVLOS regulations in Canada.

Priority will be given to support for those proposals that were not successful in the Transport Canada 2018 Call for Concept of Operations demonstrating BVLOS. Those projects may benefit from simulating BVLOS by adding resources to operate under VLOS.

Eligibility

Proposals will be accepted from project teams led by Canadian SMEs to help rapidly advance the commercialization of BVLOS operations. All proposed projects considered for funding must demonstrate a strong commercialization component. BVLOS application trials target technology solutions at a technology readiness level (TRL) in the range of TRL 5 - 7 (http://esto.nasa.gov/files/trl_definitions.pdf). .

For projects to be considered for funding under this call for proposals, the proposal must demonstrate interest and support from an end user partner with interest in BVLOS. At a minimum, the industry partner should recognize the information gap and the need for the proposed solution as well as commit to supporting the proposed field validation with a combination of cash and support in kind. Preference will be given to projects where the end user partner indicates interest and willingness to adopt the technology within their operations if it is successfully validated and where LOOKNorth can play a role in marketing the technology.

Successful proposals should address “benchmarks” for expected and desired outcomes. This should include but not be limited to new products/services, incremental revenue, new employment and investment potential from a successful demonstration.

For ***BVLOS concepts of operations*** projects, the following conditions apply:

- LOOKNorth will fund up to 50% of eligible costs, to a maximum of \$50,000 of LOOKNorth funds per project.
- Projects should be no more than 12 months duration.
- Successful proposals must demonstrate a confirmed commitment of interest and support from an end user industry partner. Industry support can be a combination of end user and SME cash and in-kind contributions. Preference will be given to projects with strong end user support, as this indicates end-user interest and commercialization potential.
- All proposed projects considered for funding must demonstrate a strong commercialization component.

General Instructions

Data and Intellectual Property

Any intellectual property developed as a result of a funded project shall belong exclusively to the Proponent. There is however an explicit requirement to share safety case data for the collective benefit of developing evidence-based recommendations to Transport Canada for BVLOS regulations.

- All applicants must agree to make their pre-flight profiling data as well as results of their flight tests, including operational missions, available for input into the testbed and risk evaluation tools.
- All applicants must agree that their results may be shared among Transport Canada and industry cluster participants.
- Proprietary and commercially sensitive information will remain protected.

Submission Instructions

Interested proponents must complete the proposal template, located here:

https://www.looknorth.org/cms_content/files/files/Investment%20Proposal%20Template%20-%20FIN.pdf

Proponents who have previously applied to the Transport Canada 2018 Call for Concept of Operations demonstrating BVLOS are asked to include a copy of the proposal with their application. Full instructions for completing the application are included with the Proposal template.

As well, proponents must complete a preliminary Environmental Assessment Checklist, located here: https://www.looknorth.org/cms_content/files/files/LN-EAP&Checklist-Fillable.pdf on the LOOKNorth website.

Proponents are asked to note the following important dates:

- Announce Call for Proposals – Nov 1st
- Submission Deadline - Nov 26th
- Expected Decision Date - Dec 21st

Questions or Clarifications

Please submit any requests for clarifications to neil.cater@c-core.ca.

LOOKNorth will respond to respond to all questions. Only clarifications relevant to all submitters will be published on the website at the address above.

About LOOKNorth

LOOKNorth is a Centre of Excellence for Commercialization and Research (under Canada's Networks of Centres of Excellence program), hosted by C-CORE. LOOKNorth's Investment Program fosters and supports innovation in remote sensing technologies and applications, assists Canadian satellite SMEs to define and successfully execute missions relevant to industry and communities, fosters advances in Canada's UAS sector - particularly Beyond Visual Line of Sight (BVLOS) operations, and helps build capacity in remote sensing technologies and services in Canada's North.

About Unmanned Services Canada

Unmanned Systems Canada is a federally registered not-for-profit association established in 2003 which represents the Canadian unmanned systems community. With over 500 members, USC has played a pivotal role in establishing the Canadian Unmanned Aerial Systems (UAS) industrial sector in Canada. Since 2007 when USC initiated UAS regulatory development with Transport Canada, as the co-chair of the regulatory working group, it has promulgated best practices which have been in use by Canadian industry for the past four years. During those years, operating only within Visual Line of Sight, approximately 1000 new businesses have been created, developing and leveraging UAS technology for a wide range of applications.