

## **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 Requirements**

The department of Natural Resources Canada (NRCAN) has a requirement to:

- 1) Web Mapping Services Usability: To test recommended solutions and best practices put forth in OGC Discussion Paper 17-049 Open Geospatial Consortium (OGC:) to make web mapping services more usable and consumable to a person viewing/combining/querying the data in a web map client.
  - a. Develop a revision of the OGC Discussion Paper 17-049 as per the review and assessment of the recent symbology, cartography studies, OGC engineering reports related to Web Mapping Service quality and user experiences. The completion of this task should proceed to the other tasks within this work package.
  - b. Apply best practices to a portion of web mapping services created and deployed within Testbed 14; assess effectiveness of best practices in increasing usability of services using proposed assessment framework
  - c. Test to identify where recommendations in Discussion Paper 17 - 049 must be acted upon by a human actor (the person(s) creating the web mapping service), or if a usability issue is a result of the web map service specification
- 2) MapML: Extend the Map Markup Language concept definition through various actions in the OGC community and the Web community:
  - a. To define hypertext forms of common map idioms such as those supported by the Open Geospatial Web Services (OWS) service APIs (features, map images, map tiles, dimensions, styles, etc.). Such extensions would increase the availability of MapML by practically specifying (backwards-compatibly) how future OWS could serve MapML, so that a greater proportion of existing Web map / spatial content is available for use by the HTML <map> element to the Web author community
  - b. Define and implement the HTML <map> element API and event model as a browser extension, to make programming maps on the Web an exercise in the application of browser-supported standards.
  - c. Create a cloud-based service to proxy existing CGDI OWS content services [20] as MapML, potentially hosted at <https://maps4html.org/cgdi/>
  - d. Evaluate support for vector tiles in the client HTML <map> element
  - e. Evaluate support for 'offline' MapML maps, using the ServiceWorker [21] browser API + OGC GeoPackage [22] MapML extension.
  - f. Define layer grouping / styling and animation in MapML
  - g. Investigate and implement semantic markup integration, parsing and display using HTML/Microdata + schema.org + OGC Simple Features.
- 3) LiDAR Point Cloud:
  - a. Develop point cloud management systems and point cloud streaming server to improved access to open-source solutions, optimal indexation and compression efficiency

- b. investigate how current OGC technologies such as e.g. WPS, WCS or SOS need to be further developed to serve as optimized "Point Cloud streaming and visualization" servers. This aspect is complemented by workflow considerations, i.e. how to merge distributed Point Cloud data sets, how to run complex chains of Point Cloud data processing etc.
  - c. test how the NRCan installation currently interacts with other process providers, data handlers
- 4) EO Cloud and Security: to continue the investigation in the use of WPS over Public and Private Clouds for Earth Observation in conjunction with ESA and NRCan
  - a. Address interoperability issues as a result of OGC Test Bed 13 and enlarge the scope of processing capabilities, cloud orchestration on OpenStack and AWS services, cross orchestration (public and private, or two separate vendors), procedures and standardized methods to interface to third party products in containers (ie. RSTB, ESA SNAP, ENVI - IDL, GDAL/OGR, PDAL, microservices etc), sensors (radar, optical, lidar) and input and output data products.
  - b. Cataloguing of microservices, applications, and configurations for containers (similar to ESA) to be wrapped by WPS.
  - c. Investigate the security mechanisms available to OGC, Open Grid Forum, and other user communities
  - d. Develop a WPS (possibly QGIS or an ETL framework) client that will allow users to pass the necessary parameters to the WPS cloud service and render/show status and final results
- 5) Cartography Concept Development Study:
  - a. To do an in-depth review of the good work that has already occurred with web based symbology to assess what has and what has not worked.
  - b. To consult with implementers and report on two case studies
    - The Arctic Spatial Data Infrastructure combines data from 8 Arctic Countries and their respective cartographies and systems.
    - The Canadian Federal Geospatial Platform combines data from Canadian Federal Government Departments and is now working to include provincial data. Federal portals tend to occupy a hybrid SDI space between data production environments, internal user requirements, Government Open Data Portals and international SDIs, each with unique cartographic issues.
  - c. To provide a report and presentations (potentially a video) to make a series of recommendations in a report that will be made available to NRCan as well as to OGC Testbed 14 solution providers and OGC QoSE working group for further actions.

### 3. Criteria for Assessment of the Statement of Capabilities

Any interested supplier must demonstrate by way of a statement of capabilities that it meets the following requirements:

#### 3.1 Overall evaluation criteria.

##### The provider:

- a. Must be an international geospatial standards development and testing organization who develops international open geospatial standards in an open environment with governance linkages to the broader standards and Web communities (ISO and W3C).
- b. Must demonstrate wide engagement with the OGC communities by means of soliciting requirements, solutions, co-founding and co-development opportunities among OGC members to ensure that NRCan leverages OGC member investment and expertise.
- c. Must be able to evaluate relevant existing OGC standards, covering such factors as Engineer reports, best practice papers, white papers, on Earth observation, big data,

cloud security, quality of service and user experience, MapML, LiDAR point cloud, cartography, symbology..

- d. Must be able to identify OGC standard/domain working groups that are most relevant to NRCan requirements and facilitate co-development.

### **3.2 Specific assessment criteria**

- a. Must demonstrate understanding of symbology and cartography in the context of all relevant OGC standards and the ability to develop a set of recommendations that resolve the cartography gaps identified among OGC standards users
- b. Must have developed Web Mapping Services Usability solutions in coordination with the OGC QoSE DWG to address potential new requirements.
- c. Must have specified and implemented adaptations or integration of relevant OGC standards that may serve MapML and also capacity to define conceptual and security models and implementing an extension to one open source Web browser engine for MapML.
- d. Must have experience developing Earth observation data (big data) and federated cloud security technology, based on OGC and other relevant standards, with relevant OGC standard/domain working groups.
- e. Must have developed LiDAR Point Cloud data management technologies based on OGC and other relevant standards, with relevant OGC standard/domain working groups.

## **4. Trade Agreements**

This procurement is subject to the following trade agreement(s):

- North America Free Trade Agreement (NAFTA);
- Canadian Free Trade Agreement (CFTA);
- World Trade Organization - Agreement on Government Procurement (WTO-AGP).

## **5. Justification for the Pre-Identified Supplier**

We intend to deal directly with the supplier mentioned in section 10 below as, it 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. Exception to the Government Contracts Regulations**

The following exception(s) to the Government Contracts Regulations is invoked for this procurement under subsection 6

- (d) – “only one person is capable of performing the work.

The identified provider, Open Geospatial Consortium, is the only one able to meet all of the criteria identified in paragraph 3 above.

## **7. Exclusions and/or Limited Tendering Reasons**

The following exclusion(s) and/or limited tendering reasons are invoked under the:

- North American Free Trade Agreement (NAFTA): Article 1016, 2, b
- Canadian Free Trade Agreement (CFTA): Article 513 b
- World Trade Organization - Agreement on Government Procurement (WTO-AGP): Articles XIII (b)

## **8. Contract Period**

The contract period will be from December 8 2017 to March 31, 2019.

## **9. Estimated Cost**

The estimated maximum value of the contract is \$245,000.00 CAD inclusive.

## **10. Name and Address of the Proposed Contractor**

Open Geospatial Consortium  
#5 – 35 Main Street  
Wayland, MA  
01778 USA

## **11. Suppliers' right to submit a statement of capabilities**

Suppliers who consider themselves fully qualified and available to provide the services/goods described herein, may submit a Statement of Capabilities in writing, preferably by e-mail, to the contact person identified in this Notice on or before the closing date and time of this Notice. The Statement of Capabilities must clearly demonstrate how the supplier meets the advertised requirements.

## **12. Closing Date**

The closing date for a submission of a Statement of Capabilities is November 28, 2017 at 14:00 Eastern Standard Time.

## **13. Contract Authority**

France Bolduc  
1055, rue du P.E.P.S., C.P. 10380  
Quebec, QC G1V 4C7  
418 648-5043  
[france.bolduc@canada.ca](mailto:france.bolduc@canada.ca)