

ADVANCE CONTRACT AWARD NOTICE (ACAN)

1. Advance Contract Award Notice (ACAN)

An ACAN is a public notice indicating to the supplier community that a department or agency intends to award a contract for goods, services or construction to a pre-identified supplier, thereby allowing other suppliers to signal their interest in bidding, by submitting a statement of capabilities. If no supplier submits a statement of capabilities that meets the requirements set out in the ACAN, on or before the closing date stated in the ACAN, the contracting officer may then proceed with the award to the pre-identified supplier.

2. Definition of the requirement

The ministry of Natural Resources Canada (NRCan) requires the development and evaluation of specific machine learning methods, i.e., transfer learning and domain adaptation techniques, applied to optical imaging. More specifically, the work must meet the following objectives:

- Changes in Spatial/Spectral Resolution (Different Sensors)

Develop methods to transfer perceptual knowledge captured in a trained deep convolutional neural network (DCNN) to other images from satellites that use different sensors and therefore have different spatial and spectral characteristics. Specifically, this goal seeks to develop approaches to take models developed for Worldview data and transfer them to datasets with spatial resolutions of between 1-2.5m with potentially similar spectral characteristics.

- Change in Domain (Different Geographic Areas)

Develop methods to transfer perceptual knowledge trained on high resolution data in specific regions of Canada to areas that exhibit different geographic conditions and will build upon and use the models developed in objective 1.

The requirements are aimed at developing the two methods (Learning by Transfer and Non-Supervised Domain Adaptation) and evaluating the performance of these methods, through a set of exhaustive tests on data provided by NRCan. The methodology should allow for simple and easy reuse by NRCan. To do so, the service provider will have to provide NRCan with the test plan, the results and the code developed to perform the tests. In addition, the code provided to reuse the methodology will have to be delivered with an open license (MIT).

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3. Criteria for assessment of the Statement of Capabilities (Minimum Essential Requirements)

Interested suppliers must demonstrate by means of a Statement of Capabilities that they meet the following requirements :

- The supplier must demonstrate that at least one of the resources assigned to the project has a minimum of two (2) years experience in deep learning applied to geospatial domain, with convolutional neural network architectures, within the last three (3) years.
- The provider must demonstrate that the cumulative project resources have contributed to at least four (4) published or ongoing scientific papers (peer-reviewed paper, recognized conference paper or thesis) on deep learning and its applications to geospatial applications.
- The supplier must demonstrate that the resources assigned to the project hold or are in the process of obtaining a minimum of a graduate degree from a recognized university in a field related to geography, geomatics or computer science.
- The supplier must demonstrate that at least one resource assigned to the project has participated in a deep learning algorithm implementation project in partnership with a Canadian corporation or Canadian public authorities (federal, provincial or municipal government department).

4. Applicability of the trade agreement(s) to the procurement

This procurement is not subject to any trade agreement.

5. Justification for the Pre-Identified Supplier

The supplier mentioned in section 10 below is the only known supplier that meets the mandatory criteria set out in section 3 above.

Should Canada receive a statement of capabilities from a supplier that contains sufficient information to indicate that it meets the requirements set forth in this ACAN, a competitive process will be triggered with a technical and financial evaluation methodology of the bids proposed by the potential bidders.

6. Government Contracts Regulations Exception(s)

The following exception to the *Government Contracts Regulations* is invoked for this procurement under subsection 6d) - "only one person is capable of performing the work".

The identified supplier, University of Winnipeg, is the only one able to meet all of the criteria identified in paragraph 3 above.

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7. Ownership of Intellectual Property

Ownership of any Foreground Intellectual Property arising out of the proposed contract will vest in the Contractor.

8. Period of the proposed contract or delivery date

The proposed contract is from the date of the contract until March 31, 2021.

9. Cost estimate of the proposed contract

The estimated value of the contract, is less than \$ 50,000.00 (GST/HST extra).

10. Name and address of the pre-identified supplier

University of Winnipeg
515, Portage Avenue
Winnipeg MB
R3B 2E9

11. Suppliers' right to submit a statement of capabilities

Suppliers who consider themselves fully qualified and available to provide the goods, services or construction services described in the ACAN may submit a statement of capabilities in writing to the contact person identified in this notice on or before the closing date of this notice. The statement of capabilities must clearly demonstrate how the supplier meets the advertised requirements.

12. Closing date for a submission of a statement of capabilities

The closing date and time for accepting statements of capabilities is November 23, 2020 at 2:00 p.m. EST.

13. Inquiries and submission of statements of capabilities

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