THE LAW OF THE ALGORITHMIC STATE IN CENTRAL AND EASTERN EUROPE. COMPARATIVE REMARKS

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Abstract

The paper aims to provide some concluding remarks on the law of the algorithmic state in Central and Eastern Europe. It presents the main findings emerging from a comparison of the experiences of the selected jurisdictions and sheds light on the current state of the art concerning the digitalisation process, the legal frameworks for automated decisions, the level of e-government and digital administration development, as well as the extent to which Artificial Intelligence (AI) is being adopted in administrative activities, the sectors involved, and the emerging issues. The legal systems being considered are compared and contrasted, emphasising both their similarities and differences. Lastly, the results obtained from this collective work leave the floor open for a discussion of the issues and also suggest further areas of research.

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1. Introducing the Conclusions

In their opening remarks, Marta Infantino and Mauro Bussani stated that the general aim of this special issue is to offer a comparative overview of how the current algorithmic turn is affecting the legal framework and daily operations of the administrative state in various Central and Eastern European countries. They began by observing that the current scholarly debate in English on the 'Algorithmic State' has tended to overlook Central and Eastern Europe. They argue that contemporary discourse regarding law and technology rarely considers developments beyond the United States, Western Europe, and occasionally North-East Asia, concluding that bridging this gap is the main purpose of this special issue[1].

Even a quick glance at the papers gathered in this collection reveals not only that e-government and digital administration are widespread in the jurisdictions concerned but also that a comparative analysis focused on these countries was not only necessary but also overdue.

Indeed, from a comparative perspective, this study shows that automated decision-making and the use of artificial intelligence are becoming increasingly central to administrative action also in Central and Eastern Europe, even if most countries are still experimenting with what we might call a phase of transition from the e-government experience to the so-called digital state.

We refer to the concept of e-government to designate experiences where the use of platforms to share or gather information, or to deliver files and other basic activities, is widespread, while we use the notion of digital state to describe jurisdictions where administrations, occasionally or constantly, rely on artificial intelligence in proceedings that affect individuals.

This concluding paper aims to summarise and discuss the main issues that emerge from the comparative analysis of the preceding papers, to explain how the gaps identified by Infantino and Bussani are gradually being filled, and to highlight additional findings that warrant greater attention as part of the ongoing developments in Central and Eastern Europe. References to the countries' experiences should be considered as references to the country-specific papers in this special issue.

[1] See the Introduction by Infantino and Bussani.

Section 2 highlights and compares the legal foundations for adopting algorithmic decisions by public bodies in the selected jurisdictions. Section 3 assesses the level of development in e-government and digital administration, as well as the current use of artificial intelligence in administrative activities. Section 4 examines the legal requirements for algorithmic decision-making. Section 5 analyses convergences and divergences in the law governing the algorithmic state in Central and Eastern Europe. Lastly, Section 6 summarises and illustrates the insights gained from this collective work, which opens up issues for discussion and suggests further areas for research.

2. The Legal Basis and Statutory Provisions

A first fundamental aspect to consider is the legal framework. Of course, the analysis carried out in this issue has also examined other legal formants beyond the statutory framework, allowing for a more accurate understanding of the legal reality as a whole. These additional legal formants, such as daily administrative activities and litigated cases, will be explored in the next section. Nevertheless, there can be no doubt that the fundamental basis for comparative analysis is the legal framework.

In this regard, it is useful to remind that national reporters were asked to indicate whether in their country there is a general legal basis for the use of algorithmic automation and/or artificial intelligence (AI) by public administration (including government bodies, agencies, local administrations, and specialised bodies). Conversely, national reporters were also invited to point out the presence of specific legal prohibitions that prevent public administration from relying on algorithmic automation or AI. In addition, national reporters were asked to assess whether the legal basis for the digitalisation process could be derived from pre-existing norms and simply incorporated into the previous framework by way of interpretation, or if to do so there was the need for new technologically-oriented rules. National reporters were also asked whether the legal basis for the digitalisation process, if any, is in their country established by a general act or a sector-specific piece of legislation. Moreover, national reporters were invited to express whether algorithmic codes in their countries are treated as administrative documents, either through the interpretation/application of general principles or through

reforms. This translates to asking whether, in their country, algorithmic codes are legally classified (e.g., as administrative documents) by interpreting existing laws or by reference to newly established rules.

The picture stemming out from the various national answers is complex and closely linked to the different stages of digitalisation.

Many countries have chosen to pursue the digitalisation of public administration by initially employing planning documents or government strategies. This is the case of Bulgaria, Croatia, Czech Republic, Poland, and Serbia[2]. In Bulgaria, for instance, although the topic is primarily included within the broader e-government framework for action, further momentum for its implementation is being generated by the approval of additional policy provisions.[3] In some other legal systems, such as Albania[4], the development of AI Strategies has led to the adoption of general or sector-specific legal regulations governing the use of such technologies by public bodies. At the same time, many of these countries (i.e., the Czech Republic, Croatia, Poland and Serbia) do not yet have a specific legal framework explicitly governing the use of AI in public administration[5]. From this perspective, it is worth mentioning that the Latvian government presented a proposal to parliament in October 2024 to amend the Law on Administrative Liability that would introduce – if approved – a new chapter on "Automated decision making"[6].

Focusing on administrative activity, the core procedural legislation for the entire public administration consists of national general administrative procedure acts, whose designation varies across different legal systems. These acts have been everywhere interpreted as applying also to digital administration issues; in some cases, the acts have been amended to accommodate such use.

For instance, countries such as Bulgaria, Romania and Serbia still lack explicit modifications to their General Administrative Procedure Acts[7]. By contrast, many other countries have made significant amendments to their general legislation on

[2] See the papers on Bulgaria, Croatia, Czech Republic, Poland, Serbia.
[3] See the paper on Bulgaria.
[4] See the paper on Albania.
[5] See the papers on the Czech Republic, Croatia, Poland and Serbia.
[6] See the paper on Latvia.
[7] See the papers on Bulgaria, Romania, Serbia.

administrative procedure to include AI; this is in particular the case for Albania, Croatia, Hungary, Latvia, Lithuania, and Turkey[8].

In Albania, the general code on administrative procedures serves as the main reference for public administrations also when acting for electronic service delivery. Additionally, a specific Act on Electronic Governance was enacted in 2023 to regulate citizen participation and enhance administrative accountability. Furthermore, other sector-specific acts are either in the process of approval or have recently come into force[9].

Croatia's General Administrative Procedure Act was amended in 2021 to accommodate automation in public administration. This amendment allowed decisions to be electronically signed by officials or authenticated with an electronic seal, enabling the use of algorithms and AI to assist in administrative matters. However, these tools are primarily used for procedures initiated *ex officio*, such as tax collection or other cases where no additional input from the affected party is required[10].

The Hungarian experience proves particularly relevant in this regard. As a first step, Hungary initially included the regulation of digital administration in the general Administrative Procedure Act, subsequently approved the so-called General Rules of Electronic Administration and Trust Services (GREATS, which were conceived as special legislation vis-à-vis the ordinary administrative procedural code), and finally approved the Digital State Act[11].

Latvia's Administrative Procedure Law permits automated decision-making but only in specific cases, such as traffic and tax-related offences. The law was amended to explicitly allow decisions to be made by automated systems without human intervention but only in instances where no discretion is required, thereby ensuring a predictable legal outcome[12].

Lithuania has gradually integrated automation into its legal framework. The Code of Administrative Offences has been amended several times since 2018 to include automated administrative orders, particularly in tax administration[13].

[8] See the papers on Albania, Croatia, Hungary, Latvia, Lithuania, Turkey.
[9] See the paper on Albania.
[10] See the paper on Croatia.
[11] See the paper on Hungary.
[12] See the paper on Latvia.
[13] See the paper on Lithuania.

Turkey has developed a robust AI governance ecosystem through the Digital Transformation Office (DTO) and the establishment of the TÜBİTAK Artificial Intelligence Institute. It is also preparing an AI Bill (2024), which will regulate AI usage in public administration[14].

Across the countries considered, the legal basis for AI and algorithmic automation in public administration varies significantly. Most countries are in the early stages of integrating AI into public administration; they possess strategies and policies, but practical implementation is limited and a comprehensive legal framework is lacking. The EU Regulation on Artificial Intelligence (so-called AI Act)[15] plays a fundamental role in shaping future AI governance, especially for EU Member States, while non-EU countries such as Serbia and Turkey aim to align themselves with it[16].

3. The Diffusion of the Use of Artificial Intelligence in Current Administrative Activity

To provide a broader and more comprehensive picture for our comparative analysis, it is essential to assess the extent to which public administration employs algorithmic automation and/or AI in its daily operations.

The use of technology in public administration looks like a well-established reality in many countries, while it is viewed as an ongoing process in others.

The definition of foundational concepts such as digital administrative acts, e-proceedings, and digital proceedings remains controversial in many countries. This may result from gaps in the available literature or from the fact that the concept has not been formally codified.

In almost every jurisdiction, the advent of the digital state represents a second stage in the introduction of forms of e-government. While the e-government experience typically begins with the creation of platforms, sandboxes, and means of information exchange, both between administrations and between

[14] See the paper on Turkey.
[15] Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence (Artificial Intelligence Act).
[16] See the papers on Albania, Serbia and Turkey.

administrations and citizens, the digital state increasingly encroaches on individual spheres by delegating certain tasks to artificial intelligence.

The extent and pace of the transition from e-government to the digital state varies considerably from country to country.

In the majority of the twelve legal systems herein considered, public bodies are gradually adopting algorithmic automation in their daily operations. However, the degree of automation differs significantly. Some countries have made significant strides in integrating AI into public administration. For instance, Lithuania is highly advanced in the use of automation, as public bodies heavily rely on automated systems for tax administration, judicial processes, and administrative orders. The judicial system, in particular, has been digitalised to handle case management, and automation is also used for managing minor offences such as traffic violations[17]. Latvia is another country that employs automation extensively, especially in traffic management and tax collection. Automated systems are widely used for issuing traffic fines and managing tax-related issues, focusing on reducing human involvement in routine administrative tasks[18]. Turkey has integrated AI into various sectors, including traffic management, public relations (via chatbots), and public safety. The Digital Transformation Office (DTO) is responsible for overseeing AI deployment across these sectors, and there is significant momentum toward using automation in routine government operations[19]. Poland employs automation in sectors like waste management, traffic control, and smart city initiatives, leveraging AI to improve efficiency in traffic management, monitor public safety, and control waste disposal[20].

In other legal systems, the situation is quite different, with limited use of automation by public bodies in their daily practices. For instance, Serbia is in the early stages of adopting automation in public administration. While some automation is present in healthcare, tax management, and immigration, the extent of automation is limited in comparison with other countries. Public services, such as issuing permits, are beginning to be automated,

[17] See the paper on Lithuania.
[18] See the paper on Latvia.
[19] See the paper on Turkey.
[20] See the paper on Poland.

but the use of AI in daily operations remains minimal[21]. The same holds true for Albania, that has implemented automation in security and immigration control through the use of AI in border crossings and surveillance. It has built the e-Albania portal, which is the official gateway for public services. However, despite the adoption of the 2023 Act on Electronic Governance, public administration remains largely manual, and the use of algorithmic automation in routine decision-making is still in its nascent stages[22]. In Romania too, although some aspects of public procurement and transport have been digitalised, automation in routine administrative tasks remains limited. The lack of AI-specific regulations and a strong reliance on traditional methods mean that automation is used sparingly in public services[23].

Hence, while some countries are leading in the use of automation in their daily public administration practices, others are lagging behind, with limited integration of AI into their public administration systems. This division reflects the broader trend of more developed digital infrastructures enabling faster automation adoption, while countries with less developed digital ecosystems are slower to embrace AI-driven processes in public administration.

Moving to the sectors most affected by automation, it is clear that artificial intelligence has spread across both authoritative administrative functions – such as security, police, immigration, and tax management – and service provision – such as transportation, welfare, and health services. Most legal systems use automation for citizen e-identification and public procurement. It is interesting to note that the Polish consumer protection agency has developed an AI-powered tool called Arbuz, which determines the likelihood that a contractual clause might be abusive. This AI-based system performs a preliminary analysis of documents to identify provisions in standard contract terms that may be abusive, meaning they define the rights and obligations of consumers in a manner contrary to good morals and that grossly violate their interests. The recommendations generated by the algorithm could then be verified by a case handler, who would make the final decision on whether to deem a clause abusive[24].

[21] See the paper on Serbia.
[22] See the paper on Albania.
[23] See the paper on Romania.
[24] See the paper on Poland.

Lastly, in the countries selected for comparison, there is a limited number of specific cases where automated administrative decisions have been litigated. Latvia, Lithuania and Poland have seen some legal challenges regarding automated decisions[25]. These challenges often focus on data protection issues and the transparency of algorithmic decisions under the General Data Protection Regulation (so-called GDPR)[26]. For instance, decisions related to automated traffic fines or tax compliance have been challenged based on the argument that individuals were not given sufficient explanations for the automated decisions made by AI systems. Many other countries, such as Hungary, Serbia and Turkey[27], have not yet experienced significant litigation regarding algorithmic decisions, probably on account of the relatively recent introduction of AI in public administration and the lack of comprehensive legal frameworks. In conclusion, litigation concerning automated decisions has so far been limited but is expected to rise as public bodies increasingly come to rely on AI. Issues relating to privacy, data protection, transparency, and the right to appeal automated decisions will probably become areas of legal contention, especially as the GDPR continues to serve as a regulatory baseline in most countries.

4. Legal Requirements for Algorithmic Decision Making

When assessing the digital state, it is particularly important to focus on the applicable legal requirements, i.e., on the legal obligations associated with the use of AI by public administrations.

Of course, the significance of procedural requirements and safeguards for citizens is directly influenced by the form of administrative action involved and the stage of the procedure at which automation takes place. The more authoritarian an administration, the greater the need to focus on individual guarantees as shaped by administrative law. As discretionary

[25] See the papers on Latvia, Lithuania, Poland.
[26] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).
[27] See the papers on Hungary, Serbia, Turkey.

power increases, one may find refuge in traditional forms of administrative protection.

An in-depth look at the transition from e-government to digital administration brings us back to questions that are likely to be tackled very differently from country to country and open the floor for a deeper discussion on the role of procedural standards.

National reporters were asked to focus on some legal requirements for algorithmic decision-making that seem to be particularly important for safeguarding citizen's rights and upholding the rule of law: privacy and data protection, transparency, the right to access codes, the right to obtain explanations, compulsory human involvement, and the right to have remedies. All these requirements are designed, conceived of and regulated differently across jurisdictions, providing citizens with different levels of protection.

In all EU Member States, privacy requirements are strictly regulated by the GDPR. AI systems that process personal data must comply with GDPR Article 5, which ensures lawful, fair, and transparent data processing, purpose limitation, and data minimisation. Furthermore, Article 22 restricts decisions based solely on automated processing of personal data, requiring human intervention in important cases. Moreover, the GDPR exerts its effects beyond the European Union's borders. The so-called Brussels effect[28] and the aspiration of candidate states to become members has led other states, such as Albania[29], to adapt to European regulation on privacy requirements to be in line with the GDPR.

Transparency obligations are also a basic procedural requirement for administrative proceedings in most countries. How can transparency be guaranteed in automated administrative decisions? Here there is an even greater variance across the legal systems surveyed, both in terms of solutions and of levels of protection. Latvia has one of the most advanced frameworks for transparency in automated decision-making. The Latvian Administrative Procedure Law explicitly states that individuals must be informed when decisions are made by automated systems, and they must be given access to information explaining how these decisions were reached[30]. Lithuania too emphasizes transparency

[28] A. Bradford, *The Brussels Effect: How the European Union Rules the World* (2019).
[29] See the paper on Albania.
[30] See the paper on Latvia.

in its automated decision-making processes, especially in the field of judiciary and tax administration[31]. These two legal systems might be considered forerunners in transparency requirements among the countries included in this comparative analysis. Other countries have made efforts toward transparency in automated decision-making but lack fully developed AI-specific frameworks. For instance, the E-Government Act in Bulgaria incorporates transparency requirements for public administrative decisions. However, current regulations on AI-driven decision-making remain incomplete, with limited transparency and minimal public disclosure of AI and algorithmic tools in the public sector. The new Bulgarian AI Act, currently under adoption, might well improve transparency in public administration[32]. Meanwhile, other countries, such as Hungary and Serbia, are in the early stages of establishing transparency frameworks for AI-driven decision-making[33].

The right to have access to codes proves to be the main field of (negative) convergence of the twelve countries surveyed, since in none of them there is currently a legal provision explicitly granting individuals the right to access the algorithmic code used in the automated decisions by public administrations. However, in many legal systems, like in Croatia, Latvia, Lithuania, and Poland[34], citizens have the right to be informed about the logic behind automated decisions and the explanations for decisions based on automated processing. In all EU Member States, the GDPR ensures that individuals have a right to an explanation about the logic behind decisions involving their personal data. Yet, direct access to the algorithmic code itself is not granted anywhere.

As regards the duty of human oversight, across all EU Member States GDPR Article 22 plays a crucial role in ensuring that citizens have the right to request human intervention in automated decision-making processes involving their personal data. This means that automated decisions with legal effects or similarly significant impacts are always subject to potential human oversight in all EU countries. Beyond this, countries such as Latvia, Lithuania, and Poland have well-developed national frameworks imposing human involvement in automated decisions, especially in areas

[31] See the paper on Lithuania.
[32] See the paper on Bulgaria.
[33] See the papers on Hungary and Serbia.
[34] See the papers on Croatia, Latvia, Lithuania, Poland.

such as taxation and judicial services[35]. In particular, Latvia's Administrative Procedure Law explicitly requires human review in complex cases. While human oversight is not required with regard to the automated management of traffic offences, the rationale for this absence is that such offences are generally clear and can be easily captured by technology without the need for human judgment or interpretation[36]. Non-EU countries do not yet have specific legal provisions to mandate human involvement in automated decisions[37]. These countries are expected to expand their frameworks as they are about to align with the GDPR and the AI Act.

Lastly, in terms of the right to seek remedies, some countries, such as Croatia, Latvia, Lithuania, and Slovenia, have robust review frameworks, with rules that clearly outline how citizens can challenge automated decisions and request a review, both in general and in specific areas, such as taxation and traffic management[38]. Non-EU countries are currently at various stages of adopting or harmonising with the EU standards mentioned above. Although these countries currently provide mechanisms for reviewing administrative decisions in general, they are expected to expand or formalise review rights specific to automated decisions as AI-related regulations evolve[39].

5. Convergences and Divergences

Four areas of convergence can be identified, three of which are general, and one more sector-specific.

A first point of convergence is that the selected legal systems all recognise that automation can create substantial benefits in terms of efficiency as algorithms can deliver faster decisions and reduce subjective bias, promoting objectivity. There is also widespread awareness of the significant risks that automation may pose. Most countries face challenges in ensuring transparency and accountability in AI-driven decisions. AI also introduces opacity (the so-called "black box" problem), which complicates the process of explaining or challenging automated decisions.

[35] See the papers on Latvia, Lithuania, Poland.
[36] See the paper on Latvia.
[37] See the papers on Albania, Serbia and Turkey.
[38] See the papers on Croatia, Latvia, Lithuania and Slovenia.
[39] See the papers on Albania, Serbia and Turkey.

A second important common feature is the widespread and growing use of automated decision-making by numerous public bodies, including central and local authorities, agencies, and independent bodies. This is important not only in itself but also because it highlights the central role of public entities in the development and regulation of AI, confirming one of the main hypotheses underpinning this research.

A third general commonality is that all the legal systems considered have established procedural requirements for algorithmic decisions to varying extents, mainly concerning privacy obligations and data protection, transparency, the right to explanations, compulsory human involvement, and the right to seek remedies. In contrast, no country provides for the right to access codes.

Fourthly, all legal systems make use of automation for e-identification and interactions with citizens. In nearly all cases, algorithms are widely used in areas such as tax matters, traffic management, and the issuance of certificates and licences.

Needless to say, a greater degree of uniformity across countries is anticipated with the implementation of the EU AI Act, affecting both Member States and potential candidate countries. This expectation holds even for countries that initially responded to the AI Act with criticism, arguing that the Act had insufficiently addressed issues of transparency, fairness and, more broadly, the protection of the rights of those affected by AI-driven processes in administrative activities. Another potential means of harmonisation with a view to common, or simply higher, procedural standards of protection, is represented by the Framework Convention on Artificial Intelligence and Human Rights, Democracy, and the Rule of Law, adopted in September 2024 by the Council of Europe[40].

Alongside the trends of convergence described above, there are also many divergences that can be identified in terms of normative, procedural, and institutional aspects.

First of all, the twelve countries analysed are all at different stages of implementing and regulating AI and algorithmic automation in public administration. Countries such as Latvia and

[40] Council of Europe, "Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law" (2024), at https://www.coe.int/en/web/artificial-intelligence/the-framework-convention-on-artificial-intelligence, visited 15 September 2024.

Lithuania exhibit high digital maturity, with advanced digital public services[41], while others, such as Albania, Romania and Serbia, are still building their digital infrastructures, which affects the pace of AI adoption[42].

From the normative perspective, some countries have adopted statutory rules to allow and regulate the use of automated decisions, while others rely solely on the absence of a formal prohibition. In certain cases (such as Croatia and Latvia), the national General Administrative Procedure Acts were amended to introduce specific provisions or otherwise take into account the possibility of automated decisions, but in many other countries no legislative adjustments have been made[43].

From the procedural point of view, the protections available to affected individuals vary widely in both substance and level. States currently struggle to identify mechanisms that are both normatively and technologically adequate to ensure the transparency and explicability of automated decisions, to enforce people's right to explanations, and to provide for judicial review and effective remedies.

From the organisational and institutional standpoint, several countries have established new institutions or strengthened existing ones to guide AI development, such as the Albanian National Agency for Information Society (NAIS), the Romanian Digitisation Authority (RDA) and the Turkish Digital Transformation Office (DTO)[44]. Many others, however, have not yet taken similar steps.

6. Unresolved Issues and Further Research Perspectives

Considering the numerous challenges raised by the digitalisation process, our analysis suggests that, beyond the pursuit of more efficiency, other factors may also influence legal systems' response to digitalisation. A first factor seems to be the extent and pace of technological progress in the country and the breadth of its diffusion; the more technologically advanced the country, the more likely it is that its public administration will be turning into a digital state. A second factor that is clearly relevant

[41] See the papers on Latvia and Lithuania.
[42] See the papers on Albania, Romania and Serbia.
[43] See the papers on Croatia and Latvia.
[44] See the papers on Albania, Romania and Turkey.

in the European region is the EU membership status or the candidacy aspirations of non-EU states, which drives some legal systems to align with growing supranational digitalisation strategies. A third factor is the need to develop a strategy to prevent and fight emerging forms of cyberattacks. Lastly, a fourth factor that might matter is the stability of the political system. For instance, in some cases digitalisation has been fostered by huge changes in forms of government, as it has happened with the recent transition to a presidential system in Turkey.

It should be also noted that everywhere the above developments seem to be driven by governments, the administration itself, and, to a much less extent, national legislatures. Most of the national reporters involved in this issue note that the scholarly debate on the digital state in their country is somewhat limited, not in terms of quality but in terms of a substantial lack of interest in issues herein explored. In addition, almost all of the national reporters point to a lack of decided cases against the digital administration, which means that there is for the time being a very limited case-law on the topic. In some legal systems, no case at all has been discussed. This lack of case law appears to be the key factor for future research directions. Considering the importance and centrality of AI use by public administration, the wide and ever-increasing array of the sectors in which it can be used, and the human rights implications involved in automated decision-making, there will certainly be a growing number of court cases concerning automated decisions, and with them an increasing case law on the topic that will warrant future analysis.