

The background features a complex network diagram with grey nodes and lines. A teal square is in the top right, and teal horizontal bars are on the left and bottom left. The title 'alGOVrithms 3.0' is in a dark blue font.

alGOVrithms 3.0

How automated are our public procedures: Czechia, Hungary, Kosovo, and Poland

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Authors:

Michal Škop, Kohovolit.eu – Czechia

Orsolya Vincze, K-Monitor – Hungary

Ariana Gjuli, Open Data Kosovo - Kosovo

Krzysztof Izdebski, INPRIS Institute for Law and Society – Poland

Edited by:

Ariana Gjuli, Open Data Kosovo - Kosovo

Krzysztof Izdebski, INPRIS Institute for Law and Society - Poland

Research Coordinator:

Delvina Haxhijaha, Open Data Kosovo - Kosovo

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EXECUTIVE SUMMARY

This report is focusing on the use of automated systems which aid decision-making in government - citizen relations in the targeted countries: Czechia, Hungary, Kosovo, and Poland.

Although there are new examples of ADMs being used in the public sector, we have not seen a spike in the last two years. The situation is similar with the regulation of transparency of technological tools and the implementation of policies and strategies. The EU governments included in this study seem to be waiting for the final AI regulation, while neglecting to create a transparent framework for simpler algorithmic tools. The situation is similar in Kosovo, where, despite being highlighted in the last report in 2021, work on regulating the transparency of ADMs has not begun.

Again - as in 2019 we single out - those systems that work in the judiciary. These are extremely important, precisely because the systems we have identified for allocating judges to cases have an impact on the right to a fair trial.

While there are no examples of such systems to assist judges in sentencing, there are case-assignment systems that require appropriate procedures to ensure a fair trial. In Poland, access to the common courts' Random Case Allocation System algorithm was gained after years of litigation, but the Ministry of Justice resists releasing the source code. In Hungary, a similar tool exists but is only partially applied by the Metropolitan Court of Budapest. In Kosovo, the Informative System for Case Management is used in all judiciary cases, and there is a systemic and independent control of its implementation. The Norwegian Judicial Administration monitors the implementation of the project and offers qualified expertise related to its implementation. The report suggests the need to introduce mechanisms to ensure greater transparency and the possibility for competent, independent auditors to monitor the use of these tools in Poland and Hungary, given the problems with the rule of law in those countries.

We also present other examples of the use of ADMs. Interestingly, most of the systems we have identified are aimed at improving state control over citizens. Whether it be a question of speed control, the use of facial recognition systems, or, finally, tools to control citizens' bank accounts.

There are few tools that directly improve citizens' well-being. We note, however, that systems designed to influence energy savings are becoming popular.

This may be due to the fact that citizens, academics and Civil Society Organisations are still not involved in the planning processes of algorithmic tools and are not consulted about the potential risks involved.

This is all the more reason why the issued recommendations need to be resounded. Below are the general recommendations that should be implemented by all countries, and in the detailed section 7. of this report you will find recommendations specifically addressed to the national governments for each of the countries.

•Introducing a systemic framework for algorithmic transparency:

This should be based on several levels. Clear communication, e.g. on the website of the entity that implements the algorithm, of the basic principles of the algorithm. What data is used, what are the mechanisms for combining them, who is the author of the technology, who is responsible for its operation and, finally, how to complain about the outcome of the adjudication. The next level is to make the content of the algorithm and the source code available. In principle, ADMs used by public authorities should be based on so-called open source code.

•Capacity building among officials and representatives of civil society organizations:

There is an urgent need to strengthen digital knowledge and competences among those who use ADM and those who can assess their performance, e.g. against discrimination risks. Training, although conducted separately for each of these groups, should also include elements of a clash of different perspectives - civic and official.

•Introduce a systematic framework for evaluating ADM performance:

This should take place as early as in the planning phase of the creation or purchase of the tool, but also throughout the life cycle of its use. Civil Society Organisations and independent audit institutions should be important actors in this process.

INTRODUCTION

Although we are aware that the problem of transparency and accountability of automated decision making is much broader than just governments – citizens relations we have decided to limit ourselves only to those examples of ADM in which this technology influences the citizens' well-being. Back in 2019, we have come up with the new term – alGOVrithms which we define as:

“Automated processes, used by government authorities in decision making directly or indirectly, whose output directly influences the citizens' well-being”

In other words, in the report, we are focusing on those examples of automated decision making/algorithms which are created by governments (or procured by public entities externally) and have a direct or indirect (supportive) influence on citizens or their specific groups.

When the first 'alGOVrithms' report was published in 2019, the topic of using algorithms in public institutions was only just emerging. The buzzword of artificial intelligence was carried around, but in the public discussion it was associated with a fantasy future rather than the practical and contemporary dimension of the technology. Few people were still talking about the need for transparency in automated decision-making systems, and regulatory work in the EU was only just beginning to germinate. Although more than half of Poles (the case of Poland) were aware that artificial intelligence and algorithms were already widely used in entertainment, learning or shopping. Nevertheless, governments around the world aim to integrate and use algorithms in order to optimize their own services as well, and this remains the goal in Poland, as well as in the rest of the targeted countries of this report, Kosovo, Hungary, and Czechia.

This, third report, developed Open Data Kosovo (Kosovo) together with the partner organizations: INPRIS - Institute of Law and Society (Poland), KohoVolit (Czechia), and K-Monitor (Hungary) comes back to some issues that have already been described previously, but also reveals new tools and challenges.

We are evaluating the implementation of strategies that have sacrificed space for automated decision-making and systems that have been controversial. As was the case, for example, with the Polish random case allocation system for judges. We present various examples of tools - from dedicated systems operating in courts, to cameras monitoring pedestrian traffic and car speed, to systems used for various purposes in the education system.

The uniqueness of this series of reports lies in the fact that it not only describes - as far as possible with limited transparency - examples of tools for automated decision-making systems. We focus precisely on the extent to which knowledge of their operation is available to citizens, whether their implementation is accompanied by the introduction of systemic solutions to safeguard human rights, and offer general and very specific proposals for solutions to the problems identified.

STUDY METHODOLOGY

The methodology of this report has been based on the previous editions of the reports prepared as part of the ALGOVrithms project series (first edition; and second edition). This edition's methodology has been adjusted during the online workshop held among the partners in October 2022. The research for this report consisted of the following:

1. Desk research
2. Freedom of Information requests
3. Interviews with identified experts and decision-makers.

Considering the different backgrounds of countries that were a target of this research, the country researchers were independent to decide on selecting the stakeholders which would contribute to the content of this report through interviews. The stakeholders that were part of the research have been informed beforehand regarding the purpose of the research. Communication with the stakeholders has also continued after the interviews which have taken place in order to gain as much relevant information as possible.

Researchers from the targeted countries have also referred to their own experiences and the knowledge gained during the previous editions of the report series and as such direct updates have been provided in this current report.

Based on the information gathered and the collected findings the assigned researchers have prepared the draft country reports which are later compiled into this final paper overviewing the level of automated processes as part of public procedures in the targeted countries of: Kosovo, Poland, Hungary, and Czechia.

Regarding the phase of interviews with the identified stakeholders, a questionnaire has been prepared which mainly consists of topics to be explored during the research in the relevant countries. The following questions/areas have been key to the findings related to the set topic of this research:¹

1. **Who is maintaining the existing algorithms in your institution - when was the last time that updates have been made, and what were the changes in place? - (this question aims to understand additional information relating to the same algorithms that have been explained in the previous editions).**
2. **How is the algorithm of your institution regulated? (this question was aimed at gathering information about whether algorithms are regulated by the law, or if such a law is still missing - case of Kosovo).**
3. **Have the existing national strategies been more focused on the use of algorithms in decision making? (this questions has aimed to gather more information on the national strategies in terms of alGOVrithms, and especially has been a core question for the research led in Kosovo in order to identify if this area has changed from the last research).**
4. **Are the existing alGOVrithms open to the public?**
5. **How can the current algorithms be advanced considering the work area of the institution?**
6. **What are the main contributors to the lack of algorithms to support decision making in the specific country?**

¹ The questions in each country case have been designated and adapted for the identified stakeholder/authority regarding the perspective of the targeted country.

AUTOMATED DECISION MAKING IN JUDICIARY

The authors of this report paid particular attention to the use of automated decision-making systems in the administration of justice.

The situation in the countries of the region is somewhat different from that in the so-called **western countries**. There are no examples of the implementation of, for example, systems predicting recidivism or directly assisting judges in sentencing. Given the importance of such systems for human rights, they represent a huge risk and should be thoroughly regulated and controlled.

However, the case-assignment systems in the countries described in the report - although not based on AI and not directly affecting the situation of the individual - also require appropriate procedures. Note that the circumstance of the selection of a judge has an impact on the realization of the right to a fair trial.

We describe in detail how such systems work in Kosovo, Hungary and **Poland**.

In the latter country, it was finally possible to gain access to the common courts' Random Case Allocation System algorithm after years of strategic litigation. Still, the Ministry of Justice, responsible for the creation and implementation of the system, resists releasing the source code, which would allow a better assessment of whether it is indeed random.

Although a similar tool also exists in **Hungary** it is not yet widely used, and it's currently only applied (and only partially) by the Metropolitan Court of Budapest.

In Kosovo, the Informative System for Case Management (SMIL) is currently being used by all the judiciary institutions in Kosovo, including the Basic Court, Appeal Court, the Supreme Court, and the Prosecutorial (from the central level). Therefore, the system is being used in all judiciary cases (civil, criminal, economic, and other cases).

Only in Kosovo is there a systemic and independent control of its implementation. The Norwegian Judicial Administration (NJA) monitors the implementation of the project, offering qualified expertise related to the implementation of the project and continuous support for the implementation of judicial reforms in Kosovo. For the maintenance and administration of the system on a daily basis, the IT departments in KJC and KPC are responsible. Audit reports are done annually, as well as progress reports regarding the implementation of SMIL which is sent to the NJA.

This is lacking in the case of Poland and Hungary, and there is limited confidence in their functioning due to problems with the rule of law. This makes it all the more necessary to introduce mechanisms to ensure greater transparency and the possibility for competent, independent auditors to monitor the use of these tools.

More details can be found further down in the report on the descriptions of these systems.

THE CONTEXT: COUNTRY INTRODUCTIONS

5.1. Czechia

Algorithmic decision-making has become increasingly used by government bodies worldwide as a means to optimize resource allocation, reduce costs, and increase efficiency. Czechia is not an exception. Government agencies at different levels, including national, regional, and local, have been increasingly relying on algorithmic decision-making systems in recent years.

In the Czech Republic, algorithmic decision-making is used in various fields, such as controls, quality control, and law enforcement. For instance, several municipalities use an algorithmic decision-making system to control road traffic and street parking.

The Czech Hydrometeorological Institute uses algorithms to issue warnings for other institutions about coming weather.

System for automatic face recognition is used on the main Czech airport by law-enforcement agencies.

The Supreme Audit Office is using algorithms for selecting the objects of its controls.

However, the use of algorithmic decision-making by government bodies in the Czech Republic has also sparked concerns about potential biases and discrimination. The accountability of the algorithmic decisions is generally low in the Czech Republic.

Overall, while algorithmic decision-making has the potential to bring benefits to government

5.2. Hungary

Since the mid-2010s, a large number of decision support applications have been used in Hungary by various governmental actors and in a wide range of fields, from disaster management to audit checks.

An important milestone (see previous report) was the adoption of the Artificial Intelligence Strategy of Hungary in May 2020. A special feature of the strategy was that it was developed by the Ministry of Innovation and Technology together with the Artificial Intelligence Coalition, an organisation made up of industry players, but it also includes a number of professional interest groups and research institutes. The strategy emphasized the usage of artificial intelligence in public administration and proposed measures in this respect, but its main focus was on industrial developments (mainly in the automotive, health and agricultural sectors). It did not lay down any rules on ethical regulation, on limiting the use of artificial intelligence (at most by way of reference), but proposed the establishment of an ethical monitoring and advisory body, which would later be responsible for drawing up specific ethical rules, regulations and principles. However, as of now, there is still no news about the creation of such rules and regulations, and it is questionable to what extent the Coalition can be considered active in this area at all – or whether it can be considered a real stakeholder at the moment.

It may be worth mentioning that at the time of the adoption of the AI Strategy, the Ministry of Interior was responsible for e-government developments and the Ministry of Innovation and Technology for IT, and as a consequence the action plan related to the Strategy mainly assigned tasks to these two ministries. However, in May 2022, as a result of government restructuring, both areas were transferred to the Prime Minister's Cabinet Office² and in August 2022, the whole field (together with the 100% state-owned companies responsible for the implementation of the various government developments) was outsourced to a newly created state-owned company, the Digital Hungary Agency. The main purpose of the reorganization was to streamline IT and eGovernment developments and to coordinate strategies, but the fact that these tasks are now overseen by a company rather than by public administration bodies makes the external monitoring and transparency of the implementation of government developments less effective.

However, in December 2022, the new National Digital Strategy for Hungary was published, which builds on the previously adopted MI Strategy, but it is not clear exactly what elements of the Strategy it retains and what it discards, and the role of the Coalition is not spelled out. The Coalition's website was considered to be significantly out of date at the time of writing. However, the scope of the Strategy is undoubtedly broader and more specific in setting out priorities and concerns for digitalisation in the coming years. For the purposes of this research, it is worth highlighting a few elements of the Strategy.

The Strategy has a separate chapter on digitisation of the state, where two major areas of intervention are distinguished: on the one hand, those that can increase the efficiency of the state (e.g. financial monitoring, audit systems, IT tools to increase detection of crime, fraud, etc.), and on the other hand, those that facilitate the relationship between the public administration and citizens. In both areas, significant improvements have been made in the recent past. In addition to these,

the development of the data environment itself will also play a significant role. This is obviously an important aspect, as the above-mentioned improvements can best be achieved if the various databases managed by the state are interconnected (Note, that in the past few years, the government's intention to facilitate interconnection and the re-use of data has been confirmed several times in recent years, with the creation of the Government Data Centre – essentially a hosting service – and the National Data Agency.). The strategy also mentions that various civil society organizations should also play a role in monitoring implementation (however, the NGOs involved that are highlighted in this section are active rather in IT developments and may not necessarily focus on the possible human rights implications and ethical aspects of these developments). The situation analysis shows that problems may arise not only from the fragmentation of data assets, but also from the extended use of different legacy systems and (possibly) the lack of transparency of algorithms – but it does not provide guidelines for solutions, for example, it does not address the regulation of the procurement of electronic IT systems and the transparency of these systems. At the same time, there have long been efforts in Hungarian legislation to ensure that the procurement of electronic IT systems is centralized and regulated, but the reason for this is not so much to ensure transparency, but to avoid duplication and to achieve better value for money. For example, software procurement by public bodies is in most cases managed by a central purchasing body, and there is also a so-called public application development catalog, which provides a snapshot of the entire public software estate. However, this catalogue is not open to the public and, with a few exceptions, is only accessible to public bodies. Most public eGovernment software development is also done through a state-owned company, (a consortium member in essentially all EU-funded eGovernment development projects), which has its own software development team, but many developments are in fact outsourced.

Auditing, compliance and information security audits of electronic software are also carried out by a public body within a regulated framework.

It is also important to draw attention to a fact that was not emphasized in the previous report: the issue of so-called out-of-the-box softwares in govtech.

Mainly banks and companies operating in the field of financial monitoring and auditing have started to massively use software from tech companies that use databases to detect financial fraud and money laundering. Products such as these have also appeared on the government market in a relatively short time, and organizations in Hungary have also acquired them (although it is not entirely clear, with a few exceptions, exactly which organizations have acquired such licenses for what purpose). The issue of their control, monitoring and transparency may be important for the future.

Profiling also emerges as an important field: it is not only used for fraud and risk detection, but also for marketing and customer acquisition and retention (e.g. satisfaction measurement). It is interesting to note that already in 2021, the National Authority for Data Protection and Freedom of Information had to act in the case of a Hungarian bank that used artificial intelligence tools to analyze customer service voice recordings (emotion recognition) to select which customers should be prioritized - but as customers were not properly informed, it was fined heavily. At the moment, we are not aware of a similar case in the public administration, but with the National Digital Strategy making customer-friendly public administration a priority, it is worth bearing in mind the risks associated with this issue.

5.3. Kosovo

As noted in the previous report which highly focused on the algorithm that enables the Case Allocation System for the judiciary institutions in Kosovo, and the rest of the countries, this current edition aims to follow up with the previous findings (published in 2021), and dig a bit deeper into the use of this algorithm, and the others which are used as part of public procedures, including the provision of e-services (Kosovo).

Lack of Defined Legislation/Strategies to support and enhance the use of algorithms in Kosovo.

Although the development of a legal framework or establishment of a regulatory government was one of the key recommendations from the previous research, in Kosovo even to this year no specific law or act hasn't been identified in order to emphasize the development and use of algorithms as part of public procedures, apart from the on-going projects or cases which exist within the public institutions.

In a more general context, the country is reported to be working on its new strategy regarding the Digital Agenda 2030, and a separate strategy in e-Governance. Although the strategic objectives of the Digital Agenda 2030 do not clearly refer to or define Artificial Intelligence and use of algorithms as part of public procedures, one of the included objectives address the digitalization of the public services, and this is expected to be directly linked to the strategy on e-Governance, that ought to have more specific objectives. Both strategies are expected to be finalized and adopted during 2023.

The lack of a national strategy that directly addresses the use of automated systems can be attributed to the limited cases/examples in this area. Not having such a strategy also leaves gaps in not having defined roles among the institutions that are to serve as the main stakeholders regarding the automated systems as a process.

In terms of the Digital Readiness, Kosovo is considered to have a positive level of digital infrastructure as a precondition for the implementation of the digital processes, but there are further constraints that limit the country's potential in this area. According to the survey report conducted by the World Bank on assessing the digital readiness and skills among the public officials in Kosovo, it is identified that more investment in this area is required, and a more coordinated approach in terms of policies and regulations should be considered as key in moving forward in the digital climate.

As for the same report, most of the public officials (66%) as part of the respective survey concluded that they are satisfied with the existing IT services in their institutions, but they emphasized the lack of staff resources to respond to the internal needs in an effective way. This, and the rest of the flagged issues have an impact on the availability and use of algorithms in the public procedures in the country.

Lack of transparency with the public regarding the use of algorithms by the state institutions;

Information to the Kosovo public on the use of algorithms by the state institutions is considered very low. For the existing cases which illustrate the use of algorithms (as included in this research), there is little to no information made public to inform or promote their importance. As some of the algorithms are solely used for internal operations by some of the institutions (Agency of Information and Society), there is one general case which is known to the public - SMIL (Information System for Case Management - Kosovo Judicial institutions). Even this system is not promoted as much to highlight the importance that this system has in automated case allocation as part of the Kosovo Judiciary institutions.

As the institutions note the need for external support in regard to the automatization of the public procedures, the civil society is also expected to play a role in this process. In the case of Kosovo, many of the cases, including the SMIL system, are partially supported by an external donor. The possibility for the local organizations to be a part of this process can be achieved through the support placed by the external donors, or the responsible institutions themselves.

5.4. Poland

Although more than half of Poles are aware that artificial intelligence and algorithms are already widely used in entertainment, learning or shopping, with the development of tools such as GPT-Chat there is an even greater awareness in 2023 that it is algorithms that decide what content we see on social media. The public's knowledge of the increasingly widespread use of technologies that have an increasing impact on their wellbeing is growing. But, despite a far greater number of events and publications dedicated to the use of algorithms in power-citizen relations - too little attention is still being paid to this phenomenon. Work on regulation is accompanied by waiting for the completion of the EU Artificial Intelligence (AI) Act, and there is very little coverage of the digitisation of public administration and justice by civil society organizations. It should be emphasized that the AI Act organizes itself exclusively around AI-based technologies. However, a whole range of simpler algorithms have a huge impact on citizens' rights and obligations, which are neither covered by any regulation or strategy nor are there plans to develop such documents. This still represents a major gap in the system for protecting citizens' rights.

One positive development, on the other hand, is the victory before the administrative courts, in the case described in the two previous editions of the report, of access to the algorithm and source code of the Random Case Allocation System - that is, the tool that assigns court cases to specific judges. These judgments undoubtedly changed the jurisprudence's approach to the transparency of automated decision-making systems. But they also played another important role. They have shown that it is not only politicians and officials who are supposed to act with transparency and accountability. Also the tools they implement should be characterized by these qualities.

Strategizing but not implementing

Poland has been implementing the Policy for the Development of Artificial Intelligence since 2021, which has set quite ambitious goals. But when it comes to fulfilling the obligations flowing from it, the situation is somewhat worse.

It is important to appreciate that among the short-term goals to be completed by 2023, those that address the recommendations made in previous editions of the report are also listed.

These include

- Assessing, in a predetermined manner and scope, the social impact of systems that use AI (in particular the impact on people's rights and freedoms) and developing methods to
- Ensuring security and building public trust and willingness to use AI solutions, combined with democratising access to AI.
- Promoting awareness of AI and its impact on society through the media, including online media;
- Raising the competence of officials in the use of AI tools in state-citizen relations, including countering the risk of discrimination
- Introducing a mandatory ex-ante self-assessment, identifying the problem, the distribution of responsibility for the operation of the system, potential errors (including algorithmic bias) and countermeasures taken.

- The development of a model explanation of AI-assisted decision-making and the possibility of appealing such decisions, particularly if they have a direct impact on civil rights and freedoms

Unfortunately, based on the available data and interviews with those responsible for implementing the Development Policy, it appears that these activities have either not started at all or will be delayed.

At the same time, the lack of a strategic approach to digitalisation (not only that directly related to automated decision-making systems) at the local level is disappointing. A study published by the Institute of Urban and Regional Development concludes that "most of the cities surveyed (60%) do not have any strategic document that addresses the topic of digitisation. It can thus be seen that cities still attach relatively little importance to the issue of digital transformation. Even in large centers, where ICT solutions receive more attention, digitisation issues appear as part of general development strategies rather than the subject of separate studies. According to our research, only 15% of municipalities have a strategy dedicated to smart city and 9% to digital transformation."

In this context, it is worth taking inspiration from the activities taking place around the use of Artificial Intelligence and algorithms in healthcare. Admittedly, it has not been possible to identify cases of implementation of such tools, e.g. in the context of payment of benefits to patients, but the adopted model of technology implementation, e.g. in the area of diagnostics, and the associated concern for patient rights can and should be a model for many offices.

Regulatory attempts

The Minister of Digitalisation, in response to a request for information, responded that for the time being no regulatory work is planned for the implementation of the Artificial Intelligence Act. The authorities are waiting for the relevant EU institutions to determine the final wording of its provisions. It is worth noting, however, that a draft bill on amendments to the Act on Trade Unions (Sejm print no. 2642) has appeared in the Polish Parliament, prepared by the Committee on Digitalisation, Innovation and Modern Technologies, or more precisely the Standing Subcommittee on Digital Algorithm Regulation.

The draft provides for the addition of a provision according to which the employer will be obliged to provide, at the request of a company trade union organization, information necessary for the conduct of trade union activities, in particular information on the parameters, rules and instructions on which algorithms or artificial intelligence systems are based, which affect decision-making and which may have an impact on working and pay conditions, access to and retention in employment, including profiling

While not directly related to the use of tools in government-citizen relations, the impact of algorithms on the labor market and employment standards is huge and work in this area should also be followed. As of the date of publication of the report, the project has not gone beyond the Commission and, from the information received, this will not happen soon. However, it could be a good example for other countries.

Lack of systemic transparency of ADM tools

It is also still challenging to find out what automated decision-making tools are used in public administration, including at the local level. Records of the use of such tools are not kept in any central register and it is hard to find relevant examples using desk-research methods. We asked the Ministry of Justice whether it keeps records of the use of automated decision-making tools in law enforcement agencies such as its subordinate prosecutor's office or in courts over which the ministry exercises administrative supervision. In response to a request for public information, the Ministry stated that it "does not keep records and the activities referred to in the request."

We made a similar request to the Minister of Digitalisation, who is, among other things, responsible for coordinating the implementation of the AI Policy Development strategy. The Minister informed us that he "does not maintain a register/collection/list (even in working form) of computer programmes implemented and used in public entities to support decision-making." In addition, in the response provided, he indicated that he "does not know if other bodies keep records of problems/accidents/rights violations caused by automated decision-making programmes/algorithms or related to their implementation." Given that this is the only public authority responsible for coordinating the digitisation of the state, it must be inferred that no other institution maintains either similar registers and records or has systemic knowledge of possible problems with the functioning of automated decision-making tools.

This also means that there is no possibility to systematically assess the challenges and gather evidence that would help to better address solutions to potential problems. The only institution that - albeit in an ad hoc and insular way - can assess problems with digitisation in the area of law enforcement, the judiciary or at the local level is the Supreme Audit Office.

It is the latter that carried out, among others, an assessment of the computerisation of courts in 2020, issuing, inter alia, a very critical evaluation of the process of implementation of the system of assigning judges to cases described in previous reports (Random Case Allocation System: SLPS). The Office controllers concluded its audit finding that "the shortcomings in the achievement of the deliverables and the incomplete launch of all functionalities of the SLPS system prevented, until the end of the audit, the realization of the project's objective, which was to build an IT system ensuring the random and even allocation of cases to judges, court assessors and legal secretaries."

In addition to registering the use of the tools and the problems that are associated with their functionality, there is another extremely important dimension to the transparency of their operation. This is access to detailed information describing the operation of an algorithmic tool. Such information may be described in the algorithm itself, which the system uses, or in its source code.

A landmark ruling on the disclosure of the algorithm occurred just after the alGOVrithms 2.0 report was issued in April 2021 on access to the Random Case Allocation System for judges. In it, the Supreme Administrative Court, stated. "[t]he mode of operation of SLPS provided for in its algorithm (sets of individual instructions implemented by the System) is information about the sequence of activities leading to the appointment of a specific judge to deal with the case. The fact that this sequence of activities is implemented by a computer program and therefore it is of a technical nature, cannot deprive this information (on the manner of appointing a judge) of a public information nature.

The applicant organization is right that the SLPS algorithm in the circumstances of this case is not only technical information but is an expression of a procedure closely related to the direct situation of the citizens whose cases are being examined. The technical nature of this information is due solely to technological progress.”

In a later case, also involving the Random Case Allocation System, the Supreme Administrative Court held that, for similar reasons, the source code of this system, and thus much more detailed information, should also be made available through a Freedom of Information request. Both judgements confirm that technologies using algorithms to make decisions in the area of government-citizen relations must be as transparent as possible. However, these are precedents so far, and while they may be an excellent argument for increasing the openness of the technology's operation, they do not in effect translate into systemic solutions. So far, according to information gleaned from both Freedom of Information requests and interviews with those working on the subject in government, there are no concrete legislative proposals mandating, for example, the release of the source codes of such tools at all times. It should be mentioned that, when implementing the EU Open Data Directive, Poland has allowed the source code of a 'computer program' to be made available for reuse. This provides a gateway to obtaining detailed information on the operation of automated decision-making systems. However, this is not an explicit obligation and the decision is left to the discretion of the public body.

The problem of lack of competences of public officials.

Another challenge related to the use of automated decision-making systems is the lack of adequate competence among those who work in public offices. As shown, for example, by a study conducted by the Institute for Urban and Regional Development in 2022 adequate training is not even provided for the implementation and use of much simpler and less risky tools for human rights. To show the scale of the problem, it is worth recalling at this point some of the data that the authors of the aforementioned report managed to compile.

Even though almost 84% of cities employ their own ICT specialists, one in three centres still relies on additional assistance from external contractors for the IT support of the office. The highest number of such situations occurs in cities with more than 200,000 inhabitants, where the largest number of tasks related to digitisation and the greatest competition for employees takes place. More than half (59%) of cities provide their employees with ICT training, of which 82% provide training to all employees and 69% to ICT specialists. The development of employees' digital competences is taken care of by almost all of the largest cities (94% of cities over 200,000 inhabitants).

It is worth noting that the Minister of Justice has scheduled a conference on the use of automated decision-making tools (including those based on Artificial Intelligence) in the administration of justice for April 2023 (and thus after the publication of the report). According to the Minister's Plenipotentiary for Computerisation, the conference is to be the first step towards systemic competence building of officials and implementation of these tools in Polish courts and prosecutor's offices.

Lack of competence of organizations and citizens.

As we have mentioned in previous alGOVrithm reports, it is also essential to build the digital competences of NGOs and residents. This is the only way to create a comprehensive system for identifying errors and presenting systemic solutions. Unfortunately, the number of trainings organized by the authorities (both at central and local level) did not increase in the period studied.

The authors of the report of the Institute for Urban Development also looked at whether local authorities support the building of digital competences among their residents. The Institute has found that a “small proportion of cities (39%) supports the development of digital competences of their inhabitants through training. A smaller number of cities (39%) support the development of digital competences of their inhabitants through training. (60%), with cities of 20-50,000 inhabitants performing less well than average. (32%).” What is also important is that, most often, 'competence building' among organizations and citizens consists of, very important but not relevant to the problems with automated decision-making systems, training on cyber security risks or disinformation. NGOs themselves largely lack the competence and resources to provide training on ADMs and the risks associated with their use.

EXAMPLES OF AUTOMATED (DECISION-MAKING) SYSTEMS

In the absence of an inventory of information systems supporting or performing public tasks, it is again not possible to provide an exhaustive list of tools. Knowledge of them can be gained mainly by analyzing the content of public procurement notices or promotional material from central and local governments. The tools described below are therefore by no means an exhaustive list of the systems used. They are only meant to show certain trends in their implementation. There is also little data about many of them. The practice of not having access to algorithms and source codes was mentioned above, and the data available to the public (or on Freedom of Information request) is residual

As part of this study, we identified the following list of automated decision-making systems used in the targeted countries (see Table 1).

Poland	Kosovo	Hungary	Czechia
Random Case Allocation System.	SEMEK (The System for Request Management - ASHI)	Fraud detection and selection	Face recognition on Prague airport
Receivables Enforcement Management System (SZOPEN)	SMIL (Informative System for Case Management - KGjK):	VEDA ('Robocop') System operated by the Police	Parking control
System to reduce electricity consumption in Schools	SEMS (Electronic System for Managing Students)	Justice System	Issuing weather warnings
	Busulla.com		

6.1. Case Allocation Systems

6.1.1. Random Case Allocation System (Poland):

It is worth starting with a description of the information that has been accessed through a court proceedings from the Minister of Justice in Poland on the Random Case Allocation System. As mentioned above, the Supreme Administrative Court ordered the release of the system's algorithm. The Minister has complied with this judgment and the description of the algorithm has been published on the office's website. To date, however, the Minister has not implemented the judgment in a similar case, in which the Supreme Administrative Court also ordered the source code to be made available.

Meanwhile, according to specialists, only by making the source code available, i.e. also a description of the manner of implementation of the algorithm, will it be possible to make a full assessment of its operation. Thus, only then will it be possible to determine whether the system, for example, is truly random and the allocation of cases is based on fair and objective principles. One safeguard that was introduced by the Ministry of Justice, which helps the parties to find out how the system worked in their case, was the decision to prepare a printout showing the judges who took part in the draw, together with different weights of allocation depending on their workload or other functions in the court. The printout with this information and the details of the judge who was drawn is attached to the case file and the parties - in case of any irregularities found - can try to challenge the result of the draw. Despite the inability of external experts to confirm whether the system is functioning properly, there have been no reports of problems in the draws in the last two years. It can be assumed that the errors previously revealed in the aforementioned report of the Supreme Audit Office and in numerous press materials have been rectified.

This does not change the fact that the implementation of this system is an example of how it should not be done - the testing and consultation phases with the judicial community were omitted, and transparency was only ensured through the determination of NGOs.

It is noteworthy that among the medium-term goals of the AI Development Strategy (to be realized by 2027) is the implementation of electronic document management systems, including with the use of AI, in public institutions and therefore also in courts. Experts also suggest a number of other tools that should be implemented to improve the functioning of the judiciary. Among others, they mention chatbots for contacting clients, but also more sophisticated tools for preparing the content of orders in simple and repetitive cases. So the topic is certainly a developing one.

6.1.2. Informative System for Case Management - SMIL (Kosovo)

As reported in the previous edition of this research, the Kosovo Judicial Council (KJC) has been using the SMIL (Informative System for Case Management) since 2013. Supported by different donors, this system is the most widely used algorithm in terms of the public procedures in the country. This research continues to focus on the algorithm that SMIL uses to allocate cases to the judges.

As reported currently by the KJC itself, the SMIL is currently being used by all the judiciary institutions in Kosovo, including the Basic Court, Appeal Court, the Supreme Court, and the Prosecutorial (from the central level). Therefore, the system is being used in all judiciary cases (civil, criminal, economic, and other cases). SMIL as a project continues to be financed by the Norwegian Ministry of Foreign Affairs, as well as the KJC and KPC.

During the past few years, as reported by KJC, the following functions have been further integrated, and updated into the system:

- Automated distribution of cases in all courts of Kosovo;
- Registration of old subjects in the SMIL system;
- Electronic court-prosecutor connection and vice versa;
- Interconnection between the SMIL system with ARBK (Agency of Registering Businesses in Kosovo) and ARC (Agency of Civil Registry);
- Interconnection between the SMIL system and the web-portal of the courts;
- Advanced statistical reports;
- Case tracking mechanism and Open Data Platform;

The SMIL is a project of special importance for the successful implementation of reforms in the Justice System in the Republic of Kosovo and the modernization of courts and prosecution offices, therefore the responsibility for its implementation is in the hands of the two national bodies, the Kosovo Judicial Council and the Kosovo Prosecutorial Council.

The Norwegian Judicial Administration (NJA) monitors the implementation of the project, offering qualified expertise related to the implementation of the project and continuous support for the implementation of judicial reforms in Kosovo. For the maintenance and administration of the system on a daily basis, the IT departments in KJC and KPC are responsible. Audit reports are done annually, as well as progress reports regarding the implementation of SMIL which is sent to the NJA.

The judiciary officials require training in order to use and engage in the SMIL. The training team regarding the SMIL is located in the courts and the prosecutor's office and are responsible for training, retraining and assisting judges, prosecutors and all staff in the courts and the prosecutor's office to use the SMIL system. Important training in the field of ICT has also been provided for the IT staff in the KJC and KPK, as well as for the regional IT staff in the courts and the prosecutor's office.

The goal of implementing SMIL is for Kosovo as a country to have a more efficient judiciary, professionally prepared human resources, as well as better management of courts and prosecutors' offices, offering a faster and easier access to the citizens in the justice system.

Another component of implementing SMIL is the Case Tracking Mechanism (CTM) and the Platform of Open Data. The CTM is the digital tool which allows citizens to access individual court case records online. This tracking mechanism is accessible to all citizens of Kosovo through a verified authentication procedure through the eKosova platform.

After successful identification through eKosova, CTM will check if the individual is involved in at least one legal case in SMIL (Case Management Information System).

If the individual is not involved in at least one legal matter, he will not be able to use the CTM.

The Open Data Platform offers the general public and any internet user access to judicial statistics related to the work of courts and judges in Kosovo. This platform is a digital mechanism that enables users to receive and analyze non-personal and non-protected data from the Kosovo Case Management Information System (SMIL).

Another algorithm which is expected to further assist the work of the judiciary in Kosovo includes the EUKOJUST project. The aim of this project is to develop the system for judges' files. The system aims to collect the data (files) of judges from the recruitment phase in which they were employed until their retirement or release.

This system will consist of the following modules: Recruitment Module, Promotion Module, Training Module, Performance Evaluation Module and Disciplinary Module. A local company has been contracted to continue with the development of this system during 2023.

6.1.3. Electronic Court Case Management System (Hungary)

A key issue for the present research was the allocation of judicial cases. In Hungary, an electronic court case management system (BIIR) has been in use for some time, but the allocation of cases is the responsibility of the leaders of the individual (more than one hundred) courts within the framework of the rules set out in the instructions of the President of the National Office of the Judiciary. Interestingly, this instruction also allows the allocation of cases by computer algorithm, which is currently only applied (and only partially) by the Metropolitan Court of Budapest, as far as we know.

At the same time, it is important to point out here that in the so-called conditionality mechanism, the Hungarian government undertook to create a requirement for the Curia to automatically allocate cases coming to the Curia on the basis of a (random) algorithm. The government has already submitted a draft law on this subject to public consultation, but human rights organizations have argued that it is only partially suitable for preventing abuses in the allocation of cases and have suggested that the automated case allocation system should be extended to lower courts.

6.2. Automated Systems in Control and Management Processes

6.2.1. Receivables Enforcement Management System (SZOPEN, Poland)

The tool is being developed by the Minister of Finance and is expected to use solutions based on Artificial Intelligence. It is expected to be ready within a few months and would enable, among other things:

- automation of settlements (including enforcement costs and commissions);
- automation of queries made in connection with the search for the debtor's assets to internal and external databases maintained within other IT systems, e.g. Land and Mortgage Register (real estate), Central Register of Vehicles and Drivers (vehicles), OGNIVO (bank accounts); Social Insurance Institution system (employer, principal);
- automation of seizures of taxpayers' bank accounts;
- greater use of data from the Single Control File_VAT registers - with regard to current receivables and the Teleinformatics Clearing House System "STIR" (already described in alGOvrithm 2.0) - with regard to bank accounts.

The Ministry of Finance has not indicated how exactly such automatic blocking of funds in a bank account would work in practice. Above all, it is unclear to what extent the human factor will be involved in the operation of the system. For example, if the algorithm finds funds in an account and before the funds are blocked, this will be verified by officials. Perhaps, as in the case of the STIR system, the verification will already take place after the system automatically blocks the money in the taxpayer's account.

Such systems - as they directly affect citizens - must guarantee that it is possible to identify those responsible for any problems. Mistakenly blocking funds in an account can have far-reaching negative consequences, so the transparency of the system should be as high as possible. Which is not to say that all information about its functioning should be made available. It is acceptable in the case of similar tools that some data, the disclosure of which would help dishonest taxpayers to 'cheat' the system, should only be left to a limited group of people. The authorities responsible for its operation should, however, act to allow full scrutiny by specialized external experts.

6.2.2. The System for Request Management - SEMEK (Kosovo)

As the responsible body for the technical implementation of the digital strategies in the country, AIS (Agency of Information and Society) has developed the SEMEK for its internal use, and to coordinate its work with the line institutions.

This management system is used by AIS, and a few other public institutions, however the main role (as the administrator) regarding SEMEK has the AIS. SEMEK enables all the public institutions to issue a specific request via email which is automatically sent to ASHI as registered in SEMEK. Then the system automatically assigns each request/ticket to the responsible departments of AIS within 24 hours. The work in each of these requests is registered and documented through this system, which also notifies when the work should be completed.

The system has been developed seven years ago, and lastly has been upgraded two years ago, with a few added features which enable the requests to have a better categorization and timeline.

No regulation is reported to exist through which the platform should function, despite the personal data privacy practices, and other administrative criteria that the platform ensures.

The future goal of SEMEK is to be used or integrated in all the public institutions of the country, since this system is reported to have many benefits for the AIS in terms of how they coordinate and implement their internal tasks. SEMEK as a project has been supported by OSBE and GIZ Kosovo, and at the moment the World Bank is seen as a potential supporter regarding the integration of this system in both the local and central level in the country. This idea is in consultation with the Prime Minister's Office in Kosovo.

6.2.3. Flexible Tax Audit Decision Support and Data Mining System (RADAR system , Hungary)

One of the oldest continuously developed systems in the country is used by the National Tax and Customs Administration, the so-called RADAR system (Flexible Tax Audit Decision Support and Data Mining System), which was developed in the mid-2000s. This specialized system collects information from several databases and helps the tax administration to select individuals, transactions and companies for tax audits based on predefined risks.

The system already had a module (RIASZT-ALERT) at an early stage of development, which, for example, alerted on sudden changes in taxpayer behavior, and a subsystem called KoKaIn (a Hungarian abbreviation of INformation list of risky connections), aimed at mapping the network of tax evaders. This system looked for the contacts of managers, owners and officers of tax evasive companies with owners, officers and managers of other companies.

Over the last ten years the system has become more and more complex, among other things because invoicing (e.g. online invoices, electronic cash register), road registers have been made electronic, but we can also mention that the central UBO register in Hungary is also managed by the tax authority. Thus, in practice, a huge digital data repository has been created, and the tax authorities can essentially see all transactions, ownership records, tax returns and even whether a company issuing an invoice, for example, has the equipment or the number of employees to realistically carry out the invoiced work. As far as we know, the database itself is currently running on an Oracle platform and the various fraud detection applications in a SAS environment (the server itself and the data mining were also done with tools developed by SAS), while individual software developments to meet specific needs of the authority were done by in-house developers or external contractors. Although some of the details of the development of the system are not public for reasons of national security, procurement notices reveal that the tax authority is currently using SAS' Detection and Investigation for Government software for the RADAR system, which also uses artificial intelligence to detect fraud - it is worth noting here that the procurement was made through a negotiated procedure without publication of a contract notice due to the exclusive rights, and the notice highlighted the huge costs involved in moving from a legacy system. Meanwhile, it is worth highlighting that also

within the tax authority, an Artificial Intelligence Working Group was formed in 2022, with the aim of exploring further ways in which the authority can use artificial intelligence to make more efficient use of its vast data assets.

It is also worth mentioning here that from 2022, certain publicly funded construction projects are required to use a so-called "Glass Gate", a smart access control system that records who (employees and guests) enters the construction site. The data generated here is accessible to building inspectorates, employment and tax authorities, and the tax authority's 2023 audit plan already includes an audit of selected investments based on the risk assessment using the glass gate data. Building contractors essentially have a free hand in choosing which company's smart access control system to buy, with most of those on sale and the demonstration model itself capable of biometric identification (3D facial recognition) and blood alcohol level and body temperature measurement, although the latter data is not transmitted to the government database

In the case of the fraud screening and detection system, it is important to underline that the selection for screening is not automatic, i.e. human and institutional biases may play a role in whether cases that are suspected fraudulent by the system are actually screened.

Information is also available on other tools used by public administration bodies to detect crime and fraud. For example, the Directorate General for Audit of European Funds uses Caseware IDEA software for sampling to screen for risks related to the use of EU funds. This system is also audited by the Commission and the European Court of Auditors. For the purpose of auditing EU Funds, Managing Authorities also use national data mining tools for the use of EU funds, and (from the second half of 2022) the ARACHNE system provided by the Commission.

6.3. Algorithm Systems related to School/Education Sector

6.3.1. Electronic Student Management System (SEMS, Kosovo)

SEMS as the Electronic Student Management System has been in operation for almost 10 years now, serving as a reflection of the administrative processes at the University of Prishtina (UP). The system was created by a contractual company, and its algorithm follows the administrative requirements of the main public university in Kosovo. The system as such enables the enrolled students, and the academic staff of the university to interact online regarding the process of school work, and administrative processes in terms of subjects.

However, the challenge with SEMS lies in the insufficient knowledge of digitalization by politicians and decision makers in the education sphere. Despite this, there has been a big improvement in recent times, with politicians and decision makers starting to recognize the technological possibilities presented by SEMS and similar systems.

6.3.2. System to reduce electricity consumption in schools (Poland)

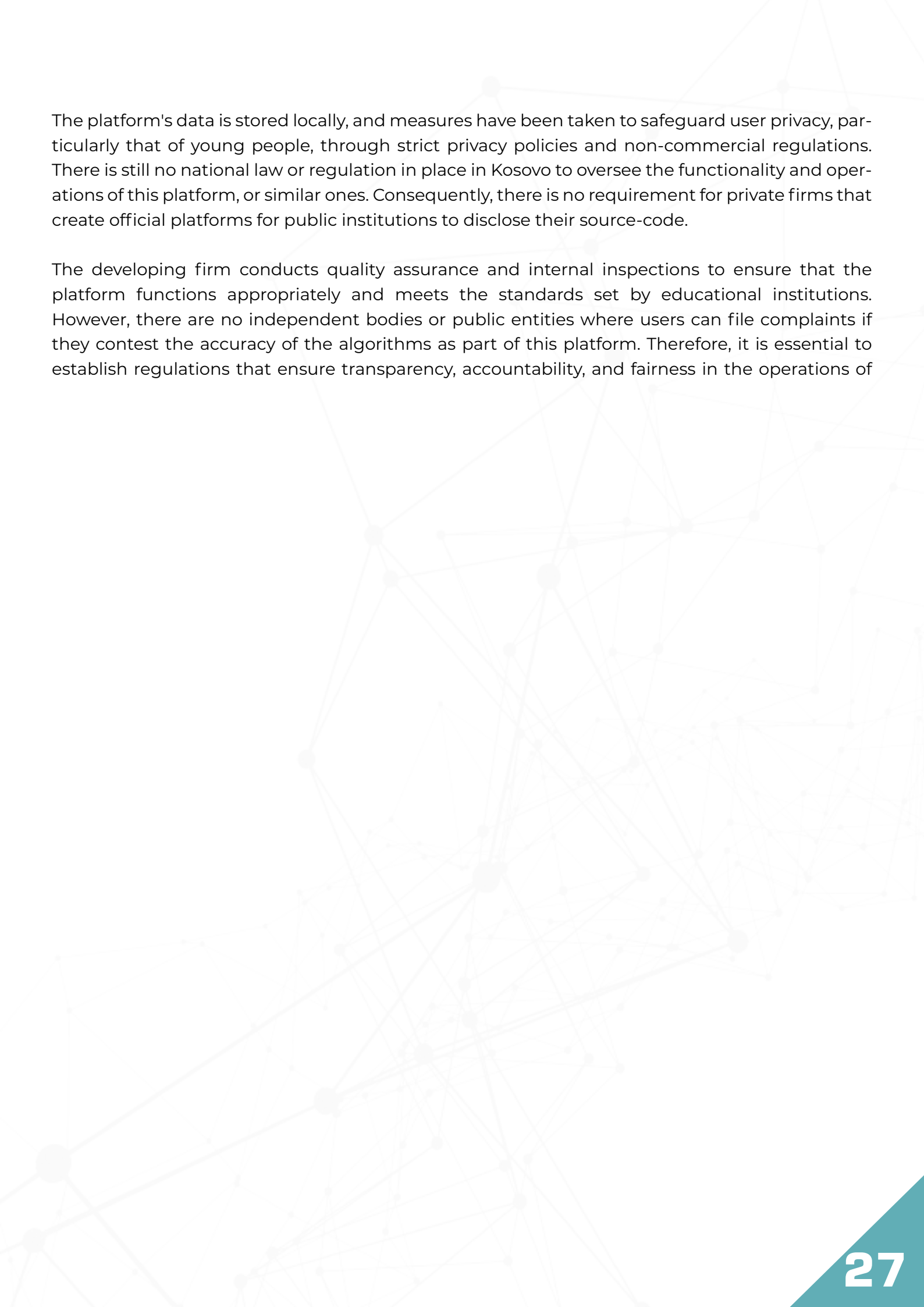
An example of the use of Artificial Intelligence and a system to support decision-making in the spending of public funds is the system piloted at a school in Zduńska Wola. It collects data on energy consumption from the grid and on the energy produced by the photovoltaic panels installed at the school. Measurements from the meters are sent via the internet to the cloud and analyzed in a system developed by the manufacturer, one of the startups. Algorithms, based on the collected data, then perform analyses and are expected to make recommendations for changes to reduce electricity consumption. The school's timetable has also been fed into the system, so that the system calculates energy consumption per pupil in real time. According to city hall officials, "The algorithms will also check whether, for example, starting classes half an hour earlier will increase the use of electricity from the photovoltaic panels. This would mean less electricity drawn from the grid and savings." The algorithm itself is not available and is not owned by the authority. Its ownership remains with the company that implements the solution.

This is an interesting example of a tool that indirectly affects the lives of residents and shows that the operation of such systems can have a strong impact on budgets and changes in everyday behavior. On the one hand, it can provide large savings, but this can be forced by a change in the operating hours of a school (or workplace), thus affecting the need for students to adapt to the new schedule.

6.3.3. Busulla.com (Kosovo)

The web application/platform: busulla.com utilizes algorithms for determining suitable professions based on personality type, work values, and potential tests. The platform is not limited for use by a target audience, however the young graduates in the country are the ones to mostly use it.

The platform has been created with the support of an external donor.



The platform's data is stored locally, and measures have been taken to safeguard user privacy, particularly that of young people, through strict privacy policies and non-commercial regulations. There is still no national law or regulation in place in Kosovo to oversee the functionality and operations of this platform, or similar ones. Consequently, there is no requirement for private firms that create official platforms for public institutions to disclose their source-code.

The developing firm conducts quality assurance and internal inspections to ensure that the platform functions appropriately and meets the standards set by educational institutions. However, there are no independent bodies or public entities where users can file complaints if they contest the accuracy of the algorithms as part of this platform. Therefore, it is essential to establish regulations that ensure transparency, accountability, and fairness in the operations of

6.4. Intelligent Monitoring/Surveillance algorithms

6.4.1. The Véda-KAFIR-ROBOTZSARU (Robocop) System operated by the Police (Hungary)

It was previously reported about the Véda-KAFIR-ROBOTZSARU ('Robocop') System in Hungary. Véda is an intelligent road traffic camera system, which provides data to KAFIR (Közlekedésbiztonsági Automatizált Feldolgozó és Információs Rendszer - Traffic Safety Automated Processing and Information System). Together with the solutions provided by Robocop ('Robocop'), an integrated administration, case processing and electronic records management system, basically the main software of the police, fines for road traffic violations are almost automatic.

The system was set up under an EU program between 2012-2015, and (at the moment) it consists of 365 fixed and 160 mobile, intelligent cameras. The cameras capture the speeding or other offenses, record the registration number, speed of the vehicle, the coordinates of the location and the date and time of the event and they transfer the data to KAFIR which cross-checks data with the traffic registry (e.g. if the vehicle is stolen) and uploads data together into the Robotzsaru IT system, which classifies and transmits the generated files to the responsible authority. Until this point there is absolutely no possibility of human interference, and in case the infringement is punishable under no-fault liability and the data is unquestionable, even the decision is made automatically, however, there is an ex-post check by the administrator.

While procurement documents and excerpts of the contracts are available, little can we learn from them about troubleshooting and auditing. However, here too, a problem may arise from exclusive rights related to the software used in the cameras (e.g. for number plate recognition), which, in essence, creates another legacy system.

6.4.1.1. Other examples about mass surveillance and predictive policing in Hungary

In 2021, one of the most popular settlements on the shores of Lake Balaton installed a camera system capable of facial recognition on its busiest promenade, i.e. public space, with the aim of quickly detecting crimes and filtering out criminals. However, questions were raised as the equipment was supplied by the same Chinese company that produced the camera system used in China for mass surveillance of Uighurs. The system installed in the Hungarian municipality was not linked to other systems (such as police databases), but is theoretically capable of tracking the movements of individuals using facial recognition - this in itself raises data protection issues, although the National Authority for Data Protection and Freedom of Information's investigation found that this function was not activated.

Even bigger than this, a so-called Dragonfly system was launched, which – infrastructurally – allows mass surveillance. This system transmits images of various CCTVs to a central database (the Government Data Centre, which is a hosting provider) - this is planned to include over 35,000 cameras, including not only those in public areas but also those in stadiums, banks etc. The idea for the database was first mooted in the context of the 2015 refugee crisis, and not coincidentally, it was later revealed that some of the perpetrators of the Paris terror attacks had visited Budapest in the preceding months.

Even more embarrassing, that since the project did not purchase the source code in 2015, a legacy system has been created, i.e. only one company is currently able to carry out the development tasks related to the database, due to the exclusive rights.

Human rights advocacy groups and the data protection authority have also expressed concerns in 2018 about the lack of guarantees on who can access CCTV footage in the central database and under what conditions. Although the data protection authority's concerns have been incorporated into the relevant draft law, in theory, the database can be accessed by, for example, national security services without prior authorisation from an external monitoring body and even face recognition software can be used on them under the National Security Services Act.

However, according to various sources, at the moment, the National Security Service does not conduct mass surveillance for preventive purposes.

Should also be noted that predictive policing and automated decision-making based on these policies also exists in Hungary under other EU legislation - the Counter-Terrorism Information and Crime Analysis Centre performs automated risk analysis based on passenger data (PNR and EITAS), and conducts individual reviews based on this. This system is governed by EU rules - obviously, little information is available on how it works in practice for national security reasons.)

6.4.2. Face recognition on Prague airport (Czechia)

The system in place at the Prague airport automatically scans all people at the Prague Václav Havel Airport. It sends the information to a police server and the server runs detection against the database of persons wanted by the police.

The system was built in 2018 and is regulated by several different legal documents. It was built based on the Decision of the Government, the access to the system is regulated by the Police Act; Act on the Intelligence Services of the Czech Republic, and Act on the Customs Administration of the Czech Republic.

The algorithms used in this system are not public and the law-enforcement agencies running this system are secretive about details about it.

6.4.3. Parking control (Czechia)

In the Czech Republic, several cities have implemented regulated and paid parking zones marked by color on the roads. However, the system is not uniform across all cities. For instance, the "blue zones" in Prague are designated for residents only throughout the day, while in Brno, they are reserved for locals solely during the night.

Typically, these zones are paid, with fees paid in several ways. One option is a one-time fee for a particular period, which can be paid at automatic vending machines situated on the street. Once the payment is made, the driver places the paper ticket on the vehicle's front window, or their details are registered in an online database. Alternatively, long-term parking fees are paid for a year, and these systems employ stickers for the front window or records in an online database. Several exceptions are available for individuals such as disabled people, police, ambulances, and electric car owners in specific cities.

To ensure that car owners pay for their parking in the designated location, the municipal police conduct checks either in person or using automated technology, or sometimes a combination of both. Prague and Brno, the two largest cities in the Czech Republic, use a similar automated process to enforce parking rules. We concentrate on the case of Prague in this chapter.

6.4.3.1. Description of the system in Prague

The system has been running since 2019, and for almost 4 years was run by the company Eltodo. The Municipality of Prague has contracted a different provider of the system called Iterait in 2022, a private company, to manage its parking system in cooperation with the Municipal Police. Every payment or exception from payment is recorded in an online database, linked to the car's registration plate.

The Iterait system uses cars equipped with cameras on their roofs to monitor the paid parking zones. The system ensures that every street with a paid zone is checked at least once every two days. The cameras capture continuous images that are sent to Iterait servers. The servers then use image recognition technology to check each registration plate against the database of paid fees. If a vehicle is found to have an unpaid fee, the evidence is sent to the Municipal Police, who automatically generate and send the fine to the vehicle owner. The municipality office handles the case legally at the district level.

The company Iterait promotes itself as "building complex AI solutions". The algorithms used during the process are not publicly available. All the decisions should be overviewed first by a human who is a member of the Municipal police.

6.5. Others cases of algorithms/methods used in Hungary & Czechia

6.5.1. Other citizen-oriented methods used in public administration (Hungary)

As mentioned above, making public administration more efficient in dealing with, for example, irregularities or crime detection is only one part of the effort to make public administration more digitized, the other is to facilitate customer-friendly methods in public administration (i.e. citizen-oriented public administration).

Since 2016, there has been legislation allowing for the de facto automatic decision-making in certain cases, if:

- a) so permitted by an act or government decree,
- b) all data and information is at the authority's disposal at the time the application is submitted, or can be obtained through automatic information exchange
- c) the decision requires no deliberation, and
- d) there is no adverse party.

Because of these strict conditions, at the moment, the cases where automated decision-making is allowed are generally initiated by the client, and most of them are related to either some form of normative subsidies or an issuance of different documents (e.g. driving or parking licenses). That means that in this category, at the moment we cannot speak of really complex algorithms, systems are basically just cross-check the availability of necessary documents required by the law. At the same time, an EU project is developing a work-flow for more complex decision-making procedures, but this project is in a continuous delay, with a target date of end-June 2023. Though, in the first phase of these plans, presumably only a general decision process model will be developed.

In the meantime, developments in public administration have also started to deploy AI tools:

-Government Customer Service Kiosk, which were installed at several government customer service points in 2022, where AI performs facial recognition, i.e. it compares the customer's image with previous ID pictures stored in the database, but does not create a profile beyond that; and "chats" using deep learning algorithms, including TextToSpeech and VoiceTo-Text, which can be used to handle both customer and business gateway issues. (The government's video chat client line also uses this technology, i.e. face-to-face comparison, but does not perform profiling in other respects.)

³ The latter provision was amended in 2021, precisely to improve the automated decision-making system. This suggests that in the future the interconnection of databases managed by the state may be accelerated - it is another question that this may be hindered by legacy systems used by different agencies, although since 2021 it is a strong government intention to test all new

6.5.2. Issuing weather warnings

The Czech Hydrometeorological Institute (CHMI) runs a system that issues weather warnings based on weather forecasts to protect the public from hazardous weather conditions. The system is designed to ensure that organizations receive timely and accurate information regarding weather conditions, enabling them to take the necessary precautions and minimize the risks associated with severe weather.

The system relies on several sources of information, including data from meteorological satellites, radar, and weather stations across the country. This data is processed using advanced computer models that can predict the development of weather systems accurately. Using these models, the CHMI can issue weather warnings for different types of weather events such as thunderstorms, heavy rain, snow, and high winds.

When a weather warning is issued, it is broadcasted to the public via various CHMI platforms, including websites, direct messaging, and social media channels. The warning provides a detailed explanation of the expected weather conditions, including the duration,

location, and intensity of the event. Additionally, the CHMI provides guidance on the appropriate actions that individuals and organizations should take to minimize the risks associated with the weather event.

The system is continuously monitored by CHMI personnel who closely observe weather developments and update the warnings accordingly.

The system consists of two basic parts: the prediction models and issuing of the warnings.

THE WAY FORWARD: Policy Recommendations

Given the specificities of each of the states studied, both in terms of political culture and general technological advancement, we have chosen to make recommendations separately for each country. However, it is possible to identify universal solutions that should be implemented, both in each of the countries studied and wherever there are ambitions for IT development to be correlated with concern for human rights and democratic values. These are:

-Introducing a systemic framework for algorithmic transparency:

This should be based on several levels. Clear communication, e.g. on the website of the entity that implements the algorithm, of the basic principles of the algorithm. What data are used, what are the mechanisms for combining them, who is the author of the technology, who is responsible for its operation and, finally, how to complain about the outcome of the adjudication. The next level is to make the content of the algorithm and the source code available. In principle, ADMs used by public authorities should be based on so-called open source code.

-Capacity building among officials and representatives of civil society organizations:

There is an urgent need to strengthen digital knowledge and competences among those who use ADM and those who can assess their performance, e.g. against discrimination risks. Training, although conducted separately for each of these groups, should also include elements of a clash of different perspectives - civic and official.

-Introduce a systematic framework for evaluating ADM performance:

This should take place as early as in the planning phase of the creation or purchase of the tool, but also throughout the life cycle of its use. Civil Society Organisations and independent audit institutions should be important actors in this process.

Based on the findings from each of the targeted countries, the following recommendations should be taken into consideration:

Czechia

-There needs to be a clear legal framework regulating the use of alGOVrithms.

As demonstrated in the case of face recognition at Prague airport, the system was regulated by several legal documents and there are still important open legal questions about the system. This is an important step towards ensuring that the use of alGOVrithms is done within a legal framework that is transparent and fair.

-Transparency should be a key element of any alGOVrithm system.

The algorithms used in the face recognition system and the parking control system are not publicly available at all. Therefore, there should be a push towards greater transparency in these systems. Algorithms used in public systems should be made available for public scrutiny to ensure that they do not perpetuate errors, biases or discriminatory practices.

-There should be an independent oversight mechanism in place to ensure that alGOVrithms are used ethically and responsibly.

The oversight mechanism should be an independent body with the power to audit and scrutinize the use of alGOVrithms in different areas, including public safety, parking control, and weather warnings.

-There should be a push towards the use of open-source algorithms in public systems. Open-source algorithms are algorithms whose source code is publicly available, allowing anyone to review, modify, and use them. This approach can help promote transparency and accountability in alGOVrithm systems.

-There should be an effort to educate the public about alGOVrithms and their use in different areas. The public needs to be informed about the benefits and risks of these systems. This can be done through public awareness campaigns, public consultations, and community engagement initiatives.

Hungary:

Transparency should be a guiding principle:

-Legacy systems and out-of-the-box IT-software for ADM need to be revised in order to be replaced by open-source solutions

-a central, governmental database should be established, where the public can access information on all alGOVrithms where automated decision-making and profiling takes place.

Education is the most important factor in near future:

-Stakeholders must be provided with comprehensive and understandable information about their rights.

-Fundamental rights approach should be also disseminated in the public administration, especially in areas where such ADMs are developed, designed and procured.

-Creating a civil and stakeholder dialogue with public authorities

Kosovo:

National Strategy to Support the use of AI in public procedures

-Include a specific objective that refers to the use of Artificial Intelligence (AI) (use of algorithms in decision making) as part of the Digital Agenda Strategy, or the e-Governance strategy for Kosovo;

Creating an AI Register

-After implementing the first recommendation, it is important to develop a public AI Register as a standardized and accessible tool to document the decisions that were made in the process of developing and implementing an algorithm in the country's procedures.

Promotion of the Existing alGOVrithms

-Focus on promoting the existing cases regarding the use of alGOVrithms as part of public procedures, and inform the public regarding their importance;

Better interoperability

-Ensure better interoperability among the state institutions (both central and local level) regarding the implementation of algorithms that aim to advance automated decision making;

Poland

-Implement legislation imposing a clear obligation to make available the description of the operation of algorithms, as well as to publish a source code of automated decision-making systems. Restriction may only arise in strictly defined cases such as security or narrowly defined business confidentiality.

-The implementation of an automated decision-making system that affects citizens' rights and obligations must be compulsorily preceded by an impact assessment taking into account, inter alia, the effects on the risk of discrimination. Particularly in the case of tools implemented by the judiciary and the prosecution.

-There should be systemic efforts to improve the competence of officials (but also, for example, judges) responsible for implementing and operating automated decision-making systems. Especially with regard to the evaluation of potential risks to human rights.

-It is also necessary to organize systemic activities for increasing the competence of representatives of NGOs, journalists and academics in identifying specific risks arising from the operation of automated decision-making systems.

-Public institutions (both those operating at the local and central level, as well as courts and prosecutors' offices) should publish well in advance plans for setting up or procuring automatic decision-making systems, together with basic information on the intended purposes of their operation.

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The background features a complex network diagram with grey nodes and lines. A teal square is in the top right, and teal horizontal bars are on the left and bottom left. The title 'alGOVrithms 3.0' is in a dark blue font.

alGOVrithms 3.0

How automated are our public procedures: Czechia, Hungary, Kosovo, and Poland