GOOD STANDARDS IN THE MANAGEMENT OF ARTIFICIAL INTELLIGENCE SYSTEMS AND AUTOMATIC DECISION-MAKING IN THE PUBLIC SECTOR

# Good standards in the management of artificial intelligence systems and automatic decision-making in the public sector

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The standards are universal, but in particular take into account the current challenges in the public sector in the Central Eastern Europe region. On 8 June 2022, the RightsCon 2022 (online) conference organised by Access Now hosted a panel discussion by the Foundation on "Al/ADM systems in the Central and Eastern European public sector: what can go (or went) wrong regarding citizens' rights" with representatives of NGOs and business from the CEE region<sup>1</sup>. The recommendations that emerged from the discussion inspire some of the good practices included in the document.

The presented compilation of good standards has the nature of a "living document", meaning that the document can be developed and amended according to current needs related to AI and ADM systems.

The recommendations in the document have been consulted with an expert organisation: the **Ada Lovelace Institute**. Thank you for the consultation opportunity.

 Participants in the discussion included: Sandor Lederer (K-Monitor, Hungary), Monika Kajalidis (Moje Państwo Foundation, Poland), Holger Zscheyge (Infotropic Media, President of European Legal Tech Association, Russia) and Magdalena Siwanowicz-Suska (Moje Państwo Foundation, Poland).



# 1. Assessing the appropriateness of using an AI/ADM system

Artificial intelligence can in many cases make the operation of public administration more efficient, but it is not always the best choice.

Officials proposing to select an AI/ADM-based solution should make an assessment of the appropriateness of using an AI/ADM system to solve a specific problem.

### Such an assessment makes it possible to:

- identify the needs of the administration,
- assess the proportionality of the solution,
- understand the capabilities of a given technological solution, and the costs associated with its purchase/creation.

On costs, there are some non-obvious ones for many public sector agencies that may be worth considering, including the costs of maintaining that system (fixing bugs that come up), the costs of changing existing administrative practices to use it (retraining), and the costs of potential externalities and risks that may arise (does this increase the workload of other parts of an agency).<sup>2</sup>

The Google eye retinopathy/ Thailand Ministry of Health case study<sup>3</sup> offers a great example of the latter. The introduction of an extremely accurate **AI** system to address a specific health problem – identifying eye diseases quickly by scanning radiography images – ended up creating worse healthcare outcomes. The system created a backlog of referrals for patients who would have needed to travel across the country for follow-up evaluations and advice.<sup>4</sup>

#### The assessment should be:

- a separated document (independent of the Algorithmic Impact Assessment indicated in point 2),
- prepared by public administration officials,
- publicly available.

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Example:
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The UK public sector proposes guidelines for assessing whether artificial intelligence is an appropriate solution.<sup>5</sup> The guidance recommends checking that:

- data containing the required information is available,
- the use of the data is ethical and secure and complies with the Government's Data Ethics Framework,<sup>6</sup>
- there is sufficient data to train the AI,
- the task is of a large scale and repetitive enough that a human would have difficulty performing it,
- the AI will provide information that the team can use to deliver results in the real world.

3. https://dl.acm.org/doi/abs/10.1145/3313831.3376718

<sup>6.</sup> https://www.gov.uk/government/publications/data-ethics--framework (accessed on 15.06.2022)



<sup>2.</sup> the "Ada Lovelace" Institute's comment provided as part of the standards consultation.

<sup>4.</sup> the "Ada Lovelace" Institute's comment provided as part of the standards consultation.

<sup>5.</sup> https://www.gov.uk/guidance/assessing-if-artificial-intelligence-is-the-right-solution (accessed on 15.06.2022)

# Impact assessment of the implementation of an AI/ADMbased system – "Algorithmic Impact Assessment"

The Algorithmic Impact Assessment "AIA" is a tool to assess the risk of implementing a given **AI/ADM** system. The AIA is designed to help better understand the risks associated with automated decision-making and is intended to facilitate the management of identified risks. The AIA model helps to structure the process of developing, implementing and maintaining a system – with a particular focus on the context in which the system is to operate.

There is no one established methodology for Algorithmic Impact Assessment yet. This is a new approach that requires many choices about how to implement them (for instance, the Ada Lovelace Institute explored the potential for their use with UK's National Health Service<sup>7</sup>).<sup>8</sup>

An ideal model would be if AIA was performed by an independent public institution, but currently, due to the lack of such specialized public entities, the evaluation could be performed by public institutions interested in implementing the **AI/ADM** system.

#### Example: -----

The Canadian government has introduced<sup>9</sup> an Algorithmic Impact Assessment to support the Treasury Board's directive on automated decisionmaking.<sup>10</sup> The tool is a questionnaire that determines the level of influence of an automated decisionmaking system. Assessment results are based on many factors, including system design, algorithm, decision type, impact, and data. The Canadian AIA is available under an open license and can be reused.<sup>11</sup>

## 3. Use of innovation-friendly public procurement modes

Solutions based on artificial intelligence or ADM are most often developed from scratch. The innovative nature of these systems often makes it impossible to formulate the content of a public procurement specification corresponding to the requirements for competitive procedures. An effective mode that offers a chance to achieve the desired goal in the public sector can be:

- innovation partnership,
- competition.<sup>12</sup>

The report of the "Moje Państwo" Foundation "Artificial intelligence and automatic decision making in public procurement - guidelines for the public sector"<sup>13</sup> describes the conditions that must be met for the above-mentioned public procurement procedures and points to the advantages of using them when purchasing AI systems:

 For example, the innovation partnership is a public procurement procedure that may be used in the event of a demand for an innovative product, service or construction works when they are not available on the market.

- 8. the "Ada Lovelace" Institute's comment provided as part of the standards consultation.
- https://www.canada.ca/en/government/system/digital-government/digital-government-innovations/responsible-use--ai/algorithmic-impact-assessment.html#toc3-1 (accessed on 15.06.2022)
- 10. https://www.tbs-sct.canada.ca/pol/doc-eng. aspx?id=32592 (accessed on 20.07.2022)

<sup>7.</sup> https://www.adalovelaceinstitute.org/report/algorithmic--impact-assessment-case-study-healthcare/

<sup>11.</sup> https://open.canada.ca/data/en/dataset/5423054a-093c--4239-85be-fa0b36ae0b2e (accessed on 20.07.2022)

<sup>12.</sup> ai-report-en.pdf 31.86 MB (accessed on 20.07.2022)

<sup>13.</sup> ai-report-en.pdf 31.86 MB (accessed on 08.09.2022)



- The innovation partnership is a multi-stage and negotiation-based procedure. In response to the announcement, contractors submit requests to participate in the procedure, then the contracting authority invites contractors admitted to participate to submit preliminary offers, conducts negotiations with them in order to improve the initial offers and, as a result, invite them to submit tenders for research work and then purchases supplies, services or construction works resulting from research and development, provided that they correspond to the levels of performance and maximum costs agreed between the contracting authority and the contractor or contractors.
- An important convenience for contracting • authorities purchasing solutions based on artificial intelligence using the Innovation Partnership mode is the lack of the need to publish a description of the subject matter of the contract along with the full specification of the contract - it is permissible to provide a description of the needs and requirements only. As in the case of competition procedures, it gives the contracting authority the opportunity to select the solutions offered by the market in response to a specific demand. Moreover, the Innovation Partnership mode allows the parallel implementation of the project with several contractors and the observation of the results achieved by the contractors (e.g. as part of the verification of the pilot solutions being constructed and the achievement of intermediate goals). This is obviously an expensive solution, as it requires several contractors to be paid for the same scope of work, but it can still be justified in complex and important projects, where the price is not as important as the success of the entire project and the achievement of optimal results.14

#### Example:

In Poland, the GovTech Portal, in the "Good practices in the procurement of innovative technological solutions through a competitive procedure"<sup>15</sup> document, prepared in cooperation with the Public Procurement Office, presented the opportunities offered by the competitive procedure in the procurement of IT tools, and recommended this procedure of awarding contracts. Unlike conventional IT service contracts, innovative solutions such as AI are most often created from scratch and it is not possible to buy them "out of the box". The contracting authority is able to determine the needs and functionality that a given tool must have, but in most cases there is insufficient knowledge and tools to clearly define the subject matter of the contract in accordance with the requirements of open competitive procedures. The solution recommended by GovTech is therefore a two-stage competition, in which the first stage consists of studies, and in the second stage competition entries are prepared that meet the needs of the contracting authority. The competition procedure allows the awarding of contractors and the reimbursement of the costs of preparing the competition entries. The most important, however, is the possibility of awarding a prize in the form of an invitation to negotiation and execution of the contract after conducting the procurement procedure under the single-source procurement mode.<sup>16</sup>

## 4. Introduce dedicated system transparency conditions in agreements with AI/ADM system contractors

The public sector should be able to explain to citizens how the AI/ADM system used by the state works and should have the necessary information about it. It is good practice for the administration to use contractual clauses regulating the provision of the required information on system performance by AI system contractors.

<sup>14.</sup> ai-report-en.pdf 31.86 MB (accessed on 08.09.2022)

<sup>15.</sup> https://www.uzp.gov.pl/\_\_data/assets/pdf\_

file/0015/38220/Dobre-praktyki-GovTech.pdf (accessed on 22.06.2022)

<sup>16.</sup> ai-report-en.pdf 31.86 MB (accessed on 08.09.2022)



#### Example:

The City of Amsterdam (the Netherlands) has prepared and applies "Standard clauses for the acquisition of trustworthy algorithmic systems"<sup>17</sup>, which define a framework for the information that suppliers must provide. With the information, the contracting authority can determine, for example, whether appropriate measures have been taken to safeguard the quality and reduce the risks generated by the system.

The document<sup>18</sup> proposes three types of information, which are agreed with the supplier in the terms of the agreement:

- Technical transparency: provides insight into the technical operation of the algorithm, including the code needed for the algorithm to work. This type of transparency is required, for example, in case of an audit.
- Procedural transparency: helps to understand the purpose of the algorithm and how the result of the algorithm is obtained. For example, a description of the choices and assumptions made, what type of data is used and how bias is counteracted.
- Explainability: if the outcome of the algorithm affects someone personally, the provider is bound by stricter rules. The provider must cooperate to ensure that the algorithm's decision-making process is transparent on an individual level. This gives citizens the opportunity to object to a decision or outcome.

# 5. Introduction of AI/ADM policies or regulations in public institutions

Policies/regulations in the public sector make it possible to:

- organise the process of introducing, maintaining and auditing AI/ADM systems;
- control important elements of AI/ADM systems in the public sector, such as e.g. explanation of artificial intelligence or system audit issues;
- unify the practice of dealing with AI/ADM systems in a given unit and signal to officials that certain values / issues must be taken into account when using AI/ADM systems.

## Example: -----

The introduction of municipal open data policies has contributed to the proactive sharing of more public data globally, including in Poland.<sup>19\_20</sup> Analogous policies on AI/ADM systems could also be beneficial in shaping a good approach to AI/ADM systems in the public sector.

<sup>20.</sup> Polityka Otwartych Danych Poznania (Poznań Open Data Policy) (accessed on 3.08.2022)



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https://www.amsterdam.nl/innovatie/digitalisering-technologie/algoritmen-ai/contractual-terms-for-algorithms/ (accessed on 22.06.2022)

<sup>19.</sup> Polityka otwartości Gdańska (Gdansk's openness policy) (accessed on 1.08.2022)

<sup>18.</sup> Ibidem.



# 6. Applying explainable AI in the public sector

The public sector should be able to verify and understand the operations taking place after the AI/ADM system assumptions have been made and the output entered, and before the final result is presented. In the process of making decisions towards citizens - we recommend the use of so-called "explainable Al" (XAI) by public administrations, which makes it possible to understand the principles of the operations of the AI. The explainability of systems also makes it possible to determine whether a model behaves in a correct way.<sup>21</sup> We recognize that the recommendation presents an ideal model that can sometimes be seen more as an ambition than an easy-to-apply practice. However, we believe that this is the direction in which public administration should go.

Additionally, the use of this type of solution, and not only by the public sector, is currently necessary due to, for example, Art. 22 GDPR, on the basis of which data subjects are entitled to explain the grounds and criteria for issuing a decision. In the light of this provision, the criteria for decisions made by Al should be known to the entities affected by the given decision, constituting the justification for taking the decision.<sup>22</sup>

# 7. Provide education to officials on how to deal with AI/ADM systems

In every public entity that uses AI/ADM systems in a way that impacts citizens, there should be at least one person who is regularly educated on AI/ ADM topics. Such a person would act as a point of contact when other officials have concerns about the operation of the systems. This would ensure more effective oversight in the introduction, maintenance and auditing of AI/ADM systems.

# 8. Interdisciplinary collaboration between the public sector and other stakeholders

For the success of the implementation of AI/ADM systems in the public sector, a continuous discussion between representatives of different sectors with different competences is essential. It should be considered good practice to create various expert groups attached to public institutions dealing with AI issues. An important element is the openness of such groups to new members.

#### Example:

In Poland, the Working Group on Artificial Intelligence (GRAI) was established at the Chancellery of the Prime Minister. The group was set up with the aim of identifying actions to ensure that Poland has the right conditions for the development of AI applications in both the private and public sectors, as well as in the conduct of scientific research.<sup>23</sup>

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<sup>23.</sup> https://www.gov.pl/web/cyfryzacja/grupa-robocza-ds--sztucznej-inteligencji-grai (accessed on 2.08.2022)



Citizens will not know if AI in the public sector is good, trustworthy or ethical if they do not know how the system works. The public should know how the state uses technology and how it uses it to deal with citizens' issues. The solution to this issue is to proactively inform citizens about the **AI/ADM** systems that affect them, e.g. by providing lists of such systems used in an entity.

### Example: -----

- In France, the Digital Republic Law<sup>24</sup> mandates transparency of public algorithms. Among other obligations, it compels public agencies to publicly list the main decision-making algorithmic tools and to publish their rules.<sup>25</sup>
- In Poland, the Ministry of Justice provides<sup>26</sup> information about the Random Case Allocation System algorithm on its website. The publication of the information by the Ministry of Justice was preceded by a court-administrative proceeding on the initiative of the "Moje Państwo" Foundation for the release of public information on how the above-mentioned system used by the Ministry of Justice works.<sup>27</sup>

- In Finland, AI Register<sup>28</sup> is a window into the artificial intelligence systems used by the City of Helsinki. Through the register, everyone can get acquainted with the quick overviews of the city's artificial intelligence systems or examine their more detailed information.<sup>29</sup>
- A similar register on AI/ADM systems is kept by the city of Amsterdam in the Netherlands.<sup>30</sup>
- In UK emerged the Algorithmic Transparency Standard.<sup>31</sup> Standard helps public sector organisations provide clear information about the algorithmic tools they use, and why they're using them. The Algorithmic Transparency Standard is part of the government's National Data Strategy.<sup>32</sup>

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