



**Build in Canada Innovation Program (BCIP)
Request for Information (RFI)**

Date: February 9, 2018

Solicitation No.: EN578-DB1706/A

GETS Reference Number: PW-17-00782512

Closing date: Please refer to the tender notice on www.BuyandSell.gc.ca

Industry Engagement Q&A submission details are included in this Request for Information document herein.

Issuing Office:

Public Services and Procurement Canada
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Request for Information (RFI)

Challenge: Micro machine learning and Natural language processing platform

Sponsor: Public Health Agency of Canada (PHAC) Department of National Defence (DND)

1. Introduction

Public Services and Procurement Canada (PSPC), Office of Small and Medium Enterprises and Stakeholder Engagement (OSME-SE), under the Build in Canada Innovation Program (BCIP), has a requirement to procure:

- a) Research and Development (R&D) innovative pre-commercialized goods and services (referred to as Innovations) that are in late stage of development; and
- b) Support services such as installation, training and testing support services for the pre-commercial Innovations procured under the BCIP.

The BCIP is a R&D procurement program aimed at procuring, testing and evaluating R&D pre-commercialized goods and services in the late stage development (Technology Readiness Level 7 to 9).

The BCIP has launched a Challenge Call for Proposals (CFP) under the Military component of the BCIP to help testing departments solve challenges in innovative ways. Under the Challenge CFP, sponsor departments partner with the BCIP to create challenges, evaluate proposals, and act as testing departments. Under this CFP, BCIP will publish challenges for the scientific, technical and innovation communities to submit innovative science and technology proposals to respond to, ultimately providing innovators with the opportunity to provide solutions.

2. Request for Information (RFI)

The respondent(s) to the RFI are defined as a company or joint venture with the ability to fulfil the requirements of the Challenge as identified under Annex A – Challenge Details. The information The information provided by Respondent(s) may be used to refine the details of the requirement.

The Respondent(s) are invited to submit a reply to the RFI that addresses each of the topics identified in Annex B – Industry Engagement Questions. To facilitate the review of the responses, Respondent(s) are asked to address and present the requested information in the order in which the topics are presented.

Canada reserves the right to amend, delete or add, in whole or in part, any terms or provisions of this RFI document. Any revision will be provided in writing.

No payment will be made for costs incurred in the preparation and submission of a response to the RFI.

2.1 Recommendations, Suggestions or Comments

Respondent(s) are invited to provide general feedback and/or any recommendations, inputs or comments (including technical and/or costing information) that could assist Canada in the refinement of any of the documents included in the RFI. However, Canada will have the right to accept or reject any or all recommendations.

3. Additional Content to the RFI

The following documents form part of the RFI document:

BCIP Challenge Call for Proposals which is currently active on BuyandSell.gc.ca

- [BCIP Challenge Call for Proposals Solicitation](#)
 - o [Attachment 1 – Evaluation Grid](#)
 - o [Attachment 2 – Draft Resulting Contract Clauses](#)
 - o [Attachment 3 – Certifications and Additional Information](#)

Annex A – Challenge Details

Annex B – Industry Engagement Questions

This document includes Questions that PSPC would like the Industry to respond in order to improve the Challenge.

4. Requested Information

PSPC is seeking engagement with Industry to assess the technical feasibility of its proposed requirement and the procurement strategy for the Challenge. PSPC is seeking advice from Industry on the proposed requirement and specific questions identified under Annex B – Industry Engagement Questions.

Respondent(s) are invited to consult Annex B – Industry Engagement Questions, in order to provide their response(s) to the requested information. Respondent(s) are requested to provide a maximum of 400 words per answer in their responses.

5. No Obligation

The RFI is not a bid solicitation and does not constitute a commitment, implied or otherwise, that the Government of Canada will take procurement action in this matter. The issuance of the RFI does not create an obligation for Canada to issue a subsequent Challenge, and does not bind Canada legally or otherwise, to enter into any agreement or to accept any suggestions from Respondent(s). Canada reserves the right to accept or reject any or all comments received.

Further, the Government of Canada will not be responsible for any cost incurred by Respondent(s) in furnishing responses.

A review team composed of representatives of PSPC and the Challenge Sponsor Department will review the responses on behalf of Canada. Not all members of the review team will necessarily review all responses.

There will be no short listing of firms for purposes of undertaking any future work, as a result of this RFI. Similarly, participation in the RFI is not a condition or prerequisite for participation in any Challenges.

6. Confidentiality

Respondent(s) are advised that any information submitted to Canada in response to this RFI may be used by Canada in the finalization of a competitive Challenge. However, the Government is not bound to accept any Expression of Interest or to consider it further in any associated documents such as a Challenge.

All industry consultations will be documented and this information is subject to the Access to Information Act. Respondent(s) should identify any submitted information that is to be considered as

either company confidential or proprietary. Canada will not reveal any designated confidential or proprietary information to public and/or third parties.

7. Delivery Address and Response Format

Responses to this RFI must be sent via email to SSGP.SCPD@tpsgc-pwgsc.gc.ca

The electronic file formats of the response must be in either the Adobe Portable Document Format (PDF) TM or in a file format that is readable by the 2013 Microsoft Office Suite.

Provision of an electronic copy is required in order to facilitate the distribution of the RFI responses to PSPC.

8. Closing Date

Responses to this RFI should be submitted, on or before the date and time specified on the tender notice.

9. Response Review

Following receipt of responses to this RFI, PSPC and the Challenge Sponsor Department will review responses received for purposes of refining its way forward on this requirement.

Canada reserves the right to request additional information for clarification during the review of the responses to this RFI, and/or to consider a subsequent modification of the response put forward by a Respondent.

10. Enquiries

All enquiries and other communications related to this RFI must be directed exclusively to the PSPC Contracting Authority identified in Section 12, below. Respondent(s) that intend on responding to this RFI are asked to advise the Contracting Authority of their intention to respond, in order that they may be notified of any changes to the notice on Buy and Sell website, which may occur during the posting period.

11. Language

Responses are to be provided in one of the two Official Languages of Canada (English or French).

12. Contracting Authority

All enquiries and other communications related to this RFI must be directed to the Contracting Authority as follows:

Huda Dahir
Supply Team Leader
Public Services and Procurement Canada
Email: SSGP.SCPD@tpsgc-pwgsc.gc.ca

List of Annexes:

Annex A – Challenge Details

Annex B – Industry Engagement Questions

ANNEX A – CHALLENGE DETAILS

Challenge: Micro machine learning and Natural language processing platform

Challenge Sponsor: Public Health Agency of Canada (PHAC) Department of National Defence (DND)

Background/Summary

As the Government of Canada's lead federal agency for disease prevention and management, the Public Health Agency of Canada (PHAC) is mandated to develop applications and countermeasures to combat biological threats on a global scale, including those applicable to our deployed personnel, international and domestic. DND is partnering with PHAC to pursue the department's health and wellness mandate as it relates to the expansion of knowledge to protect and enhance patient health through intelligent collection, analysis, and fusion of information and capabilities.

Response capacity to rapidly review evidence on the potential health impacts of biological agents necessitates an ability to rapidly review medical literature. Protecting the health and well-being of Canada's deployed military personnel depends on real-time synthesis and analysis of the most current and comprehensive published health research

A machine learning (ML)/natural language processing (NLP) platform is required for conducting systematic reviews of accumulating evidence related to infectious disease public health policy and program decision making in the face of potential biological threats.

Within this context, an ML-NLP innovation is sought to undertake a systematic, structured, and transparent approach to searching, selecting and grading relevant peer-reviewed published literature based on a pre-defined research question, with an ability to extract and export key results of published studies.

Challenge Details

The aims of this challenge are to identify the "Innovation" (A machine learning (ML)/natural language processing (NLP) platform to systematically review health evidence) and to test the performance of the Innovation at the PHAC infectious disease prevention and control branch at 130 Colonnade Rd, Ottawa, ON.

Note: The following elements of the challenge will be assessed in accordance with the Proposal Submission Form and the Evaluation Grid.

The Innovation must possess all of the following characteristics:

- The platform must be able to accommodate a variety of public health questions based on different populations, interventions, comparator groups, and outcomes of interest.
- The Innovation is required to be modular and should contain the following specific elements that will be assessed in accordance with the Proposal Submission Form and the Evaluation Grid.
- Publication/data search and selection of relevant studies ("publication and data retrieval"), filtered according to the Population, Intervention, Comparator, Outcome (PICO) framework or variations of PICO (e.g. Population, Outcome) using a combination of the following strategies

- Process relevant open access articles retrievable in full-text HTML via publishers' application programming interface (API)
- Process relevant full-text PDF articles that can be manually fed to the platform by the end user
- Data extraction from selected/relevant studies into data tables organised study by study according to key information that is pertinent to the query (e.g. population characteristics of each study, outcomes reported from each study)
- Transparent documentation of the systematic review process (e.g. how many studies screened for inclusion, how many studies selected, etc.), displayed graphically as an automatically-generated flowchart

The Innovation should possess as many of the following characteristics as possible:

- For the initial publication and data retrieval (screening and selection module), it is preferred that this module interfaces directly with publication databases (e.g. Scopus, OvidMEDLINE) to access all available titles and abstracts for relevance screening. If it is not feasible to interface directly with publication databases to scan their entire catalogues, it would be acceptable to begin relevancy screening from a pre-defined list of potentially relevant studies that was derived from keyword searching of the publication databases as directed by a Government of Canada (GoC) Health Librarian. It is also preferable that this module includes the capability to perform additional screening of references cited in the selected studies, and inclusion of those cited studies in the final analysis where relevant (i.e. reference "hand searching" or "snowballing")
- It is strongly encouraged that the modules are developed in the standardized NLP Annotation Format (NAF) to ensure interoperability with existing as well as future GoC and third party applications
- Following data extraction from the selected studies, the platform should include a module with the possibility of automated text generation for a narrative summary of results, and meta-analysis to statistically generate an overall summary estimate of results
- It is preferable that the platform has the capability to perform automated study grading based on the study type and design, and relevancy to the specific PICO question, according to established standards (e.g. Cochrane risk of bias assessment for randomised trials)

ANNEX B – INDUSTRY ENGAGEMENT QUESTIONS

Respondents are requested to provide the following information:

Company name	
Representative	
Telephone	
Email	

Please respond to the following:

Question 1:

Are there any commercially available solutions, Canadian or otherwise, that can currently meet the mandatory characteristics (i.e. those listed under “must”) of this Challenge?

Response 1:

Question 2:

Are there any pre-commercial innovations at Technology Readiness Level¹ (TRL) 7 to 9 that can meet the mandatory characteristics of this Challenge?

Response 2:

Question 3:

Do you currently have an innovation at TRL 7 to 9 that can meet at minimum the mandatory characteristics of this Challenge?

Response 3:

Question 4:

Please provide a list of the non-mandatory characteristics (i.e. those listed under “should”) of this Challenge that you are able to meet.

Response 4:

Question 5:

Are there any characteristics listed in this Challenge that you feel the industry will not be able to meet?

Response 5:

¹ <http://www.tpsgc-pwgsc.gc.ca/app-acq/picc-bcip/technologique-technology-eng.html>

Question 6:

Are there any additional features or benefits that can be described as advancements on the state of the art² which should be considered as additions to this Challenge?

Response 6:

Question 7:

Are there any other solutions for the problem this Challenge is attempting to solve?

Response 7:

Question 8:

Please refer to article 3 of this RFI document and provide any comments on the BCIP Challenge Call for Proposals or its attachments such as the Evaluation Grid or any other parts of this process.

Response 8:

² Advance on state of the art: A technology that is an advance on the highest level of development for current commercially available products or services. For the purposes of the BCIP, state of the art must meet the program's definition of innovation and is a key component against which innovations are evaluated to determine the level of advancement offered.

The BCIP evaluates innovations against what is commercially available, and not against other proposals or other related pre-commercial innovations which may be a similar advance on the state of the art.