Directive on Automated Decision-Making

VERSION DRAFT IN DEVELOPMENT - v.1.0

Version	Date	Updates
0.4	May 4, 2018	- New title! May the fourth be with you - Advisory Board removed in lieu of a new peer review section - Requirement to issue open code included
0.4.1	May 15, 2018	- Definitions added - Scope statement has been narrowed and removed from requirements into its own section - Coming into force clause rolled into effective date
0.5	June 6, 2018	- New appendices for scaling requirements to level of impact - Refined scope statement - Legal authority section amended - Amended contracting language, including IP clause better conforming to the *Policy on Title to Intellectual Property Arising Under Crown Procurement Contracts* - Automated Decision System now being used as the core term
0.5.1	June 15, 2018	- More precision to scope statement - Explainability statements for level III and IV shifted to "variables" from "all variables" as many decisions will be guided by respective case law
1.0	August 2, 2018	- Elevated to a directive - Consequence section updated - Version sent for translation - Added new scaling requirements for Notice and Contingency Planning, reducing burden on low impact projects - Ensured coherence with new template for Treasury Board Directives - Application moved to the end; - Context section removed and replaced with Authorities. Some former context section content moved to introduction.

Introduction

The Government of Canada is increasingly looking to utilise technology and automated systems to make, or assist in making, administrative decisions to improve service delivery. It is committed to doing so in a manner that is compatible with core administrative law principles such as *transparency*, *accountability*, *legality* and *procedural fairness*.

1.   Effective Date

1.1.   This Directive takes effect on ((Approval +12 months))

1.2.   All Automated Decision Systems that were in production prior to the coming into force of this Directive, must complete an Algorithmic Impact Assessment within three months, and comply with all applicable provisions of this Directive within a timely manner.

2.   Authorities

2.1.   This Directive is issued under the authority of section 7 of the *Financial Administration Act*, and under section 8.1.1 of the *[Policy on the Management of Information Technology](#)*;

2.2.   This Directive supports the *Policy on Information Management*, the *Policy on Service*, the *Policy on Privacy Protection*, and the *Policy on Government Security*.

3.   Definitions

3.1.   Definitions to be used in the interpretation of this Directive are listed in [Appendix A](#).

4.   Objectives and Expected Results

4.1.   The objective of this Directive is to ensure that Automated Decision Systems are deployed in a manner that minimizes risks to Canadians and federal institutions, and leads to more efficient, accurate, consistent, and interpretable decisions made pursuant to Canadian law and core principles of administrative law.

4.2.   The expected results of this Directive are as follows:

      4.2.1.   Administrative decisions using Automated Decision Systems are more transparent and accountable;

      4.2.2.   An increase in the use of automated systems to make, or assist in making, administrative decisions.

5.   Scope

5.1.   This Directive applies only to Automated Decision Systems that recommend or render, in whole or in part, administrative decisions. This includes systems that:

      5.1.1.   Classify cases in terms of risk and priority;

      5.1.2.   Identify cases for human review or investigation;

      5.1.3.   Provide recommendations about whether an application should be approved;

      5.1.4.   Render the complete administrative decision.

5.2.   This Directive applies only to systems that provide external services as defined in the [Policy on Service](#).

6.   Requirements

The institution's Chief Information Officer, as well as the Assistant Deputy Minister, Chief Data Officer, or equivalent are responsible for the following activities described in this section:

6.1.   Algorithmic Impact Assessment

      6.1.1.   Complete an Algorithmic Impact Assessment, prior to the production of any Automated Decision System.

      6.1.2.   Apply the relevant requirements prescribed in Appendix C as determined by the Algorithmic Impact Assessment.

      6.1.3.   Ensure that the Algorithmic Impact Assessment remains up to date and accurately reflects the functionality of the Automated Decision System.

      6.1.4.   Release the final results of Algorithmic Impact Assessments in an accessible format via Government of Canada websites and services

designated by the Treasury Board of Canada Secretariat pursuant to the [Directive on Open Government](#).

6.2. Transparency

Providing Notice Before Decisions

6.2.1.   Notify affected individuals that the decision rendered will be undertaken in whole or in part by a Automated Decision System as prescribed in Appendix C.

Providing Explanations After Decisions

6.2.2.   Provide a meaningful explanation to affected individuals of how and why the decision was made as prescribed in Appendix C.

Source Code

6.2.3.   Make available to the public all of the source code used for the Automated Decision Systems on the [Open Resource Exchange](#).

6.2.4.   In cases where it is deemed that source code should not be disclosed, seek the approval of the Enterprise Architecture Review Board to exempt the disclosure. In these cases, the justification as to why code was not disclosed shall be published according to the process specified in the [Directive on Open Government](#).

6.2.5.   Source code for systems that are classified SECRET or TOP SECRET are exempt from section 6.2.3.

Licensing

6.2.6.   Ensure that all licenses required for the Automated Decision Systems are open licenses as listed in the [Open Source Software Registry](#).

6.2.7.   Ensure that Canada maintains the right to have access to foreground intellectual property to respond to any legal challenges.

6.3. Quality Assurance

Testing and Monitoring Outcomes

6.3.1. Before going into production, develop the appropriate processes to ensure that training data is tested for unintended data biases and other factors that may unfairly impact the outcomes.

6.3.2. Monitor the outcomes of Automated Decision Systems on an ongoing basis to safeguard against unintentional outcomes and to ensure compliance with institutional and program legislation, as well as this Directive.

Data Quality

6.3.3. Ensure that data being used by the Automated Decision System is routinely tested to ensure that it is still relevant, accurate and up-to-date and follow any applicable policy or guidelines with regards to data management practices in accordance with the *Policy on Information Management*.

Peer Review

6.3.4. Retain the appropriate expert to review the Automated Decision System, as prescribed in Appendix C based on the Impact Assessment Level.

Employee Training

6.3.5. Ensure that the relevant employees are sufficiently trained in the design, function, and implementation of the Automated Decision System to be able to review, explain and oversee automated decision-making, as prescribed in Appendix C.

Contingency

6.3.6. Subject to requirements prescribed Appendix C, ensure that a contingency systems and/or processes are available should the Automated Decision System be unavailable for an extended period of time.

Security

6.3.7. Conduct risk assessments throughout the development of the system and ensure appropriate safeguards to be applied, as per the [Policy on Government Security](#).

Legal

      6.3.8.   Consult with the institution's legal services unit, to ensure that the use of the Automated Decision System System is compliant with applicable legal requirements.

6.4.   Recourse

      6.4.1.   Provide affected individuals with information regarding options that are available to them for recourse to challenge the automated decision or recommendation.

6.5.   Reporting

      6.5.1.   Publish information on the effectiveness and efficiency of Automated Decision Systems annually on a website or service designated by the Treasury Board of Canada.

      6.5.2.   When requested, provide information on the achievement of the expected results of the Automated Decision System and compliance with this Directive to the Treasury Board of Canada Secretariat.

7.   Consequences

7.1.   Consequences of non-compliance with this policy can include any measure allowed by the Financial Administration Act that the Treasury Board would determine as appropriate and acceptable in the circumstances.

7.2.   For an outline of the consequences of non-compliance, refer to the [Framework for the Management of Compliance](#), Appendix C: Consequences for Institutions and Appendix D: Consequences for Individuals.

8.   Roles and Responsibilities of Treasury Board of Canada Secretariat

Subject to the necessary delegations, the Chief Technology Officer for the Government of Canada is responsible for:

8.1.   Providing government-wide guidance on the use of Automated Decision Systems.

8.2.   Developing and maintaining the Algorithmic Impact Assessment and any supporting documentation.

8.3.   Communicating and engaging government-wide and with partners in other jurisdictions and sectors to develop common strategies, approaches, and processes to support the responsible use of Automated Decision Systems.

8.4.   Reviewing this Directive every three years after its effective date.

9.   Application

9.1.   This Directive applies to all institutions referenced in the *Policy on the Management of Information Technology*, unless excluded by specific acts, regulations or orders-in-council;

9.2.   Agencies and Crown Corporations may enter into Specific Agreements with the Treasury Board of Canada Secretariat to adopt the requirements of this Directive and apply them to their organization, as required.

10.   References

10.1.   *Financial Administration Act*
         Access to Information Act
         Privacy Act
         Security of Information Act

10.2.   *Policy on Access to Information*
         Policy on Service
         Policy on Government Security
         Policy on Information Management
         Policy on Management of Information Technology
         Policy on Privacy Protection
         Directive on Open Government

11.   Enquiries

For information on this policy instrument, please contact the Treasury Board of Canada Secretariat Public Enquiries.

Appendix A - Definitions

Automated Decision System
An Automated Decision System includes any information technology designed to provide a specific recommendation to a human decision-maker on an administrative decision, and/or designed to make an administrative decision in lieu of a human decision maker.

Administrative Decision
Any decision that is made by an authorized official of an institution as identified in section 2 pursuant to powers conferred by an Act of Parliament or an order made pursuant to a prerogative of the Crown that affects an individual's legal rights, privileges or interests.

Algorithmic Impact Assessment
A framework to help institutions better understand and mitigate the risks associated with Automated Decision Systems and to provide the appropriate governance, oversight and reporting/audit requirements that best match the type of application being designed.

Source Code
Computer program in its original programming language, human readable, before translation into object code usually by a compiler or an interpreter. It consists of algorithms, computer instructions and may include developer's comments.

Appendix B - Impact Assessment Levels

Level	Description
I	**The decision has a little to no impact on the rights or interests of an individual, entity or Government organization.** Erroneous decision could reasonably be expected to cause nil to minimal harm.
II	**The decision has a moderate impact on the rights or interests of an individual, entity or Government organization.** Compromise could reasonably be expected to cause minimal to moderate harm.
III	**The decision has a high impact on the rights or interests of an individual, entity or Government organization.** Compromise could reasonably be expected to cause moderate to serious harm.
IV	**The decision has a very high impact on the rights or interests of an individual, entity or Government organization.** Compromise could reasonably be expected to cause serious to catastrophic harm.

Appendix C - Impact Level Requirements

Requirement	Level I	Level II	Level III	Level IV
Peer Review	**None**	**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		**At least two of:** Qualified experts from the National Research Council of Canada or Statistics Canada 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 **OR:** Publishing specifications of the Automated Decision System in a peer-reviewed journal
Notice	None	Plain language notification posted on the program or service website.	Plain language notification posted on the program or service website. If the service involves an online application, the notice must be made at the time of application.	

			Website must link to additional information where information about the system is provided, including: ● The role that the Automated Decision System has within the decision process, ● A description of the training data, or a link to the anonymized training data if this data is publicly available, and ● A description of the criteria used for making the decision, including relevant business rules.	
Explanation Requirement for Recommendation (5.1.1 and 5.1.2)	None		Meaningful explanation provided upon request based on machine or human review.	Meaningful explanation, including the variables used in the decision, provided with the decision rendered. Explanation can be human or machine generated.
Explanation Requirement for Decisions (5.1.3 and 5.1.4)	An explanation provided upon request based on machine or human review. This could include a Frequently Asked Questions section of a website.	Meaningful explanation provided upon request based on machine or human review.	Meaningful explanation, including the variables used in the decision, provided with the decision rendered. Explanation can be human or machine generated.	
Testing	Before going into production, develop the appropriate processes to ensure that training data is tested for unintended data biases and other factors that may unfairly impact the outcomes. Ensure that data being used by the Automated Decision System is routinely tested to ensure that it is still relevant, accurate and up-to-date.			

Monitoring	Monitor the outcomes of Automated Decision Systems on an ongoing basis to safeguard against unintentional outcomes and to ensure compliance with institutional and program legislation, as well as this Standar		
Training	None	Documentation on the design and functionality of the system	Documentation on the design and functionality of the system of the system. Training courses must be completed.	● Documentation on the design and functionality of the system. ● Reoccurring training courses. ● A means to verify that training has been completed.
Contingency Planning	None		Ensure that a contingency plans and/or backup systems are available should the Automated Decision System be unavailable.
Approval Requirement	None	Government of Canada Enterprise Architecture Review Board	Government of Canada Enterprise Architecture Review Board Requires specific authority from Treasury Board