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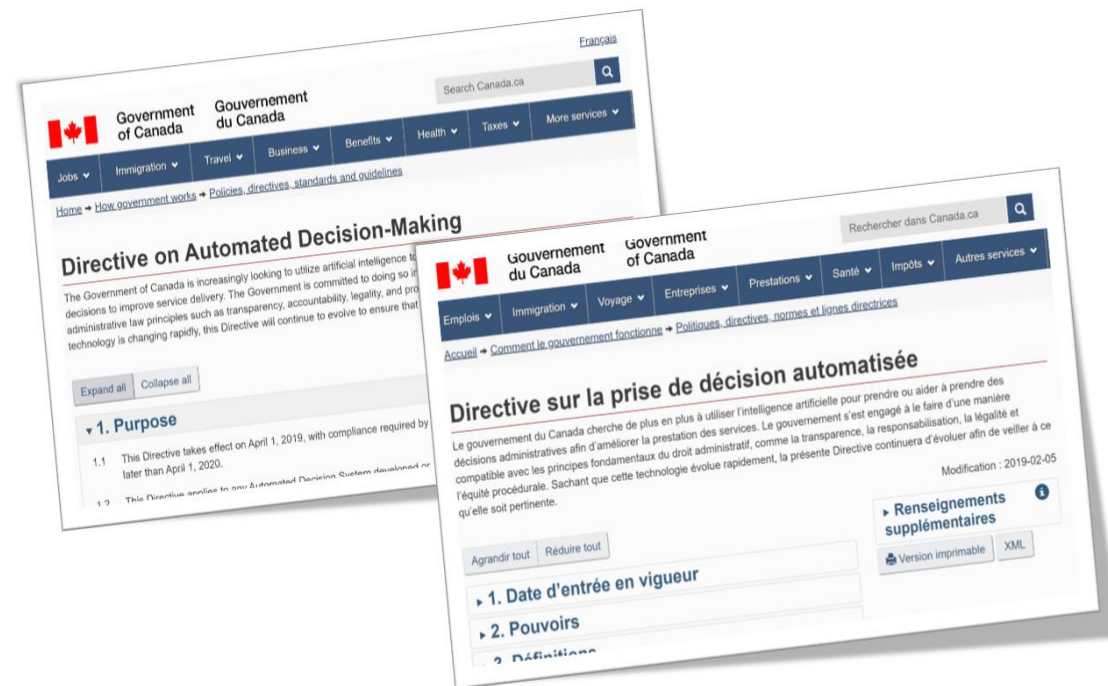
Canada

# 3<sup>rd</sup> review of the Directive on Automated Decision-Making: Summary of key issues, policy recommendations, and proposed amendments

Consultation deck  
Spring 2022

# Purpose

- **Provide an overview** of the 3<sup>rd</sup> review of the [Directive on Automated Decision-Making \(DADM\)](#).
- **Seek feedback** on policy recommendations and provisional amendments.



*TBS is obliged to review the directive on a regular basis to ensure that it remains relevant and responsive to the evolving automation landscape in the federal government.*

# Context

- In recent years, governments and international organizations have pursued various regulatory efforts to manage the risks of artificial intelligence (AI) systems and foster algorithmic transparency and accountability.
- The Government of Canada (GC)'s approach to responsible AI promotes fairness and inclusion in automated decision-making by ensuring that the outputs of automated decision systems are explainable and unbiased.
- In 2019-20, over 300 AI projects were documented across 80% of federal institutions. Some use-cases automate decisions impacting service recipients within and outside the government.

## **Europe Is in Danger of Using the Wrong Definition of AI**

Some intelligent systems are at risk of being excluded from oversight in the EU's proposed legislation. This is bad for both businesses and citizens.

**Federal rules on AI too narrow and risk 'damaging public trust':  
Internal review**

White House science advisers call for an "AI Bill of Rights"

**Canada's opportunity to ensure AI remains a force for good**

**Research shows AI is often biased. Here's how to make algorithms work for all of us**

LCO report comparing European Union, Canadian AI regulation stresses development of 'trustworthy AI'

# The Directive on Automated Decision-Making

- The federal government sometimes uses computer systems to automate decision-making. In other cases, computer systems complete a portion of the analysis leading to a decision.
- When this involves service decisions that impact people's legal rights, interests, or privileges, requirements from the Directive on Automated Decision-Making apply.
- The requirements of the directive ensure that:
  - ✓ **People are informed about when and how automation is used;**
  - ✓ **People are provided with meaningful explanations about decisions affecting them;**
  - ✓ **The decisions are fair and accurate; and**
  - ✓ **The potential negative impacts of automation are identified and minimized.**

*A Treasury Board directive sets mandatory requirements for how federal government organizations must operate.*

## Approach to the 3<sup>rd</sup> review

- The current review takes stock of the current state of the directive and identifies risks and challenges to the government's commitment to responsible AI in the federal public sector.
- The review examined the expanding range of services undergoing automation, identifying critical gaps and 'blind spots' that limit the directive's relevance and effectiveness in supporting transparency, accountability, and fairness in automated decision-making.
- Issues concerning terminology, feasibility, and coherence with other Treasury Board policy instruments have also informed the focus and direction of the review.
- Periodic reviews are not intended to be exhaustive. They seek to adapt the directive to pertinent trends in the Canadian and global AI landscape, while gradually refining the text of the instrument to support interpretation and facilitate compliance.

# Overview of key issues identified in the 3rd review\*

<p><b>Scope</b></p> <ul style="list-style-type: none"> <li>External focus excludes automated decisions impacting federal employees.</li> <li>Language framing the scope requires clarification.</li> </ul>	<p><b>Periodic review</b></p> <ul style="list-style-type: none"> <li>Current 6-month timeframe for review leads to policy and operational challenges.</li> </ul>	<p><b>Clients impacted</b></p> <ul style="list-style-type: none"> <li>Reference to Canadians in some parts of the DADM does not recognize other potential clients.</li> </ul>	<p><b>Data governance</b></p> <ul style="list-style-type: none"> <li>Measures supporting the traceability, protection, retention and disposition of data used and generated by a system are needed.</li> </ul>	<p><b>Model bias</b></p> <ul style="list-style-type: none"> <li>Quality assurance measures to address bias arising from the model underlying a system are needed.</li> </ul>
<p><b>Explanation</b></p> <ul style="list-style-type: none"> <li>Criteria for what constitutes a meaningful explanation are absent.</li> </ul>	<p><b>Reasons for automation</b></p> <ul style="list-style-type: none"> <li>A justification for the adoption of AI in relation to a program's needs and goals is currently not required.</li> </ul>	<p><b>Peer review</b></p> <ul style="list-style-type: none"> <li>Requirement to publish information about peer reviews is not included.</li> <li>Timing of peer review is unclear.</li> </ul>	<p><b>Contingency planning</b></p> <ul style="list-style-type: none"> <li>Terminology is misaligned with Treasury Board security policy.</li> </ul>	<p><b>Timing of AIA release</b></p> <ul style="list-style-type: none"> <li>AIA requirements do not specify timing for AIA release.</li> </ul>

# High-level policy recommendations

1. Expand the scope to cover internal services.
2. Clarify that the scope includes systems supporting administrative decisions.\*
3. Replace the 6-month review interval with a biennial review and designate a role for the CIO of Canada to request a review based on need.
4. Replace references to Canadians with more encompassing language such as clients.
5. Introduce measures supporting the tracing, protection, and appropriate retention and disposition of data used and generated by an automated decision system.
6. Expand the pre-production testing requirement to cover model bias testing.
7. Establish explanation criteria in support of the explanation requirement.
8. Expand the AIA to include questions concerning an institution's reasons for pursuing automation.
9. Mandate the publication of a summary of peer reviews and require completion prior to system production.
10. Align the contingency requirement with relevant terminology established in Treasury Board security policy.
11. Mandate the release of AIAs prior to the production of a system.

\* See the Annex for examples of functions an automated system within scope can carry out in a decision-making process.

# Proposed amendments to the directive

Instrument & section	Proposed amendment (provisional text)	Rationale
DADM, Section 5 (Scope)	#1 - Amend subsection 5.1: "This Directive applies <b>only</b> to systems that provide external <b>or internal</b> services, <b>in accordance with as defined in</b> the Policy on Service and Digital." <sup>*</sup>	The adoption of automated decision systems to enhance internal services (e.g., hiring) in multiple federal institutions highlights the need to expand the scope of the DADM to minimize risks to the rights, interests, and privileges of federal employees. The proposed amendment accomplishes this by including systems providing internal services, which are within the scope of the Policy on Service and Digital. The suggestion to replace 'as defined in' with 'in accordance with' arises from the fact that the Policy (Appendix A) only defines 'internal enterprise services', a subset of internal services. (Consult the Annex for an overview of GC internal services.)
DADM, Section 5 (Scope)	#2 - Amend subsection 5.2: "This Directive applies to any system, tool, or statistical models used to <b>support recommend</b> or make an administrative decision about a client."	The distinction between recommending and making a decision is not clear. The current framing has caused confusion as to the conditions under which an automated system involved in an administrative decision-making process would be subject to the DADM. The term 'recommend' obscures the intent to include any automated system influencing the decision-making process within the scope of the instrument (this is reflected in the definition of automated decision system in Appendix A of the DADM). It can be misinterpreted as setting a high applicability threshold for systems that aren't making a decision. The proposed amendment addresses this by opting for a more generic term that clarifies the broad range of use-cases the scope of the DADM is intended to cover. It's worth noting that the amendment does not modify the current scope; it merely expresses it in more suitable terms.
DADM, Section 1 (Effective Date)	#3 - Amend subsection 1.2: "This Directive will <b>have an automatic review process planned every 6 months after the date it comes into effect be reviewed every two years, and as determined by the Chief Information Officer of Canada.</b> "	A more flexible review mechanism would help address the policy and operational challenges of the current requirement. A two-year period would better account for the lengthy amendment process of a Directive, while alleviating the capacity burdens imposed by a 6-month review interval. The proposed approach would also give policymakers more time to gather evidence on AI adoption and compliance across the GC, while bringing more stability and predictability to federal institutions subject to the DADM. By enabling the CIO of Canada to request reviews at any time, the amendment ensures that the DADM can remain responsive to needs as they arise.
DADM, Section 4 (Objectives and Expected Results)	#4 - Amend subsection 4.1: "The objective of this Directive is to ensure that Automated Decision Systems are deployed in a manner that reduces risks to <b>clients Canadians</b> and federal institutions, and leads to more efficient, accurate, consistent, and interpretable decisions made pursuant to Canadian law."	Administrative decisions within the current scope of the DADM do not just concern Canadian citizens. They can also impact permanent residents, asylum seekers, visa applicants, or other individuals (or businesses) receiving a service from the federal government. It would therefore be more appropriate to use a more encompassing term like 'clients' in the objective statement and throughout the instrument. This change would also support the proposed expansion of the scope of the DADM to include federal employees, who aren't exclusively composed of Canadian citizens. It would also support alignment with the terminology used in the Policy on Service and Digital.

\* This amendment would be accompanied by minor adjustments to the AIA (e.g., to questions in the 'About the Decision' and 'Consultations' sections).



# Proposed amendments to the directive

Instrument & section	Proposed amendment (provisional text)	Rationale
DADM, Section 6 (Requirements)	#5 - Add new subsection under 6.3 titled " <b>Data Governance</b> ": <b>“Establishing measures to ensure that data used and generated by the Automated Decision System are traceable, protected, and appropriately retained and disposed of in accordance with the Directive on Service and Digital, Directive on Privacy Practices, and Directive on Security Management.”</b>	While it establishes requirements supporting quality management and bias mitigation for data used by automated decision systems, the DADM does not address the broader need to govern both the inputs and outputs of systems throughout their lifecycle. In particular, there is a need to ensure that data used and generated by systems are traceable, protected, and retained and disposed of appropriately. Where such data includes personally identifiable information, or can lead to such information in combination with other data, the DADM should help ensure they are not shared, reused, or otherwise handled without the requisite authorities. The proposed subsection would enshrine safeguards for these unique data, ensuring that they are traceable (e.g., for audits, reviews, litigation, explanation), protected (e.g., from unauthorized sharing or use), and retained and disposed of appropriately. These measures would advance a more holistic approach to the governance of AI data.
DADM, Section 6 (Requirements)	#6 - Amend subsection 6.3.1: “Before launching into production, developing processes so that the data and information used by the Automated Decision Systems, <b>as well as the systems’ underlying models</b> , are tested for unintended <b>data</b> biases and other factors that may unfairly impact the outcomes.”	Bias in AI can arise from multiple sources including the data used to train a system and the model used to process it. The DADM requires pre-production testing of input data for bias, but it overlooks the possibility that bias can also result from the assumptions and parameters built into a model. Achieving the desired outcomes of the DADM demands oversight not only of input (and output) data, but also of the model used to derive the outputs supporting or constituting decisions. The proposed amendment would ensure that model-related issues are addressed early in the lifecycle, prior to system deployment.
DADM, Appendix C (Impact Level Requirements)	#7 - Amend the explanation measures across all four impact levels to introduce explanation criteria: <b>“This involves providing information describing:</b> <ul style="list-style-type: none"> <li>• <b>The role of the system in the decision-making process;</b></li> <li>• <b>The training and client data, their source and method of collection, if applicable;</b></li> <li>• <b>The criteria used to evaluate client data and the operations applied to process it; and</b></li> <li>• <b>The output produced by the system, and any relevant information needed to interpret it in the context of the administrative decision.”</b></li> </ul>	The current explanation requirement does not specify what constitutes a meaningful explanation. It is amenable to many interpretations, which creates several problems for federal organizations, TBS policy leads, and clients. The lack of clarity as to the information required to meet the requirement could result in inconsistent practices, which could lead to incomplete explanations and disparities in the treatment of clients. This also creates an ad-hoc approach to explainability in the government, with federal organizations seeking interpretive guidance from TBS policy leads on a case-by-case basis. This is burdensome not only for TBS but also for programs seeking to ensure effective compliance with the requirement. Inspired by France’s <i>Loi pour une République numérique</i> , the proposed amendment formulates explanation criteria designed to address the need to safeguard a client’s right to a fair and impartial decision-maker, and to reasons for decisions impacting them. The criteria would position the DADM to better account for the digital character of automated decisions, which demands unique measures to ensure institutions looking to augment or replace human decision-makers can continue to meet the standards of administrative law.

# Proposed amendments to the directive

Instrument & section	Proposed amendment (provisional text)	Rationale
AIA (Business Driver / Positive Impact Section)	<p>#8 - Add new series of questions on reasons for automation:</p> <ul style="list-style-type: none"> <li>• <b>"What user need will the system address? [Free text]</b></li> <li>• <b>How will the system be used to meet user needs? [Free text]</b></li> <li>• <b>How effective will the system be in meeting user needs? [Slightly effective; Moderately effective; Very effective]"</b></li> <li>• <b>Please explain why you expect the system to achieve the level of effectiveness identified above. [Free text]</b></li> <li>• <b>Please describe how you will ensure that the system is confined to addressing the user need identified above? [Free text]</b></li> <li>• <b>Have alternative manual processes been considered? [Yes/No]</b></li> <li>• <b>If manual processes were considered, why was automation identified as the preferred option? [Free text]</b></li> <li>• <b>What is the consequence of not deploying the system? (Select all that apply) [Service cannot be delivered at all; Service cannot be delivered in a timely or efficient manner; Service costs are too high; Service quality is not as high; Service delivery cannot achieve performance targets; Other [free text]]</b></li> </ul> <p>Amend the title of the section: "<del>Business Driver /</del> <b>Reasons for Automation Positive Impact</b>"</p>	<p>One of the guiding principles for responsible AI in the GC emphasizes the value of “starting with a clear user need and public benefit”. The DADM, however, does not ask departments to explain why they have chosen to introduce automation into a decision-making process. While the AIA includes questions asking departments to describe their automation project and identify relevant business drivers, departments are not expected to provide reasons justifying the necessity of automation for meeting specific user needs. Similarly, the DADM and AIA do not account for whether the use of a system will be appropriate for user needs and program objectives. The proposed series of questions positions the AIA as a space where departments can provide a rationale for their automation project, describing not only why it’s necessary but also the degree to which it is compatible with user needs and program objectives. This information would be openly available to federal and public stakeholders, creating new opportunities for cross-sectoral dialogue on the merits of automation and the appropriate limits of AI use in administrative decision-making.</p>
DADM, Section 6 (Requirements)	<p>#9 - Amend subsection 6.3.4: “Consulting the appropriate qualified experts to review the Automated Decision System <b>and publishing a plain language summary of the findings prior to the system’s production</b>, as prescribed in Appendix C.”</p>	<p>The absence of a mechanism mandating the release of peer reviews (or related information) creates a missed opportunity for bolstering public trust in the use of automated systems through an externally sourced expert assessment. Releasing at least a summary of completed peer reviews (given the challenges of exposing sensitive program data, trade secrets, or information about proprietary systems) can strengthen transparency and accountability by enabling stakeholders to validate the information in AIAs. The current requirement is also silent on the timing of peer reviews, creating uncertainty for both departments and reviewers as to whether to complete a review prior to or during system deployment. Unlike audits, reviews are most effective when made available alongside an AIA, prior to the production of a system, so that they can serve their function as an additional layer of assurance. The proposed amendments address these issues by expanding the requirement to mandate publication and specify a timing for reviews. Published peer review summaries would complement documentation on the results of audits or other reviews that the DADM requires project leads to disclose as part of the notice requirement (see Appendix C of the DADM).</p>

# Proposed amendments to the directive

Instrument & section	Proposed amendment (provisional text)	Rationale
DADM, Appendix C (Impact Level Requirements)	<p>#9 (cont'd.) - Amend the peer review measures for impact levels II-III: "<b>Consult</b> at least one of <b>the following experts and publish a plain language summary of the findings</b>"; "<b>OR</b> Publishing specifications of the Automated Decision System in a peer-reviewed journal. <b>Where access to the published review is restricted, ensure that a plain language summary of the findings is openly available.</b>" (The latter entry would be positioned at the end of the list of options.)</p> <p>Amend the peer review measures for impact level IV: "<b>Consult</b> at least two of <b>the following experts and publish a plain language summary of the findings</b>"; "Publishing specifications of the Automated Decision System in a peer-reviewed journal. <b>Where access to the published review is restricted, ensure that a plain language summary of the findings is openly available.</b>"</p>	<p>The proposed amendments are intended to harmonize the peer review measures in Appendix C with the updated peer review requirement (subsection 6.3.4). They emphasize the need to publish a summary of peer review findings. For impact levels II-III, the option to publish specifications of the automated decision system in a peer reviewed journal has been positioned as an alternative to consulting one or more of the expert groups. In alignment with the approach taken under impact level IV, this equates journal peer review with the review conducted by any one of the qualified experts listed.</p>
DADM, Section 6 (Requirements)	<p>#10 - Amend subsection 6.3.6: "Establishing <b>contingency strategies, plans, systems and/or measures processes to support IT and business continuity management</b>, as per Appendix C, <b>in accordance with the Directive on Security Management.</b>"</p> <p>Amend the title of subsection 6.3.6 by replacing "Contingency" with "<b>IT and Business Continuity Management</b>".</p>	<p>The measures required under the contingency requirement are well established in the Policy on Government Security (PGS) and Directive on Security Management (DSM). The term "contingency", however, is not defined or described in these instruments. The DADM also does not provide a definition. Framing the requirement in terms of IT and business continuity management, and making clear links to the PGS and supporting policy instruments, could facilitate interpretation, improve coordination with departmental security officials, and minimize duplication of compliance efforts. By moving away from positioning contingency planning as a unique requirement rather than one with clear anchors in other policy instruments, this can also contribute to policy coherence. The proposed amendments to Appendix C seek alignment with the language proposed for the requirements section. But they also provide additional detail, drawing on mandatory procedures for security controls in the DSM, particularly in the context of IT and business continuity management.</p>
DADM, Appendix C (Impact Level Requirements)	<p>#10 (cont'd.) - Amend the contingency planning measures for impact levels III-IV: "Ensure that <b>system recovery strategies, business continuity contingency plans, and/or other relevant security controls backup systems</b> are <b>established in coordination with designated officials available</b> should the Automated Decision System be unavailable."</p> <p>Amend the title of this section by replacing "Contingency Planning" with "<b>IT and Business Continuity Management</b>".</p>	

# Proposed amendments to the directive

Instrument & section	Proposed amendment (provisional text)	Rationale
DADM, Section 6 (Requirements)	#11 - Amend subsection 6.1.1: "Completing <b>and releasing</b> an Algorithmic Impact Assessment prior to the production of any Automated Decision System."	The DADM requires federal institutions to complete and publish an AIA to the Open Government Portal. However, subsections 6.1.1 and 6.1.4 do not specify when AIAs must be published. While TBS has encouraged federal institutions to publish their AIAs prior to the production of a system, a timing for release is not explicitly set in policy. This creates uncertainty as to the appropriate timing of publication and risks weakening the DADM's transparency measures by permitting institutions to delay AIA release well into a system's lifecycle. Deploying and using an automated decision system in the absence of a publicly available AIA can have negative consequences for public trust in AI use in the federal public sector. All clients subject to automated decision-making should have access to a completed AIA without delay. The earlier an AIA is released in the lifecycle of a system, the better for transparency and accountability. Some AIAs published to the Open Government Portal were not released prior to system production. The proposed amendment addresses this issue by clearly stating the need to release an AIA prior to the production of a system.

## Expected outcomes

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Implementing the proposed amendments would:

- Ensure automated decision systems affecting civil servants are fair and inclusive.
- Reinforce transparency and accountability to foster public trust.
- Strengthen protections against discrimination and harm.
- Clarify requirements and support operational needs.

## Discussion questions

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- Are there any critical or urgent issues that the current review does not take into consideration?
- Are the proposed amendments to the DADM and AIA clear and appropriately justified?
- Do you foresee any problems with amending the DADM and AIA as proposed?
- Are there any key federal or external stakeholders that TBS should engage as part of this consultation?
- What issues should TBS consider prioritizing in the next review of the DADM?

## Next steps

- Working in the open, collaborate with national and international stakeholders to identify and address issues ahead of the policy amendment process.

March	Spring & Summer	Summer & Fall
Stage 1: Preliminary OCIO consultation	Stage 2: Engagement with stakeholders	Stage 3: Policy amendments
<ul style="list-style-type: none"> <li>• Ensure alignment with privacy, security, open government, and digital policy</li> <li>• Raise awareness of 3rd review</li> </ul>	<ul style="list-style-type: none"> <li>• Refine issues and solutions</li> <li>• Consult departments, OPC, service officials, and bargaining agents</li> <li>• Engage with research institutes and other governments</li> <li>• Work in the open</li> </ul>	<ul style="list-style-type: none"> <li>• Start OCIO gated policy stewardship process</li> <li>• Seek senior committee endorsements and build awareness (ADM SEP, service officials, etc.)</li> <li>• Seek GC CIO and Secretary approval</li> <li>• Publish updated directive</li> <li>• Support departments (ongoing)</li> </ul>

## Contact

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# Annex

## Key issues identified in the 3<sup>rd</sup> review

- **Scope:** The scope of the DADM excludes automated administrative decisions impacting federal employees. This creates vulnerabilities for employees subject to automation in hiring, performance evaluation, or other decisions supporting internal service delivery. As well, the terms used to frame the scope of the DADM have caused confusion as to the conditions that trigger it.
- **Periodic review:** The 6-month review interval presents policy and operational challenges to TBS. This is due to the length of consultation and approval processes; impact of regular reviews on team capacity; the relatively slow pace of automation adoption in the GC; and the uncertainties arising from frequent changes to administrative policy.
- **Clients impacted by automated decision systems:** Where it specifically addresses Canadians, the DADM falls short of recognizing its potential applicability to cases impacting other clients in Canada or abroad (e.g., permanent residents, refugees, citizens of other countries).
- **Data governance:** While the DADM includes provisions supporting the management of data collected for and used by a system (e.g., to minimize bias, assure quality), it does not establish measures supporting the traceability, protection, and appropriate retention and disposition of this data. This is also needed for system outputs (e.g., recommendations, scores), which are not addressed in the DADM. Both types of data could pose privacy or security risks if shared, reused, retained, or disposed of inappropriately.

## Key issues identified in the 3<sup>rd</sup> review

- **Model bias:** The quality assurance requirements of the DADM do not address bias arising from the model underlying a system (rather than the data used to develop it). This could lead users to overlook pre-production model testing.
- **Explanation:** The explanation requirement does not specify what constitutes a 'meaningful explanation'. The lack of explanation criteria could lead to inconsistent interpretation and application.
- **Reasons for automation:** The DADM does not account for the purpose and scope of automation projects. This gap leaves clients and public stakeholders without a clear justification of a program's decision to adopt AI and description of how a system will be deployed to meet user needs and program goals.
- **Peer review:** The absence of a requirement to publish information about peer reviews constitutes a missed opportunity for the GC, which could leverage this mechanism to bolster public trust in automated decision systems in use within government. The appropriate timing of peer reviews is also unclear.
- **Contingency planning:** The terminology used in this requirement is not aligned with what is well established in Treasury Board security policy, which sets security controls for IT, business continuity management, and other areas. This mismatch could lead to duplication of compliance efforts and negatively impact policy coherence.

## Key issues identified in the 3<sup>rd</sup> review

- **Timing of AIA release:** The DADM does not specify a timing for the release of AIAs. The requirement on AIA release only establishes the format and location of publication. This creates uncertainty as to the appropriate timing of release and risks weakening the DADM's transparency measures by allowing institutions to delay AIA release well into a system's lifecycle. This has negative consequences for public trust in AI use in the federal public sector.

# GC guiding principles for responsible artificial intelligence

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1. **Understand & measure** the impact of using AI
2. **Transparency** about how and when we are using AI
3. **Meaningful explanations** about AI in decision making
4. **Be as open as we can** by sharing source code, training data, and other relevant information
5. **Provide sufficient training** that enables public servants to develop and use AI solutions that have responsible design, function, and implementation

# Overview of the Directive on Automated Decision-Making

## Directive on Automated Decision-Making Requirements

### Algorithmic Impact Assessment

#### *Understand*

- AIA before production
- AIA when scope changes
- Release of AIA results

### Transparency

#### *Communicate*

- Notice before decision
- Explanation after decision
- Access to components
- Release of source code
- Documentation of decisions

### Quality assurance

#### *Prevent*

- Testing and monitoring of outcomes
- Data quality
- Peer review
- Employee training
- Contingency
- Security
- Consultation with legal services
- Human intervention

### Recourse

#### *Correct*

- Recourse options to challenge decisions

# Overview of directive requirements

- Released in 2019, the directive seeks to ensure transparency, accountability, and procedural fairness in the use of automated decision systems in the federal government.
- The scope of the directive covers systems used to make or support administrative decisions impacting external clients (e.g., citizens, businesses). It applies to systems developed or procured as of April 1st, 2020.
- The directive formalizes algorithmic accountability by holding Assistant Deputy Ministers (ADMs) overseeing relevant automation projects responsible for complying with the policy's requirements.
- Federal institutions subject to the directive are required to complete and publish an Algorithmic Impact Assessment (AIA) to the Open Government Portal. The AIA tool is a questionnaire that determines the impact level of an automated decision system.

# Overview of directive requirements

- The impacts of automating an administrative decision are classified into four levels, ranging from Level I (little impact) to Level IV (very high impact). The AIA helps identify risks and assess impacts in a broad range of areas related to the rights and interests of individuals and communities.
- The directive establishes quality assurance measures to help ensure the legality of an automation project, quality of 'input' data, system security, human oversight, peer review, and employee literacy.
- Systems in production must be monitored to guard against unintentional outcomes and ensure compliance with applicable policy and legislation.
- The directive requires federal institutions to provide clients subject to automated decision-making with an appropriate recourse mechanism enabling them to contest a decision.
- TBS uses multiple governance mechanisms to ensure compliance with the directive, including the Framework for the Management of Compliance, departmental concept cases, enterprise architecture proposals, and Treasury Board submissions.



# Examples of system functions in a decision-making process

## Recommendations



- present relevant information to the decision-maker;
- alert the decision-maker of unusual conditions;
- present information from other sources (“data matching”);
- provide assessments, for example by generating scores, predictions, or classifications;
- recommend one or multiple options to the decision-maker;
- make partial or intermediate decisions as part of a decision-making process; or
- make the final decision.

## Decisions

# Algorithmic Impact Assessment (AIA)

<https://open.canada.ca/aia>

Description, instructions and scoring methodology explained at:

<https://www.canada.ca/en/government/system/digital-government/digital-government-innovations/responsible-use-ai/algorithmic-impact-assessment.html>

**A L G O R I T H M I C  
I M P A C T  
A S S E S S M E N T**



Government of Canada / Gouvernement du Canada

## Algorithmic Impact Assessment

Home > Open Government

### Algorithmic Impact Assessment

Information in the AIA is only stored locally on your computer, and the Government of Canada does not have access to the information you place into the tool. If you wish to keep your work, please save the data locally for future use by using the 'Save' button. You can reload a previously saved AIA form using the 'Upload JSON File' button.

Save Upload JSON File Start Again

Navigate to a Specific Page (Out of 13)

Section 8: Impact Assessment

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#### Impact Assessment

Will the system only be used to assist a decision-maker?

Yes  
 No

Will the system be replacing a decision that would otherwise be made by a human?

Yes  
 No

Will the system be replacing human decisions that require judgement or discretion?

Yes  
 No

Is the system used by a different part of the organization than the ones who developed it?

Yes  
 No

Are the impacts resulting from the decision reversible?

Likely reversible

How long will impacts from the decision last?

Impacts are most likely to be brief

Please describe why the impacts resulting from the decision are as per selected option above.

The ultimate consequence of the decision is a letter being sent to the company advising them that corresponding actions should be taken. These actions all require less than 10 minutes to implement.

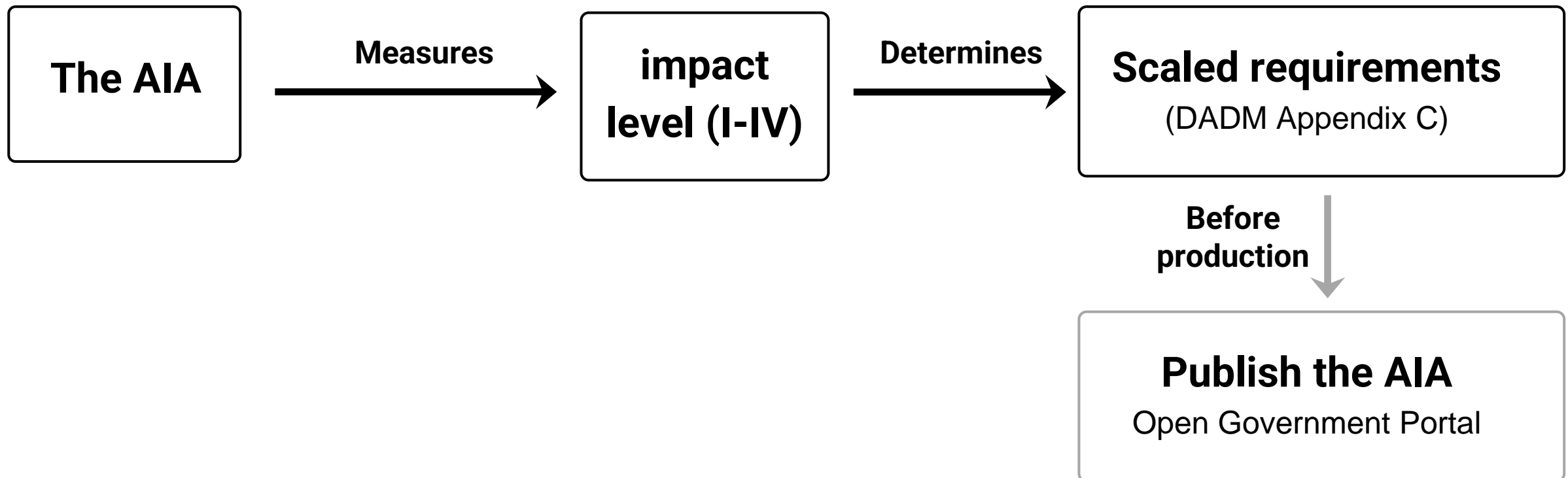
The impacts that the decision will have on the rights or freedoms of individuals will likely be:

Little to no impact

Please describe why the impacts resulting from the decision are (as per selected option above).

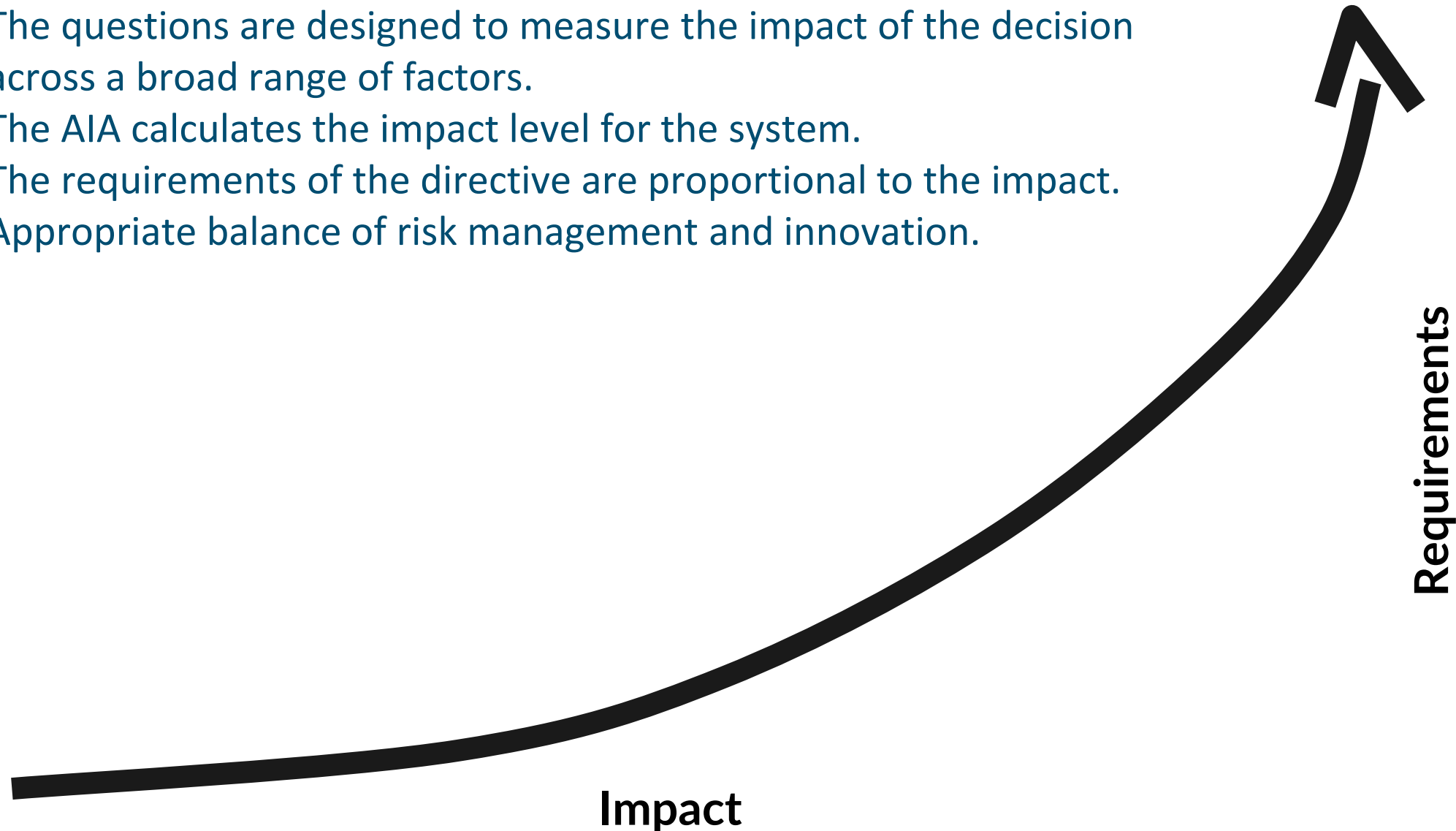
Impact Level: 1 Current Score: 20 Raw Impact Score: 20 Mitigation Score: 0

# The AIA: overview of process



## The AIA: progressive requirements

- The questions are designed to measure the impact of the decision across a broad range of factors.
- The AIA calculates the impact level for the system.
- The requirements of the directive are proportional to the impact.
- Appropriate balance of risk management and innovation.



## The AIA: progressive requirements (example from Appendix C)

Requirement	Level I	Level II	Level III	Level IV
<b>Human-in-the-loop</b>	Decisions may be rendered without direct human involvement		Decisions cannot be made without having specific human intervention points during the decision-making process; and must be made by a human	
<b>Notice</b>	None	Plain language notice posted through all service delivery channels in use (Internet, in person, mail or telephone)	Plain language notice through all service delivery channels in use (Internet, in person, mail or telephone). In addition, publish documentation on relevant websites about the automated decision system, plain language, describe: <ul style="list-style-type: none"> <li>• How the components work;</li> <li>• How it supports the administrative decision;</li> <li>• Results of any reviews or audits; and</li> <li>• A description of the training data, or a link to anonymized training data if this data is publicly available</li> </ul>	

# Internal services in the GC

- The scope of the [Policy on Service and Digital](#) covers all services, including those delivered to federal employees and others within the government.
- The [Guideline on Service and Digital](#) defines internal services as “groups of related activities and resources that the Government of Canada considers to be services in support of programs or required to meet corporate obligations of an organization.”
- The [GC Service Inventory](#) provides the authoritative list of GC services subject to the Policy on Service and Digital. TBS has identified a widespread need for consistent inclusion of internal services in the Inventory.
- The categories and terms used to classify and define internal services are established in the Canadian Government Reference Model (CGRM) and GC Strategic Reference Model (GSRM). The CGRM and GSRM identify internal programs (e.g., HR management) and associated internal services (e.g., recruitment) and service outputs (e.g., resources).
- The reference models and GC Service Inventory can be leveraged to inform TBS about the services which could be subject to the directive, should its scope be expanded to cover internal services.