Canada and AI Procurement

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AI Procurement Standard
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Feds? Provinces? Municipalities? Your results may differ

First, let's look at AI Procurement at the Federal Level

Traditionally, the main agency that handles procurement is Public Services and Procurement Canada (PSPC); each department and agency manages its procurement.

What's special about AI?

- AI procurement is jointly governed by PSPC and Treasury Board; Secretariat of Canada (TBS), the latter of which is in charge of AI policy
- There are preferred vendors who've passed a threshold: AI Source List and Invitation to Qualify (ITQ);
- AI procurement is supposed to align with concepts of responsible AI so there is the Canada Directive on ADM and an accompanying AIA (both from TBS)

The Feds Compile a List of Interested AI Suppliers

- PSPC and TBS decide who can provide the federal government with "responsible & effective AI services, solutions & products";
- Departments and agencies can use pre-selected suppliers to launch a procurement process for AI solutions -- but do not have to!
- ITQ is subject to trade agreements: WTO-AGP, Canada-EU CETA (also affects municipalities), CFTA, USMCA

PSPC AI Source List ITQ Mandatory Requirements

The onus is on the supplier to clearly indicate at the time of their ITQ submission what bands they are interested in being evaluated against.

* AI areas of work include:

Insights and Predictive Modelling: Maximizing the value of data and information by leveraging such techniques as machine learning and natural language processes to predict outcomes and gain deeper insights into behavioural patterns and trends. This could include preparing data, building and training models, putting models into production, and monitoring.

Machine Interactions: Facilitating information sharing and citizen-government interactions by using Chatbots and other techniques such as semantic analysis, natural language processing, speech recognition and rule based-pattern matching.

Cognitive Automation: Automating information-intensive tasks and supporting more efficient business processes. This could include AI applications to assist in or perform automated decision-making and robotic process automations.

**Reference would include written description of the work completed and contact information.

Mandatory Requirements	
Item Number	**Requirement**
	To qualify for **Band 1** suppliers must demonstrate that they have delivered at least 1 successful Artificial Intelligence project as a prime contractor or subcontractor.
	To qualify for **Band 2** suppliers must demonstrate that they have delivered at least 3 successful Artificial Intelligence projects as a prime contractor or subcontractor.
	To qualify for **Band 3** suppliers must demonstrate that they have delivered at least 5 successful Artificial Intelligence projects as a prime contractor or subcontractor.
M2	The supplier must demonstrate that their team is qualified to deliver AI. Suppliers must clearly describe expertise and experience, and any other skill sets or qualifications*. *As AI is an emerging field, qualifications could include a combination of education and or experience in the AI field. This could include at least one year of education and/or relevant experience in the domain of computing science, data analytics, machine learning, natural language processing, or predictive modelling.
M3	The supplier must provide examples of how it addresses ethical* practices when delivering AI. This includes demonstrating experience in applying frameworks, methods, guidelines or assessment tools to test datasets and outcomes. *For purposes of AI, ethical practices which are transparent, respect procedural fairness, and demonstrate high-quality data practices. This includes, but is not limited to, testing for outcomes and biases and fair, comprehensive and inclusive data collection practices.

Source: Evaluation criteria for Government of Canada, PSPC (2022): "Invitation to Qualify (ITQ) on a source list of suppliers to provide Canada with responsible and effective AI services, solutions and products."

Canada's Directive on Automated Decision-Making

Extends beyond what we might think of as procurement:

- How potential harm is documented and analyzed;
- How potential risk is weighed (to society, individuals, & institutions);
- Ensures ADS systems are deployed in ways that reduce risks to Canadians & federal institutions, but still increase efficiency, accuracy, consistency, & interpretable decisions made pursuant to law;
- Internationally recognized as an algorithmic accountability policy (by Open Government Partnership, Ada Lovelace Institute, AI Now Institute and others);
- Note the National Security exemption; and Canada Revenue Agency exemption;
- Directive maturity? DADM draft #3 is under review

Canada's Directive on ADM includes an AIA: an example

Algorithmic Impact Assessment - Advanced Analytics Triage of Overseas Temporary Resident Visa Applications - AIA for the Advanced Analytics Triage of Overseas Temporary Resident Visa Applications (English)

URL: https://open.canada.ca/data/dataset/6cba99b1-ea2c-4f8a-b954-3843ecd3a7f0/resource/9f4dea8...   ⊕ Download

There are no views created for this resource yet.

Additional Information

Created	January 21, 2022
Format	PDF

🗁 Resources

AIA for the Advanced Analytics Triage of Overseas Temporary Resident Visa Applications (English):PDF

AIA for the Advanced Analytics Triage of Overseas Temporary Resident Visa Applications (French):PDF

AIA for the Advanced Analytics Triage of Overseas Temporary Resident Visa Applications (Dataset):JSON

Source: AIA - Advanced Analytics Triage of Overseas Temporary Resident Visa

What do the AIA results look like?

Algorithmic Impact Assessment Results

Version: 0.9

Name of Respondent

Various Stakeholders at IRCC

Department
Citizenship and Immigration (Department of)

Branch

Various Branches at IRCC

Project Title

Advanced Analytics Triage of Overseas Temporary Resident Visa Applications

Project ID from IT Plan

N/A

Departmental Program (from Department Results Framework)

Visitors

Project Phase
Implementation   [Points: 0]

Please provide a project description:

This project seeks to streamline the eligibility assessment for all overseas temporary resident (visitor) visa applications in order to help IRCC decision makers process applications more efficiently. The advanced data analytics system identifies routine applications for streamlined processing and sorts applications into tiers based on their level of complexity. When an application is deemed routine for streamlined processing, advance data analytics are used to determine only that an applicant is eligible, whereas more complex applications are assigned to officers for regular manual processing and decision. The system only makes positive eligibility determinations on routine applications; it does not make any ineligibility determinations, and does not assess applications for admissibility. All applications are referred to an immigration officer for an admissibility assessment and officers are required to review all relevant file information in processing applications, including the information provided in additional documents. Officers make the final decision on all applications.

What is motivating your team to introduce automation into this decision-making process? (Check all that apply)

Existing backlog of work or cases
Use innovative approaches
Other (please specify)
Please describe

Facilitate more efficient use of IRCC resources in the processing of visa applications, assist in managing the growing volume of temporary resident visa applications, and improve processing times and identification of complex cases.

Please check which of the following capabilities apply to your system.

Process optimization and workflow automation: Analyzing large data sets to identify and anomalies, cluster patterns, predict outcomes or ways to optimize; and automate specific workflows

Section 1: Impact Level : 2

Current Score: 34

Raw Impact Score: 40

Mitigation Score: 36

Section 2: Requirements Specific to Impact Level 2
Peer Review

At least one of: Qualified expert from a federal, provincial, territorial or municipal government institution. Qualified members of faculty of a post-secondary institution. Qualified researchers from a relevant non-governmental organization. Contracted third-party vendor with a related specialization. Publishing specifications of the Automated Decision System in a peer-reviewed journal. A data and automation advisory board specified by Treasury Board Secretariat.

Notice

Plain language notice posted through all service delivery channels in use (Internet, in person, mail or telephone).

Human-in-the-loop for decisions

Decisions may be rendered without direct human involvement.

Explanation Requirement

In addition to any applicable legal requirement, ensuring that a meaningful explanation is provided with any decision that resulted in the denial of a benefit, a service, or other regulatory action.

Training

Documentation on the design and functionality of the system.

Contingency Planning

None

Approval for the system to operate

None

Other Requirements

The Directive on Automated Decision-Making also includes other requirements that must be met for all impact levels.

Link to the Directive on Automated Decision-Making

Contact your institution's ATIP office to discuss the requirement for a Privacy Impact Assessment as per the Directive on Privacy Impact Assessment.

Section 3: Questions and Answers
Section 3.1: Impact Questions and Answers

Is the project within an area of intense public scrutiny (e.g. because of privacy concerns) and/or frequent litigation?
Yes   [Points: +3]

Are clients in this line of business particularly vulnerable?
No   [Points: +0]

Are stakes of the decisions very high?
No   [Points: +0]

Will this project have major impacts on staff, either in terms of their numbers or their roles?
No   [Points: +0]

Will you require new policy authority for this project?
No   [Points: +0]

The algorithm used will be a (trade) secret
No   [Points: +0]

The algorithmic process will be difficult to interpret or to explain
No   [Points: +0]

Does the decision pertain to any of the categories below (check all that apply):
Other (please specify)   [Points: +1]

Please describe

Immigration services

Will the system only be used to assist a decision-maker?
No   [Points: +0]

Will the system be replacing a decision that would otherwise be made by a human?
Yes   [Points: +3]

Will the system be replacing human decisions that require judgement or discretion?
Yes   [Points: +4]

Source: AIA - Advanced Analytics Triage of Overseas Temporary Resident Visa

Regulations and Mandates vs. Norms…

▼ Supplier's commitment to support the Government of Canada's effort in leading the way on ethical AI.

We, [supplier name], commit to seeking confirmation from our Government of Canada clients of their AIA results in order to best serve Canadians through the application of appropriate mitigation strategies on AI-related projects.

Pre-qualified suppliers listed below wishing to make this commitment can send the statement above to ai-ia@tbs-sct.gc.ca.

*This commitment does not create and shall not be deemed to create any legally binding or enforceable obligations, contractual or otherwise, on the part of either party. This commitment does not change your status as a pre-qualified supplier for AI services, solutions and products under AI-IA Artificial Intelligence Source List (EN578-180001/B). The Government of Canada will not consider your response in the evaluation or award of any future procurement process.

Source: "List of interested Artificial Intelligence (AI) suppliers." Government of Canada.

How does AI procurement work
in a province? (We have 10 + 3 territories)

AI Procurement in Ontario

- General procurement: Ministry of Government and Consumer Services → Strategic Procurement Services → Supply Chain Ontario
- Hopes to centralize Ontario Public Service (OPS) and Broader Public Sector (BPS) purchasing & supply chains
- AI-specific policies related to procurement: Ontario's AI Guidance, which refers to risk, transparency, trustworthiness & ethics.
- Ontario is investigating AIAs. For them, AIAs may have the added benefit of increasing internal expertise to manage procurement.

Creating Algorithm Registers as a Way to Increase Transparency

Source: "Algorithmic Registries." Presentation by Ushnish Sengupta for AI in Municipal Government Community of Practice Meeting on April 27, 2022: Government of Ontario Data Catalogue.

Ontario Algorithm and AI Register

1. Predictive Digital Soil Mapping Algorithm/AI
2. COVID-19 Self-Assessment Tool Algorithm/AI
3. COVID-19 Courthouse Screening Tool Algorithm/AI
4. Phosphorus Loss (PLATO) Calculator – AgriSuite Tool Algorithm/AI
5. Organic Amendment Calculator - AgriSuite Tool Algorithm/AI
6. Field Management Plan – AgriSuite Tool Algorithm/AI
7. Fertilizer Calculator – AgriSuite Tool Algorithm/AI
8. Crop Nutrient Calculator - AgriSuite Tool Algorithm/AI

How does AI Procurement work in municipalities? A tale of two cities

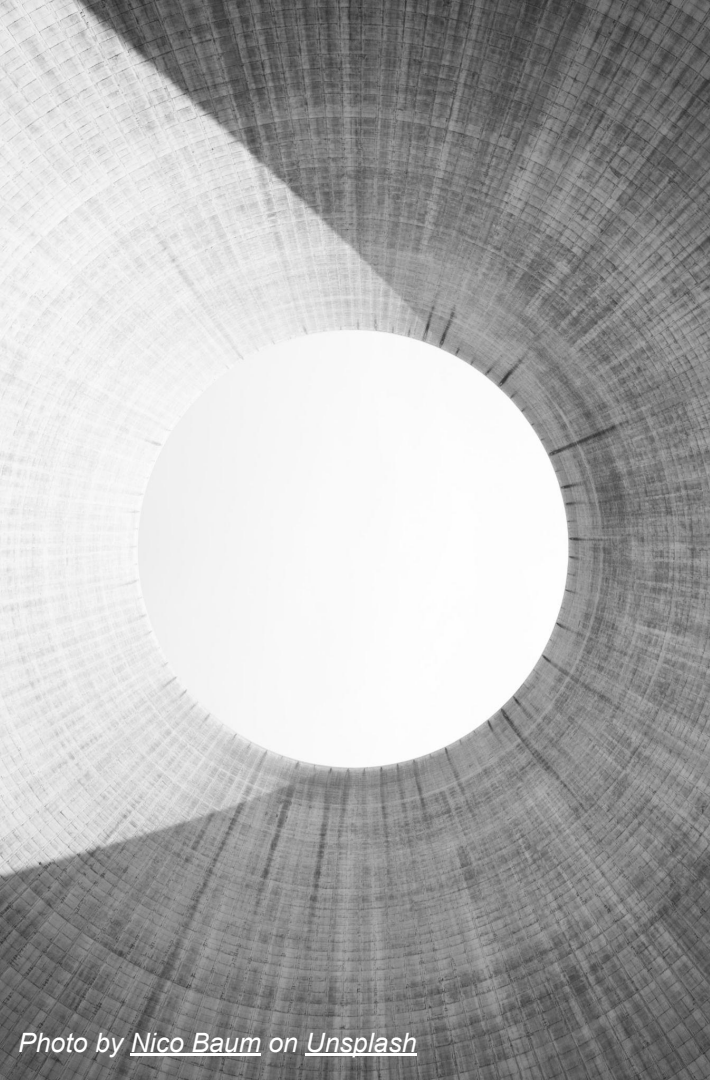# Practices of Municipal Procurement of AI: Montreal & Windsor

- Varying maturity levels (a la Gartner)
- Opportunity to build partnerships with ethical AI vendors
- Increased potential for public-private partnerships
- Increased opportunities for public engagement
- Contracts subject to extra jurisdictional legislation (e.g., privacy, cloud usage, consent, cybersecurity)
- Tech staff shortage, varying AI awareness by elected officials
- Balancing of dual missions of local economic development & low-cost AI solutions
- Identification of emergent AI impacts when performance may be uncertain

Opportunities for Municipal Procurement of AI: Montreal & Windsor

- Be willing to 'do' AI over plan for AI (e.g., leverage ad hoc projects, cross-departmental learning workshops, hire interns, build PPPs)
- Be willing to invest in and retain talent
- Keep up with advances in AI to be faster to market
- Refocus on outcomes instead of lowest cost
- Bring proofs of concept, internship projects to deployment
- Standardize expenditure thresholds prior to the start of formal procurement process

Takeaways

- One-size fits all doesn't work; it even varies within a country;
- Coupling of ethics (e.g., social implications, harm) with procurement;
- Uneven development and traditional procurement processes don't necessarily align with AI;
- There's material and there's discursive.

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Thank you!
Any questions?

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