



# **Ontario's Trustworthy AI Framework**

## **Law Commission of Ontario Submission**

June 2021



LAW COMMISSION OF ONTARIO  
COMMISSION DU DROIT DE L'ONTARIO



# Law Commission of Ontario Submission To Government of Ontario Trustworthy AI Consultations

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## 1. Introduction

This is the Law Commission of Ontario's submission to the Government of Ontario's request for comments on the proposed provincial AI framework.

## 2. About the LCO

The Law Commission of Ontario (LCO) is Ontario's leading law reform agency.

The LCO provides independent, balanced, and authoritative advice on complex and important legal policy issues. Through this work, the LCO promotes access to justice, evidence-based legislation and policies, and public engagement on important issues. The LCO is independent of stakeholder interests and is committed to a "public interest" perspective for every project.

The LCO has unparalleled experience analyzing AI, regulation and the public sector. Recent LCO reports addressing these issues include:

- [\*Regulating AI: Critical Issues and Choices\*](#) (April 2021)
- [\*Legal Issues and Government AI Development\*](#) (March 2021)
- [\*The Rise and Fall of Algorithms in the American Justice System: Lessons for Canada\*](#) (October 2020)

Many of the lessons and recommendations in this submission are drawn from these reports. This work is part of the LCO's ongoing [AI, Automated Decision-Making and the Justice System](#) project. More information about the LCO is available at [www.lco-cdo.org](http://www.lco-cdo.org).

### 3. Background

The LCO commends the provincial government for taking many positive steps in its recently announced “Trustworthy AI Framework” including:

- Committing to “No AI in Secret,” “AI Use Ontarians Can Trust,” and “AI that serves all Ontarians.”
- Committing to Open Government Partnership principles.
- Recognizing the significance of public participation.
- Focusing on accountable and rights-based AI.
- Acknowledging the continuous and developing nature of AI.

The LCO recognizes that the provincial government wants to address AI regulation in a structured and sequential manner. The LCO further recognizes that, at this stage of consultations, the provincial government is seeking “big picture” ideas and recommendations.

The LCO believes this is the right approach. AI regulation is a complex topic and experience proves the benefit of taking a measured, participatory approach to these issues. Moreover, the context and background for AI regulation is changing rapidly. New developments, such as the Government of Canada’s [Directive on Automated Decision-making](#) and the [European Commission’s proposed AI rules](#), have established important benchmarks for provincial AI regulation. Provincial policymakers should be mindful of these developments as the province moves forward.

The LCO is fully supportive of the potential of AI and related technologies to improve public services. As we noted in our *Regulating AI* report:

*AI and ADM technologies have great potential to improve the accuracy, fairness, transparency and efficiency of government decision-making.<sup>1</sup>*

A recent NYU/Stanford study outlined many positive examples of how this technology can be used to improve government administration and services, concluding that,

*Rapid developments in AI have the potential to reduce the cost of core governance functions, improve the quality of decisions, and unleash the power of administrative data, thereby making government performance more efficient and effective.<sup>2</sup>*

At the same time, it is widely acknowledged that AI and related technologies can pose significant risks to human rights, due process, and access to justice.

The provincial government is to be commended for seeking to strike the right balance between maximizing the AI’s potential benefits, while minimizing its potential harms. The balance of this submission discusses how the LCO believes this balance can be achieved.

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<sup>1</sup> Law Commission of Ontario, *Regulating AI: Critical Issues and Choices* (2021) at 9.

<sup>2</sup> Engstrom, David Freeman et al, *Government by Algorithm: Artificial Intelligence in Federal Administrative Agencies* (2020) at 6.

## 4. Summary of Recommended Provincial Commitments/First Steps

The LCO recommends several early public commitments/first steps to provide important assurances to Ontarians about the process and substance of AI regulation in Ontario. In our view, these early commitments/first steps are necessary to fulfil the province's three principles and to guide AI regulation development. These commitments/first steps would establish Ontario as a national and international leader in trustworthy AI regulation.

### **Recommended Provincial Commitments**

The LCO recommends the provincial government publicly commit to the following principles/objectives to govern Ontario's Trustworthy AI Framework:

1. The provincial government will not procure, operate or deploy high-risk AI or automated decision-making technologies prior to adoption of its comprehensive Trustworthy AI Framework. These technologies will include, but not necessarily be limited to, technologies identified in Articles 6 and 7 and Annex III of the EC's proposed AI rules.
2. The provincial government's Trustworthy AI Framework will be established in legislation and regulations. The legislation will include, but not be limited to, provisions addressing potential bias and discrimination in AI systems and requirements to mitigate harms.
3. The provincial government's Trustworthy AI Framework will include mandatory AI registers and mandatory disclosure of comprehensive AI impact assessments.
4. The provincial government's Trustworthy AI Framework will include AI and/or automated decision-making tools potentially used in the criminal justice system, such as facial recognition, biometric identification, predictive policing and bail/sentencing risk assessments.
5. The provincial government's Trustworthy AI Framework will establish a framework for all governments, agencies, courts and tribunals under provincial jurisdiction.
6. The provincial government will continue to seek meaningful public input and participation in all phases of AI regulation development.

### **Recommended Provincial First Steps**

In addition to the early public commitments identified above, the LCO recommends the provincial government take the following first steps to help implement these commitments:

7. The provincial government will establish a multidisciplinary Trustworthy AI Expert Advisory Task Force to advise provincial policymakers on how to fulfill the commitments identified above and enshrine them in provincial legislation/regulations.
8. The provincial government will prioritize the identification of prohibited and high-risk systems and the development of an AI impact assessment tool.

9. The provincial government will work with the Federal Government and other provincial and municipal governments to create national standards for Trustworthy AI.
10. The provincial government will develop comprehensive, publicly-disclosed performance metrics to ensure the province is meeting the goals of Trustworthy AI.

In the LCO's view, these commitments/first steps would provide Ontarians with assurances that the provincial government is dedicated to thoughtful, transparent, accountable and bias-free AI systems. These commitments would also ensure consistency with the Government of Canada's Directive on Automated decision-making, the proposed European Commission proposed AI rules, and emerging best practices in AI regulation.

## 5. Discussion of LCO Recommendations

The provincial government is well positioned to be a leader in Canada and internationally by introducing proactive law reform that helps maximize AI potential benefits, while minimizing potential harm. Proactive regulation supports AI innovation, AI "trustworthiness", better public services, economic development, and the fairness and legitimacy of government and justice-system decision-making.

The LCO believes the three commitments stated by the provincial government, *No AI in Secret*, *AI use Ontarians can trust*, and *AI that serves all Ontarians*, can be achieved with the recommendations set out in this submission and discussed below.

**Recommendation #1    The provincial government will not procure, operate or deploy high-risk AI or automated decision-making technologies prior to adoption of its comprehensive Trustworthy AI Framework. These technologies will include, but not necessarily be limited to, technologies identified in Articles 6 and 7 and Annex III of the EC's proposed AI rules.**

Recommendation #1 is necessary to fulfill all three provincial commitments.

As noted in the LCO's *Regulating AI* report, there is an ongoing international discussion regarding which AI systems should be prohibited or, at a minimum, categorized as high risk and therefore subject to more extensive regulatory requirements.<sup>3</sup>

The LCO believes the purpose and credibility of any provincial Trustworthy AI Framework would be compromised if the province were to deploy a high-risk AI system *prior* to the adoption of its comprehensive Trustworthy AI Framework. Similarly, high-risk systems currently in operation or under development should not be "grandfathered" or exempt from the provincial Trustworthy AI Framework. All AI risks must be addressed and mitigated, irrespective of whether a system was developed/deployed before or after an arbitrary proclamation date.

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<sup>3</sup> *Regulating AI* at 27-29.

Which systems should be prohibited in this interim period?

Recommendation #1 addresses this question with a straightforward, principled and practical answer: Articles 6 and 7 and Annex III of the EC's proposed AI rules crystalize an emerging international standard of prohibited and high-risk AI systems, including facial recognition systems, systems used by public authorities regarding public benefits and services, systems used by law enforcement and systems used in the administration of justice and democratic processes. Annex III is attached as Appendix A.

The EC's list of high-risk AI systems is reasonable, as it is based on practical experience with many different AI systems across many jurisdictions.<sup>4</sup> The unifying theme or issue linking these systems is the potential impact of these systems on individual or community rights and/or complex privacy and security considerations. Importantly, the proposed EC rules are *baseline* high-risk systems. The EC itself acknowledges the need to add systems to its high-risk Annex with experience.

In light of the above, the LCO recommends that the provincial government commit to not procure, operate or deploy AI systems in the areas set out in Annex III prior to the development of a comprehensive, legislated Trustworthy AI Framework.<sup>5</sup>

**Recommendation #2: The provincial government Trustworthy AI Framework will be established in legislation and regulations. The legislation will include, but not be limited to, provisions addressing potential bias and discrimination in AI systems and requirements to mitigate harm.**

Recommendation #2 is necessary to fulfill all three provincial commitments.

Legislation is necessary to provide the foundational governance framework for these systems. A legislative framework would provide consistent direction and accountability requirements to the actors, departments and/or agencies within its scope. It would also ensure changes to the governance framework were subject to legislative and public review. Finally, legislation would establish a level of public and legal accountability commensurate with the issues and rights at stake.

Accordingly, the LCO recommends that the provincial government commit to an AI framework established in legislation and regulations, in addition to ethical AI guidelines. The LCO further recommends that the legislative framework include provisions specifying:

- Definition of AI.
- Scope of application.
- Disclosure of systems.
- Risk-based regulation, including authority to prohibit specified AI technologies and to preemptively identify high-risk applications.

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<sup>4</sup> It is important to note that some of the provisions in Annex III would be inapplicable to the provincial government, such as provisions respecting credit scores and migration.

<sup>5</sup> For the sake of greater clarity, the LCO specifies that the list of prohibited systems included in this recommendation should also include AI systems that may be deployed in child welfare investigations or determinations; government benefit and/or housing determinations; systems that may be used to aid or make decisions by provincial courts or tribunals (including but not limited to tools such as bail or sentencing risk assessment tools); or as part of fraud detection or risk assessment systems.

- Mandatory and public AI registry and impact assessments.
- Bias and discrimination mitigation.
- Procurement.
- Remedies and procedural fairness.
- Independent oversight and evaluation.

The appropriate elements of the LCO's recommended legislative provisions are set out in the LCO's *Regulating AI* paper.<sup>6</sup>

Arguably the most significant risk associated with government use of AI and ADM systems is their potential to amplify existing bias and discrimination.<sup>7</sup> As a result, the LCO recommends that Ontario's Trustworthy AI legislative and regulatory framework address how to effectively prevent, disclose and/or remedy bias and discrimination in government AI and ADM systems. These provisions could include provisions on how to identify and mitigate "data discrimination," compliance with the *Charter* and human rights requirements, data disaggregation, evaluation, etc. There are many promising examples, best practices and regulatory regimes that Ontario can draw upon. The LCO discusses some of these options in our *Regulating AI* report.<sup>8</sup>

The proven risks of AI cannot be comprehensively addressed through individual litigation, best practices, existing or piecemeal legislation. Law reform is needed to ensure AI and ADM systems meet high legal standards regarding disclosure, legal accountability, equality, procedural fairness/due process and access to remedies.

Ethical AI guidelines are insufficient to mitigate the harms caused by the use of AI and related systems, due to their lack of specificity and reliance on voluntary compliance. Ethical guidelines, directives, "playbooks" or best practices and other "soft law" instruments have potential to *supplement* mandatory legal obligations and requirements, but they are not a substitute.<sup>9</sup>

**Recommendation #3:**                      **The provincial government's Trustworthy AI Framework will include mandatory AI registers and mandatory disclosure of comprehensive AI impact assessments.**

Recommendation #2 is necessary to fulfill all three provincial commitments.

AI and algorithms can be difficult to understand and difficult to explain. The "black box" issue can prove challenging for trust in government decision-making. Disclosure and transparency of AI systems is important for public confidence in government generally and AI systems specifically. Disclosure and transparency are also necessary to meet procedural fairness obligations, provide access to justice, and to uncover potential discriminatory outcomes, software errors, or inaccurate or incomplete data.

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<sup>6</sup> See generally, *Regulating AI* at 17-47.

<sup>7</sup> *Regulating AI* at 38, and LCO Criminal AI paper at 20-26 for discussion of the many ways in which an AI or ADM system can be biased and the pressing need for law reform.

<sup>8</sup> *Regulating AI* at 38-42.

<sup>9</sup> *Regulating AI* at 23-25.

Transparency and disclosure, therefore, are fundamental to AI trustworthiness, legality and accountability. Recommendation #3 establishes baseline transparency and disclosure requirements that should apply to all AI systems being developed or deployed in Ontario’s public sector.

As discussed in our *Regulating AI* report, an AI Register is a government website that identifies and documents the use of AI and related systems by governments. The purpose of an AI Register is to centralize disclosure of these systems, promote public and legal accountability, and to be an unparalleled resource for developers, stakeholders, researchers and the general public.<sup>10</sup>

Another fundamental tool to ensure AI transparency and accountability are AI or algorithmic impact assessments. Impact assessments have become perhaps the most widely-promoted tool for ensuring AI and ADM transparency and accountability.

The federal Directive requires an Algorithmic Impact Assessment (AIA) for every automated decision-making system within the Directive’s scope, including an assessment of “the impact on rights of individuals or communities.” The Directive further requires that Algorithmic Impact Assessments be released publicly.<sup>11</sup>

The LCO recommends that both AI Registers and an AI impact assessment be mandatory features of Ontario’s Trustworthy AI Framework. The LCO discusses the details of AI Registers and comprehensive AI impact assessments further in Recommendation 8, below.

**Recommendation #4: The provincial government’s Trustworthy AI Framework will include AI and/or automated decision-making tools potentially used in the criminal justice system, such as facial recognition, biometric identification, predictive policing and bail/sentencing risk assessments.**

This recommendation is necessary to fulfill the province’s commitment to *AI use Ontarians can trust* and *AI that serves all Ontarians*.

The LCO’s [The Rise and Fall of Algorithms in the American Justice System: Lessons for Canada](#) report discusses the risks of AI and automated decision-making systems in the criminal justice system at length. These risks include, but are not limited to: *Charter* violations, biased data, the “metrics of fairness”, data transparency and opacity, “data scoring”, algorithmic bias, lack of due process, and a lack of access to justice.

In the United States, there has been an extraordinary backlash to the use of AI and related tools in American criminal justice. Importantly, American systems were invariably introduced *before* comprehensive regulation. The US experience can teach provincial policymakers many lessons.

The federal Directive does not include AI or automated decision-making systems in the federal criminal justice system. In contrast, the EC proposed AI rules include detailed provisions identifying AI systems in

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<sup>10</sup> *Regulating AI* at 30.

<sup>11</sup> Canada Federal Directive, s. 6.1.

“law enforcement” and the “administration of justice” as being preemptively high-risk, and thus subject to more detailed and expansive regulatory requirements.

The LCO recommends that Ontario’s Trustworthy AI Framework include AI and/or automated decision-making tools potentially used in the criminal justice system (including facial recognition, biometric identification, predictive policing and bail/sentencing risk assessments) within its scope. Failure to address these systems systemically and legislatively risks compounding the over-representation of low-income, Indigenous and racialized communities already present in Ontario’s criminal justice system.

**Recommendation #5    The provincial government’s Trustworthy AI Framework will establish a framework for all governments, agencies, courts and tribunals under provincial jurisdiction.**

This recommendation is necessary to fulfill the province’s commitment to *AI use Ontarians can trust* and *AI that serves all Ontarians*.

At present, there is a significant regulatory “gap” in Canada: the Federal Directive guides AI and automated decision-making development for most of the federal government and most federal agencies. Unfortunately, there are as yet no equivalent regulatory instruments governing public sector AI systems under provincial jurisdiction. This is why the provincial government’s Trustworthy AI Framework is so important.

There is a risk that the breadth and impact of Ontario’s Trustworthy AI Framework will be undermined or compromised if its reach does not extend to all governments, agencies, courts and tribunals within provincial jurisdiction. Experience in other jurisdictions proves that some of the most consequential and risky AI systems have been deployed at the municipal level, or by local institutions such as child welfare agencies and police services.

The LCO recommends that Ontario’s Trustworthy AI Framework close this regulatory gap. Consistency in standards across provincial jurisdiction would allow all Ontarians to benefit from the protection of the Framework, would foster clarity and understanding, and encourage innovation and development.

**Recommendation #6    The provincial government will continue to seek meaningful public input and participation in all phases of AI regulation development.**

This recommendation is necessary to fulfill all three provincial commitments.

The LCO believes the starting point for AI regulation is robust and ongoing public participation. More specifically, the LCO believes that governments must engage with technologists, policymakers, government managers, frontline staff, lawyers, industry associations, community organizations and, crucially, the stakeholders and communities who are likely to be most affected by this technology.

The LCO emphasizes that communities (including Indigenous, racialized or otherwise marginalized communities) may be better positioned than lawyers, academics, advocates or regulators to identify

some of the risks *and* benefits of AI and related technologies. These communities have both experience and expertise that is crucial to thoughtful regulation.

The inclusion of communities, while pivotal, requires a commitment to public education. People must have a basic understanding of AI and the impact systems may have in order to engage meaningfully in discussions. In the LCO's view, the experience of the New York City Automated Decision-making Task Force demonstrates why public education is necessary for successful public consultations.<sup>12</sup>

The LCO believes it is important the public be invited to provide input before, during and after the initial development and regulation of AI and related systems. Proactive participation is likely to promote good governance, thoughtful regulations and engender public trust in public sector use of AI and related systems.

**Recommendation #7    The provincial government should establish a multidisciplinary Trustworthy AI Expert Advisory Task Force to advise provincial policymakers on how to fulfill the commitments identified above and enshrine them in provincial legislation/regulations.**

This recommendation is necessary to fulfill all three provincial commitments.

AI regulation is complex undertaking, involving multidisciplinary stakeholders and the thoughtful balancing of complicated rights and objectives. Given the pace of AI adoption across the province, country and internationally, there is a need for the provincial government to act to deliberately and efficiently.

In order to meet these priorities, the LCO recommends provincial government establish a multidisciplinary Trustworthy AI Expert Advisory Task Force to advise provincial policymakers on how to fulfill the commitments identified in this submission and enshrine them in provincial legislation/regulations.

**Recommendation #8    The provincial government should prioritize the identification of prohibited and high-risk systems and the development of an AI impact assessment tool.**

This recommendation is necessary to fulfill the province's commitment to *No AI in Secret* and *AI use Ontarians can trust*.

The LCO believes the provincial government should prioritize the identification of prohibited and high-risk AI systems and the development of an AI impact assessment tool. This work is foundational to the success and integrity of a provincial Trustworthy AI Framework. Put another way, these priorities are the building blocks on which all successful AI regulation rests.

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<sup>12</sup> See [New York City Automated Decision Systems Task Force Report](#) (November 2019) and [Confronting Black Boxes: A Shadow Report of the New York City Automated Decision System Task Force](#) (December 2019).

Fortunately, there are many thoughtful precedents to learn from. For example, the LCO's *Regulating AI* report concluded that, subject to some important modifications, the Government of Canada's Algorithmic Impact Assessment (AIA) tool is a good place to start.<sup>13</sup>

The AIA asks persons or organizations considering an ADM system to address approximately 60 questions designed to evaluate the appropriate risk level for a proposed system. The questions address issues such as project details, the impact of a system and proposed mitigation measures. Once responses to these questions have been input into the AIA, a report is produced indicating the proposed systems' Impact Level and associated requirements for peer review, notice, explanation, and other factors. A final version of the AIA is then required to be publicly posted on Government of Canada websites or as may be required by the federal Directive on Open Government.

The list of high-risk systems set out in Articles 6 and 7 and Annex III of EC's proposed AI rules establishes baseline standards and understandings of prohibited and high-risk systems. A made-in-Ontario AI impact assessment should build upon the EC baseline in order to identify appropriate prohibitions and high-risk systems in our province.

Importantly, the LCO recommends the province government consult broadly with stakeholders to identify prohibited and/or high-risk AI applications. These consultations could be organized or evaluated by the Trustworthy AI Expert Advisory Task Force recommended above. As a preliminary matter, the LCO further recommends that provincial policymakers and the Task Force consider whether systems that target or disproportionately impact or harm vulnerable populations such as disabled persons, children, Indigenous or racialized communities and/or low-income communities should be preemptively prohibited or identified as high-risk. AI and related systems have significant potential to affect the human rights or access to justice of these communities. As a result, there are good reasons for these systems to be subject to prohibitions or higher regulatory standards. Similarly, facial recognition and biometric identification technologies have proven risks. This is why the EC proposed rules and many cities actually prohibit most "real time" uses of these systems.<sup>14</sup> The LCO believes this is the correct approach.

**Recommendation #9    The provincial government should work with the Federal Government and other provincial and municipal governments to create national standards for Trustworthy AI.**

This recommendation is necessary to fulfill the province's commitment to *AI use Ontarians can trust* and *AI that serves all Ontarians*.

As in many areas of overlapping jurisdiction, there are important reasons to promote harmonization, or at least consistency, between national, provincial and municipal AI regulatory standards. Accordingly, the LCO recommends the provincial government begin working with its national and municipal partners

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<sup>13</sup> *Regulating AI* at 33-35.

<sup>14</sup> EC Proposed Rules, Annex III, s. 1.

to create national standards for AI regulation. The EC proposed AI rules are an important precedent and example in this regard.

**Recommendation #10 The provincial government should develop comprehensive, publicly-disclosed performance metrics to ensure the province is meeting the goals of Trustworthy AI.**

This recommendation is necessary to fulfill the province’s commitment to *AI that serves all Ontarians*.

The LCO believes it is important to track the progress and “success” of the provincial Trustworthy AI Framework through performance metrics. These metrics will focus the provincial government’s reform efforts and provide necessary public transparency and accountability.

## 6. Conclusion

The LCO is committed to working with the provincial government on its Trustworthy AI Framework. The LCO will provide any assistance it can in the weeks and months ahead.

Should there be any questions or comments about this submission or any of the LCO’s AI-related work, please contact the LCO’s Executive Director, Nye Thomas at [athomas@lco-cdo.org](mailto:athomas@lco-cdo.org).

## **Appendix A**

### **Excerpt from European Commission's Proposal for a Regulation laying down harmonized rules on artificial intelligence**

#### **ANNEX III**

##### **HIGH-RISK AI SYSTEMS REFERRED TO IN ARTICLE 6(2)**

High-risk AI systems pursuant to Article 6(2) are the AI systems listed in any of the following areas:

1. Biometric identification and categorisation of natural persons:
  - (a) AI systems intended to be used for the 'real-time' and 'post' remote biometric identification of natural persons;
2. Management and operation of critical infrastructure:
  - (a) AI systems intended to be used as safety components in the management and operation of road traffic and the supply of water, gas, heating and electricity.
3. Education and vocational training:
  - (a) AI systems intended to be used for the purpose of determining access or assigning natural persons to educational and vocational training institutions;
  - (b) AI systems intended to be used for the purpose of assessing students in educational and vocational training institutions and for assessing participants' interests commonly required for admission to educational institutions.
4. Employment, workers management and access to self-employment:
  - (a) AI systems intended to be used for recruitment or selection of natural persons, notably for advertising vacancies, screening or filtering applications, evaluating candidates in the course of interviews or tests;
  - (b) AI intended to be used for making decisions on promotion and termination of work-related contractual relationships, for task allocation and for monitoring and evaluating performance and behavior of persons in such relationships.
5. Access to and enjoyment of essential private services and public services and benefits:
  - (a) AI systems intended to be used by public authorities or on behalf of public authorities to evaluate the eligibility of natural persons for public assistance benefits and services, as well as to grant, reduce, revoke, or reclaim such benefits and services;
  - (b) AI systems intended to be used to evaluate the creditworthiness of natural persons or establish their credit score, with the exception of AI systems put into service by small scale providers for their own use;
  - (c) AI systems intended to be used to dispatch, or to establish priority in the dispatching of emergency first response services, including by firefighters and medical aid.

6. Law enforcement:

- (a) AI systems intended to be used by law enforcement authorities for making individual risk assessments of natural persons in order to assess the risk of a natural person for offending or reoffending or the risk for potential victims of criminal offences;
- (b) AI systems intended to be used by law enforcement authorities as polygraphs and similar tools or to detect the emotional state of a natural person;
- (c) AI systems intended to be used by law enforcement authorities to detect deep fakes as referred to in article 52(3);
- (d) AI systems intended to be used by law enforcement authorities for evaluation of the reliability of evidence in the course of investigation or prosecution of criminal offences;
- (e) AI systems intended to be used by law enforcement authorities for predicting the occurrence or reoccurrence of an actual or potential criminal offence based on profiling of natural persons as referred to in Article 3(4) of Directive (EU) 2016/680 or assessing personality traits and characteristics or past criminal behaviour of natural persons or groups;
- (f) AI systems intended to be used by law enforcement authorities for profiling of natural persons as referred to in Article 3(4) of Directive (EU) 2016/680 in the course of detection, investigation or prosecution of criminal offences;
- (g) AI systems intended to be used for crime analytics regarding natural persons, allowing law enforcement authorities to search complex related and unrelated large data sets available in different data sources or in different data formats in order to identify unknown patterns or discover hidden relationships in the data.

7. Migration, asylum and border control management:

- (a) AI systems intended to be used by competent public authorities as polygraphs and similar tools or to detect the emotional state of a natural person;
- (b) AI systems intended to be used by competent public authorities to assess a risk, including a security risk, a risk of irregular immigration, or a health risk, posed by a natural person who intends to enter or has entered into the territory of a Member State;
- (c) AI systems intended to be used by competent public authorities for the verification of the authenticity of travel documents and supporting documentation of natural persons and detect non-authentic documents by checking their security features;
- (d) AI systems intended to assist competent public authorities for the examination of applications for asylum, visa and residence permits and associated complaints with regard to the eligibility of the natural persons applying for a status.

8. Administration of justice and democratic processes:

- (a) AI systems intended to assist a judicial authority in researching and interpreting facts and the law and in applying the law to a concrete set of facts.