THE LAW OF THE ALGORITHMIC STATE IN CENTRAL AND EASTERN EUROPE. INTRODUCTION TO THE SPECIAL ISSUE

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Abstract

The paper is an introduction to the special issue on the law of the algorithmic state in Central and Eastern Europe. It explains why the issue focuses on the state as developer and user of emerging technologies, and on Central and Eastern European countries as the relevant units of comparison. The paper gives some further insights about the methodology adopted in making the issue and about the main comparative lessons learned from this collective endeavour.

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1. Why This Special Issue

The general aim of this special issue is to provide a comparative overview of how the contemporary algorithmic turn is affecting the legal framework and the daily operation of the administrative state in different countries in Central and Eastern Europe. To this purpose, after a general overview of the topic authored by Roberto Scarciglia, the following twelve papers in the issue present the rules applicable to the state and state agencies in specific countries when they rely on algorithmic decision-making (ADM) and artificial intelligence (AI) systems in their activity. Moreover, the papers also delve into institutional practices adopted by public entities in each of the countries examined, and in the (for the time being very limited) litigation ensuing from such practices before national courts and independent authorities. A final, concluding paper by Angela Ferrari Zumbini and Martina Conticelli closes the issue.

The issue also pursues the objective of shedding light on some elements that are often forgotten or anyway downplayed in the transnational debate about emerging technologies. The current debate in English on these issues, for instance, tends to underestimate both the involvement of the state as a major developer and tester of new technologies, and the role of public institutions and their institutional practices in shaping the law regulating technology. Further, contemporary discourse on law and technology tends also not to consider whatever is going on outside of the United States, Western Europe, and occasionally North-East Asia. This issue tries to bridge these gaps inasmuch as Central and Eastern Europe is concerned.

The papers herein collected are part of a wider research project entitled 'The dark side of algorithms under the comparative lens: automated administrative decisions between efficiency and due process' (AutAD), financed by the Italian Ministry of University and Research, and coordinated at the national level by Angela Ferrari Zumbini[1]. The project is in continuity with a broader comparative law initiative, entitled the 'Common Core of European Administrative Laws' (CoCEAL), that was inaugurated in 2016 by

[1] Italian Ministry of Education and Research, 'Research Project of Relevant National Interest', grant n° 2022LSRL82. The project involves three Italian universities: the University of Naples Federico II (Angela Ferrari Zumbini), the University of Rome Tor Vergata (Martina Conticelli) and the University of Trieste (Marta Infantino).

Giacinto della Cananea and one of the authors of this paper, Mauro Bussani, who were awarded a European Research Council Advanced Grant in 2016 to study the commonalities and differences between the administrative laws of European countries[2]. The CoCEAL project, in turn, transplanted in the administrative sector the methodology developed since 1993 by Ugo Mattei and Mauro Bussani in the framework of the 'Common Core of European Private Law' project to investigate convergences and divergences between the private laws of European jurisdictions[3]. Standing on the shoulder of these giants, the AutAD research project aims to inquire, from a comparative law perspective, rules and standards applicable to public administration when it relies on ADM and AI. Angela Ferrari Zumbini and other colleagues are currently coordinating the work on Western Europe, the United States, and North-Eastern Asia, while the authors of this paper decided to supervise the research on Central and Eastern Europe. The essays collected in this special issue are the proceedings of an international conference on 'The Law of the Algorithmic State. Perspectives from Central and Eastern Europe', held in Trieste on 26-27 September 2024[4].

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[2] See http://www.coceal.it/ (visited 15 September 2024), as well as G. della Cananea & M. Bussani, *The 'Common Core' of administrative laws in Europe: A framework for analysis*, 26 Maastricht J. Eur. & Comp. L. 217–250 (2019). The scientific results of the CoCEAL project are published in a dedicated Oxford University Press series on 'The Common Core of European Administrative Law', edited by G. della Cananea & M. Bussani: see https://global.oup.com/academic/content/series/c/the-common-core-of-european-administrative-law-coceal/?cc=it&lang=en&, visited 15 September 2024.

[3] On the history and features of this project, see M. Bussani, *The Common Core of European Private Law Project Two Decades After: A New Beginning*, 15 Eur. Lawyer J. 9–26 (2015); M. Bussani & U. Mattei, *The Common Core Approach to European Private Law*, 3 Columbia J. Eur. L. 339–356 (1997-1998); M. Bussani, M. Infantino, F. Werro, *The Common Core Sound: Short Notes on Themes, Harmonies and Disharmonies in European Tort Law*, 20 King's L. J. 239–255 (2009); see also the websites https://www.cambridge.org/core/series/common-core-of-european-private-law/9A1F0195629A3C0607233F14029C3A25, visited 15 September 2024, and https://www.larcier-intersentia.com/en/series/the-common-core-european-private-law.html, visited 15 September 2024.

[4] See https://portale.units.it/sites/default/files/2024-09/LAW.pdf, visited 15 September 2024. It is not the first time that Trieste provides the location for legal studies looking specifically at Central and Eastern Europe. See M. Bussani (ed.), *European Tort Law: Eastern and Western Perspectives* (2007), collecting the proceedings of a conference held in Trieste in 2004; R. Scarciglia (ed.),

In the following pages, we will elaborate on the reasons underlying the choice of the topic and the geographic area of interest for this special issue. We will therefore explain in more detail why the issue focuses on the central role played by the state as a developer and as a user of ADMs and AI (section 2), on the general significance, beyond black letter law, of daily practices and litigated cases (section 3), and on the comparative value of the experiences in Central and Eastern European jurisdictions (section 4). After some additional details on the methodology adopted to realise the issue (section 5), we will try to summarise the main points we learned from this comparative enterprise (section 6).

2. The Rise of the Automated State

In the Western debate on algorithmic governance and regulation, it is often taken for granted that the main agents for disruption are private corporations, mostly from the United States: the so-called MAMAA (the new acronym for Meta, Apple, Microsoft, Amazon, and Google's parent company Alphabet), other social networks, online platforms and apps, as well as the many other more or less visible participants in the digital world, such as data brokers, data analytics, cloud service providers, and software and hardware companies[5]. Under this view, the few private actors

Administrative Law in the Balkans. Case Studies of Comparative Administrative Law in Albania, Bulgaria, Croatia, Serbia and Slovenia (2012), collecting the proceedings of a conference held in Trieste in 2010.

[5] In the wealth of literature on the subject in English, cf A. Narayanan & S. Kapoor, *AI Snake Oil: What Artificial Intelligence Can Do, What It Can't, and How to Tell the Difference* (2024); M. Broussard, *More than a Glitch. Confronting Race, Gender, and Ability Bias in Tech* (2023); T. Rodríguez de las Heras Ballell, *Trust in an 'Omnimetric Society'? Reputational Systems in Platforms as Tools for Assessing Contractual Performance and Applying Remedies*, in M. Bussani, S. Cassese, M. Infantino (eds), *Comparative Legal Metrics: Quantification of Performances as Regulatory Technique* (2023) 266–283; H.-W. Micklitz et alii (eds.), *Constitutional Challenges in the Algorithmic Society* (2021); H. Eidenmüller & G. Wagner, *Law by Algorithm* (2021); N. Couldry & U.A. Mejias, *The Costs of Connection. How Data is Colonizing Human Life and Appropriating it for Capitalism* (2019); S. Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (2019); S. Umoja Noble, *Algorithms of Oppression. How Search Engines Reinforce Racism* (2018); C. O'Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* (2016); F. Pasquale, *The Black Box Society: The Secret Algorithms that Control Money and Information* (2015); H. Masum & M. Tovey (eds.), *The Reputation Society: How Online Opinions are Reshaping the Offline World* (2011).

that are controlling the development of emerging technologies are becoming the *de facto* transnational regulators of a variety of domains, and are able to govern individuals and collectives in ways that often are much more effective than those available to territorially limited nation-states[6].

There is no doubt that such accounts correctly depict a major shift that contemporary Western societies are currently undergoing. Yet, similar accounts also fail to acknowledge the extent to which, especially outside the Western world, technological developments and power are dependent on state infrastructure. The most obvious example is China. The People's Republic of China is today the main competitor of the United States in the digital and AI race[7]. This is also thanks to the circumstance that the Chinese government spent the last two decades cultivating and protecting its domestic tech industry that rests on particularly close ties between the government and private tech companies, each helping the other reach their goals[8]. The Chinese government is now engaging in a conscious effort to export Chinese digital technologies, offering an affordable path toward digital development to many developing countries and successfully exporting its state-driven digital infrastructure and regulatory model abroad[9]. Incidentally, it should be noted that, when one looks more closely to the private ordering by American corporations of the digital and AI-powered economy, it becomes clear that the technology may have originated in the private sectors, but its growth has substantially depended on public investments and has benefited from strong backing by the US government, inside and outside the country[10].

Besides the dependency of the private sector on state's economic and institutional support, the above Western-centric accounts fail to acknowledge the extent to which, in the Western legal tradition as elsewhere, the state is actively involved, and retains a central role, in the development and use of emerging

[6] See the authors quoted above, as well as P. Schiff Berman, *Understanding Global Legal Pluralism: From Local to Global, from Descriptive to Normative*, in P. Schiff Berman (ed.), *The Oxford Handbook of Global Legal Pluralism* (2020) 1–35, at 2.

[7] See Stanford University, *The AI Index Report 2024* (2024), at https://aiindex.stanford.edu/report/, visited 15 September 2024.

[8] A. Bradford, *The Global Battle to Regulate Technology* (2023) 69–90.

[9] A. Bradford, cit. at 8, 290–323.

[10] A. Bradford, cit. at 8, 265–279; National Research Council, *Funding a Revolution: Government Support for Computing Research* (1999) 198–225.

technologies. This holds true in common law jurisdictions, in which governments' ADM and AI toolkits are diverse and span all levels of the administrative state[11]. Some of these jurisdictions have enacted rules at the domestic level to ensure responsible government deployment of AI. For instance, Canada issued in 2019 a Directive on Automated Decision-Making that is modelled on the European Union's General Data Protection Regulation (GDPR)[12] and largely mimics administrative law values[13]. On October 2023 the US President adopted the 'Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence', which also includes measures to ensure responsible government deployment of AI and modernise federal AI infrastructure[14].

The importance of the state in the deployment of emerging technologies holds truer across the civil law tradition, which historically conceives the role of the state as not limited to the protection of private bargaining and property rights, but rather as an active player in the economy and as the fundamental provider of welfare and social justice[15]. In Western Europe, for instance, the

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[11] With respect to the United States, cf. C. Coglianese, *Administrative Law in the Automated State*, 150 Daedalus 104–120 (2021); D. Freeman Engstrom, D.E. Ho, C. M. Sharkey, M.-F. Cuéllar, *Government by Algorithm: Artificial Intelligence in Federal Administrative Agencies* (February 2020) at https://www.acus.gov/document/government-algorithm-artificial-intelligence-federal-administrative-agencies, visited 15 September 2024; V. Eubanks, *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor* (2018). As to Canada, see Paul Daly, "Mapping Artificial Intelligence Use in the Government of Canada" (2023) 20 *Governance Review* 74–95 (2023). As to the United Kingdom, E. Sarid & O. Ben-Zvi, *Machine Learning and the Re-Enchantment of the Administrative State*, 87(2) Mod. L. Rev. 371–397 (2023); T.M. Vogl, C. Seidelin, B. Ganesh, J. Bright, *Smart Technology and the Emergence of Algorithmic Bureaucracy: Artificial Intelligence in UK Local Authorities*, 80 Pub. Admin. Rev. 946–961 (2020). As to Australia, Y.-F. Ng & S. Gray, *Disadvantage and the Automated Decision*, 43 Adelaide L. Rev. 641–677 (2022); J. Boughey & K. Miller (eds.), *The Automated State. Implications, Challenges and Opportunities for Public Law* (2021).

[12] 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.

[13] See https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=32592, visited 15 September 2024.

[14] See https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/, visited 15 September 2024.

[15] M. Pargendler, *The Role of the State in Contract Law: The Common Law-Civil Law Divide*, 43 Yale J. Int'l L. 143–189 (2018); J.H. Merryman & R. Pérez-Perdomo, *The*

recourse to AI systems in the public sector is ever-increasing[16], as are the rules governing the reliance on ADMs and AI by public powers. Many reforms have been made in the last few years to control the use of ADM and AI by public powers. Rules on ADM and AI are now explicitly enshrined in the French Code on the relations between the public and the administration (since 2016),[17] in the German Administrative Procedure Act (since 2017)[18] and in the Swedish Administrative Procedure Act (of 2017)[19], in the Portuguese Charter of Human Rights in the Digital Age (of 2021)[20], and in the Italian Code of Public Contracts (of 2023)[21]. In 2021, Spain adopted a Charter of digital rights, article XVI of which deals with

Civil Law Tradition. An Introduction to the Legal Systems of Europe and Latin America (3rd edn, 2007) 96–97.

[16] H.C.H. Hofmann & F. Pflücke (eds.), *Governance of Automated Decision-Making and EU Law* (2024); L. Tangi et alii, *AI Watch. European landscape on the use of Artificial Intelligence by the Public Sector* (2022), at http://data.europa.eu/89h/7342ea15-fd4f-4184-9603-98bd87d8239a, visited 15 September 2024; J. Wolswinkel, *Artificial Intelligence and Administrative Law* (2022), at https://www.coe.int/documents/22298481/0/CDCJ%282022%2931E+-+FINAL+6.pdf/4cb20e4b-3da9-d4d4-2da0-65c11cd16116?t=1670943260563, visited 15 September 2024. See also D.-U. Galetta & G. Pinotti, *Automation and Algorithmic Decision-Making in the Italian Public Administration*, 1 CERIDAP 13–23; E. Gamero Casado, *Automated Decision-Making Systems in Spanish Administrative Law*, 1 CERIDAP 24–40 (2023); F. Merli, *Automated Decision-Making Systems in Austrian Administrative Law*, 1 CERIDAP 41–50 (2023); J. Reichel, *Regulating Automation of Swedish Public Administration*, 1 CERIDAP 75–94 (2023); J.-P. Schneider & F. Enderlein, *Automated Decision-Making Systems in German Administrative Law*, 1 CERIDAP 95–115 (2023).

[17] Article L. 311-3-1 of the *Code des relations entre le public et l'administration*, as amended by the Law No. 2016-1321 of 7 October 2016 for a Digital Republic, https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000033205535, visited 15 September 2024.

[18] Article 35a of the *Verwaltungsverfahrensgesetz*, as amended in 2016, effective 2017, at https://www.gesetze-im-internet.de/vwvfg/__35a.html, visited 15 September 2024.

[19] Section 28 of the Swedish *Förvaltningslag* of 2017, at https://www.government.se/contentassets/3c56d854a4034fae9160e12738429fb8/the-administrative-procedure-act-2017900/, visited 15 September 2024.

[20] See Article 9 of the *Carta portuguesa de direitos humanos na era digital*, approved by the Law No. 27/2021, of 17 May, at https://www.pgdlisboa.pt/leis/lei_mostra_articulado.php?nid=3446&tabela=leis&so_miolo=, visited 15 September 2024.

[21] Article 30 of the *Decreto Legislativo* 31 March 2023, n. 36, at https://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:decreto.legislativo:2023;036, visited 15 September 2024.

'Derechos digitales de la ciudadanía en sus relaciones con las Administraciones públicas' ('citizens' digital rights when dealing with the state administration')[22]. On a pan-European level, the European Law Institute – the academic think-tank that acts as an informal advisor to the European Union – released in 2022 its 'Model Rules on Impact Assessment of Algorithmic Decision-Making Systems Used by Public Administration' to help public authorities analyse the effects of relying on ADMs[23]. In March 2024, the European Union approved the Interoperable Europe Act to foster public sector interoperability across the Union[24]; in June 2024, the approval of the Regulation on Artificial Intelligence (AI Act) followed[25]. The AI Act identifies some particular uses of AI as high-risk, and obliges whoever places them in the EU market or uses them in the EU to comply with a number of ex-ante obligations, such as putting in place a risk management system, writing down technical documentation, providing for human supervision, and undergoing a conformity assessment[26]. What is interesting to note is that almost all the presumptively high-risk forms of AI listed by Annex III of the Act (e.g., AI used to manage road traffic and the supply of water, gas, heating and electricity, to determine admission in schools, to evaluate the eligibility to welfare programs, to classify emergency calls, to assess the risk of offending by a natural person, to examine applications for asylum, visa and residence permit, and to apply the law to disputes brought to courts) involve public uses of AI[27]. In September 2024, the Council

[22] *Carta de Derechos Digitales*, 2021, at https://portal.mineco.gob.es/RecursosArticulo/mineco/ministerio/participacion_publica/audiencia/ficheros/SEDIACartaDerechosDigitales.pdf, visited 15 September 2024.

[23] European Law Institute, *Model Rules on Impact Assessment of Algorithmic Decision-Making Systems Used by Public Administration* (2022), at https://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Model_Rules_on_Impact_Assessment_of_ADMSs_Used_by_Public_Administration.pdf, visited 15 September 2024.

[24] Regulation (EU) 2024/903 of the European Parliament and of the Council of 13 March 2024 laying down measures for a high level of public sector interoperability across the Union (Interoperable Europe Act).

[25] 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).

[26] Artificial Intelligence Act, articles 8–22.

[27] See O.M. Puigpelat, *The impact of the AI Act on public authorities and on administrative procedures* (2023) 4 *CERIDAP* 238-252; O.M. Puigpelat, *Algorithms,*

of Europe entered the field by adopting its Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law, which aims to regulate artificial intelligence systems used by public authorities and private persons when exercising prerogatives of official authority[28].

All the above demonstrates that, notwithstanding the emphasis placed by dominant narratives on private actors, state infrastructures (especially, though not only, in civil law jurisdictions) are significant players in the AI race, taking administrative decisions on a daily basis and performing tasks through sophisticated computer software, with no or minimal direct human intervention. Understanding how public powers do this, in what sectors, for what decisions and tasks, and with what guarantees is, therefore, of the utmost importance.

3. Daily Practices and Litigated Cases

As is common in moments of technological disruption, legal frameworks take some time to adapt to novelties. While, as hinted in section II, some countries and regions have already adopted regulation or standards to guide the reliance on ADMs and AI by public infrastructures, it generally remains to be seen how well-established rules, principles and doctrines applicable to the administrative state will be adjusted to the new context. Much of the existing scholarship on the topic is undertaking precisely this mission of proposing how to update or reform well-established administrative legal frameworks, embedded either in constitutions or in national statutes, in light of recent technological innovations, so as to unleash opportunities while addressing emerging concerns[29].

The path we decided to take in our research is slightly different. Of course, constitutional frameworks and administrative

automation and administrative procedure at EU level (2023) University of Luxembourg Law Research Paper No. 2023-08, at http://dx.doi.org/10.2139/ssrn.4561009, accessed 12 September 2024.

[28] 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.

[29] Cf C. Coglianese, cit. at 11; D.-U. Galetta & G. Pinotti, cit. at 16; E. Gamero Casado, cit. at 16; F. Merli, cit. at 16; J. Reichel, cit. at 16; J.-P. Schneider & F. Enderlein, cit. at 16.

statutes are fundamental sources of rules for the algorithmic state. Yet, they also often represent the outer layer of complex systems which determine how public entities work. The daily functioning of state infrastructures is actually determined by many more legal and extra-legal formants[30]: from judicial trends to doctrinal opinions and intellectual views on the administrative sciences, from bureaucratic practices and public employees' institutional ethos to people's shared expectations about the state and public servants. This is why, in continuity with the Common Core's methodology mentioned in Section 1[31], we asked our rapporteurs not only to look at existing and prospective legislation, but also to delve into cases litigated before courts and internal practices, so as to unveil some of the most important and least visible (especially from outside a country) factors that have an impact on the functioning of the public administration in their legal system.

Looking at these formants offers a particularly useful perspective to see how the algorithmic state works. Many of the strategic choices that public entities constantly make – which kind of technology they may rely on, produced by whom, in which sectors, for which tasks, relying on which data, with what level of transparency and explainability, for what outcomes – are determined less by constitutional and statutory grand-principles than by determinations made by these entities within the scope of their organisational autonomy, which in their turn are sensitive to bureaucratic habits and local contingencies[32]. Investigating real-world practices, however, is a daunting task. Public entities' choices are numerous, fragmented, ever-changing and not always clearly documented. Given this reality, our rapporteurs did the best they could.

In the United States and Western Europe, another important source of information about (and regulation of) the automated state stems from claims brought before courts against public authorities

[30] Legal and extra-legal formants were notoriously defined by the great Italian comparative law scholar Rodolfo Sacco as the formative elements that are at work in each legal system and that make up any given legal rule: R. Sacco, *Legal Formants: A Dynamic Approach to Comparative Law (Installment I of II)*, 39 Am. J. Comp. L. 1–31, at 21–27 (1991).

[31] See G. della Cananea & M. Bussani, cit. at 2, 9, 25 (on CoCeal methodology); M. Bussani & U. Mattei, cit. at 3, 344–346; M. Bussani, M. Infantino, F. Werro, cit. at 3, 242.

[32] M. Broussard, cit. at 5, 76–77; J. Wolswinkel, cit. at 16, 21; D. Freeman Engstrom et alii, cit. at 16, 6–8.

relying on ADMs and AI. In the US, for instance, the analysis of litigation trends shows that American cities, departments, and agencies resort to algorithms for assessing teachers' performances and terminating their contracts[33], for investigating fraud in unemployment benefits[34], for disbursing disability benefits[35], and for performing constant video surveillance through drones and tracking people's habits for crime analytics[36]. The same litigation also makes evident the urgency to rein in some of the technological enthusiasm: in one case the state of Michigan invested 47 Million USD in a private contract for the development of an algorithm that is able to learn from historical data how to detect fraud in unemployment benefits. The algorithm, which became the 'Michigan Integrated Data Automated System' (Midas), was used between 2013 and 2015 to accuse thousands of Michiganders of fraud and to revoke the disbursement of their benefits. A few years later, controls by government accountants demonstrated that 93% of Midas fraud adjudications were false-positives[37]. Outside the US but still in the common law world, experimentations with ADMs and AI that ended up in court include the reliance by the Commonwealth of Australia on an automated debt-collection system intended to recover overpaid social security payments[38],

[33] *Hous. Fed'n of Teachers Local 2415 v. Hous. Indep. Sch. Dist*., 251 F. Supp. 3d 1168 (S.D. Tex. 2017) (against the privately contracted algorithm used by the Houston Independent School District to assess teachers' performances).

[34] See for instance *Scott v. Dep't of Labor & Econ. Opportunity*, 1st District Court of Appeals, May 25, 2023, 2023 Mich. App. LEXIS 3755 (on Michigan's privately contracted automated fraud detection program).

[35] *K.W. v. Armstrong*, Idaho District Court, March 28, 2016, 180 F. Supp. 3d 703 (on Idaho's privately contracted tool to assess Medicaid disability benefits; the class action is still ongoing); *Michael T. v. Crouch*, West Virginia Southern District Court, March 26, 2018, 2018 U.S. Dist. LEXIS 49598 (on West Virginia's privately contracted tool to assess Medicaid disability benefits).

[36] *Leaders of a Beautiful Struggle v. Balt. Police Dep't*, 4th Circuit Court of Appeals, June 24, 2021, 2F.4th 330 (on the privately contracted drone and image analytics services set up by the Baltimore Police Department).

[37] See for instance *Zynda v. Arwood*, United States District Court for the Eastern District of Michigan, 175 F. Supp. 3d 791 (E.D. Mich. 2016); *Scott v. Dep't of Labor & Econ. Opportunity*, 1st District Court of Appeals, May 25, 2023, Mich. App. LEXIS 3755, 12. See also S.M. Gipson Rankin, *The Midas Touch: Atuahene's 'Stategraft' and Unregulated Artificial Intelligence*, 98 NYU L. Rev. Online 225–245 (2023).

[38] *Katherine Prygodicz & Ors v The Commonwealth of Australia (No 2*) [2021] FCA 634 (11 June 2021) (approving the parties' settlements in the (in)famous Robodebt scandal).

attempts by the Welsh police to use surveillance cameras and face recognition tools[39], the acquisition and automated treatment of bulk communications data of the entire population by various UK security and intelligence agencies[40], and the outsourcing of the development of mobile apps to track citizens' health and movements during the Covid-19 pandemic by several Indian states[41].

Litigation is mounting in civil law countries too. In Western Europe, French courts have already dealt with a myriad of contestations, involving, for instance, the use of biometric face recognition systems by schools in disadvantaged neighbourhoods[42], the establishment of a nation-wide secret software aimed at assessing and matching profiles of students with universities[43], the reliance on face recognition to log-in in a national health app[44], and the creation, in the context of the Covid-19 pandemic, of a national 'Health Data Hub' collecting (more or less closely) related-medical information of the population and storing the data in servers located in France, the Netherlands and Ireland[45]. Dutch courts have intervened to rule on the legitimacy of governmental use of software to grant environmental

[39] *R (Bridges) v Chief Constable of South Wales Police* [2020] EWCA Civ 1058.

[40] European Court of Human Rights (Grand Chamber), *Big Brother Watch v. United Kingdom*, 25 May 2021, Applications nos. 58170/13, 62322/14 and 24960/15; Court of Justice of the European Union (Grand Chamber), *Privacy International c. Secretary of State for Foreign and Commonwealth Affairs and Others*, 6 October 2020, C-623/17, ECLI:EU:C:2020:790.

[41] Cf Karnataka High Court, *Anivar A. Aravind v. Ministry of Home Affairs*, 25 January 2021, WP no. 7483/2020; *Balu Gopalakrishnan v. State of Kerala and Ors.*, 24 April 2020, WP no. 84/2020.

[42] Tribunal of Marseille, 27 February 2020, n° 1901249, available at https://www.laquadrature.net/wp-content/uploads/sites/8/2020/02/1090394890_1901249.pdf, visited 15 September 2024.

[43] Conseil Constitutionnel, 3 April 2020, n° 2020-834 QPC, at https://www.conseil-constitutionnel.fr/decision/2020/2020834QPC.htm, visited 15 September 2024. The same Constitutional Court also issued a decision in 2018 confirming, in general, that the state administration can lawfully rely on ADMs and AI, provided that legal rules are respected: Conseil constitutionnel, 12 June 2018, no. 2018-765 QPC, at https://www.conseil-constitutionnel.fr/en/decision/2018/2018765DC.htm, visited 15 September 2024.

[44] Conseil d'État, 4 November 2020, n° 432656, ECLI:FR:CECHR:2020:432656.20201104.

[45] Conseil d'État, 19 June 2020, n° 440916, ECLI:FR:CEORD:2020:440916.20200619

authorisations[46], to assess the value of land for tax purposes[47], and to predict the risk of social security fraud by welfare recipients[48]. An algorithmic system that was meant to identify vulnerable groups who could get a discount in the electricity bills was (unsuccessfully) challenged before Spanish courts[49]. In Italy the software employed by the Ministry of Education to fill vacant teaching positions nationwide have spurred repeated complaints, which have largely been upheld[50]. Equally successful has been the litigation in Austria against the Arbeitsmarktservice (AMS) algorithm that was designed to classify job seekers' applications but systematically favoured the same categories of people[51]. At the request of the Belgian Constitutional Court, the Court of Justice of the European Union evaluated the (un)reasonableness of the use by airports of automated means for processing the data of passengers from flights from outside the EU and comparing them with international databases of criminals in the context of antiterrorism measures, considering that these programs resulted in five false positives out of the six persons stopped[52].

This growing case-law shows that the shift to digitisation, automation and intelligent systems is a process of trial and error that may come at substantial cost to those who are involved in it – and particularly so for the most vulnerable sectors of the population: persons with disabilities, job seekers, welfare

[46] Raad van State, 17 May 2017, ECLI:NL:RVS:2017:1259 (so-called Aerius I).
[47] Hoge Raad, 17 August 2018, 17/01448, ECLI:NL:HR:2018:1316.
[48] The Hague District Court, 2 March 2020, ECLI:NL:RBDHA:2020:865 (it was the famous Systeem Risico Indicatie – SyRi – algorithm); for a comment to this decision, see S.E. Biber, *Between Humans and Machines: Judicial Interpretation of the Automated Decision-Making Practices in the EU*, in H.C.H. Hofmann & F. Pflücke (eds.), cit. at 16, 186–212, at 201–203.
[49] Juzgado Central de lo Contencioso Administrativo, número 8, 31 December 2021, n. 143, ECLI:ES:AN:2021:5863.
[50] See Consiglio di Stato, 13 December 2019, n° 8472 (2020) *Foro italiano* III, 340; Consiglio di Stato, 8 April 2019, n° 2270 (2019) *Foro italiano* III, 606; Rome Tribunal, labour section, 10 February 2023, n° 1463, at https://www.wikilabour.it/wp-content/uploads/2023/03/20230210_Trib-Roma.pdf, visited 15 September 2024. On this case-law, see S.E. Biber, cit. at 48, 203–205.
[51] Verwaltungsgerichtshof, 21 December 2023, Ro 2021/04/0010-11, at https://www.vwgh.gv.at/medien/mitteilungen/Ro_2021040010.pdf?9g4sif, visited 15 September 2024.
[52] Court of Justice of the European Union (Grand Chamber), 21 June 2022, *Ligue des droits humains ASBL v Conseil des ministres*, C-817/19, ECLI:EU:C:2022:491.

beneficiaries, immigrants, etc. The rising number of disputes brought against public authorities in the US and in Western Europe also suggests that, in the future, as reliance on algorithms becomes more widespread in society, litigation against public authorities will likely keep growing. This is likely to happen not only because a substantial fraction of algorithmic accidents may be related to the deployment of algorithms by the state, but also because, from the perspective of the potential plaintiffs, public entities look like the ideal defendants. States and their agencies are generally permanent, deep-pocketed, and too-big-to-fail. Moreover, public authorities are often located in the same country as the plaintiffs, speak the same language, and are subject to the same national law – a law that cannot be set aside or changed through standard terms and conditions proposing curious fora and exotic applicable laws for dispute settlement, as is ordinarily done by the private actors dominating the sector[53].

Surveying judicial developments therefore seems to offer a promising avenue to understand trends in the public domain. Yet, like in the case of administrative practices, getting to case-law may be difficult, especially when judgments are not published online and are available in a language that is not the lingua franca. This is why the mission entrusted to our national rapporteurs included hunting decisions buried in national case-law and conveying their gist to an international readership. As we will see, though, the results of this search have been meagre. For the time being, litigation stemming from public uses of algorithms, ADM and AI is virtually non-existent in almost the entire region. Before we delve into the findings of our project in Section VI, however, some additional information on the features of the region under examination and on the methodology of this research are needed, and are given in Sections 4 and 5 respectively.

4. A Focus on Central and Eastern Europe

The overview of the initiatives, the literature and the case-law on law and technology in Sections 2 and 3 is testament to the growing attention devoted to our topic. The same overview also shows that such attention has so far been selective, and is focused

[53] M. Infantino & W. Wang, "Algorithmic Torts: A Prospective Comparative Overview" (2019) 28 *Transnat' L & Contemp Probls* 309–362, at 351 (2019).

almost exclusively on North America and Western Europe[54]. It is our belief that there is a lot to be discovered beyond the usual suspects for comparative legal research.

This is why this issue is focusing on Central and Eastern Europe. In spite of its size, the region has until not so long ago been largely unconsidered when discussing developments in administrative law in Europe, which is still too often conflated in the mainstream debate with Western Europe[55]. The Western-European bias has thus overlooked the richness of a region which is very diverse within itself. Central and Eastern Europe spans between Germany and Russia on the West-East axis and between the Baltic Sea and the Mediterranean Sea on the North-South axis. Although the entire block belongs to the civil law tradition, it is extremely varied in terms of language, culture, and history[56]. The

[54] The problem of the Western-centric bias of mainstream comparative law studies is well-known. See, for instance, W.E. Butler & O.V. Kresin, *Discovering the Unexpected*, in W.E. Butler & O.V. Kresin (eds.), *Discovering the Unexpected. Comparative Legal Studies in Eastern and Central Europe* (2021) xi–xiv; G. Frankenberg, *Comparative Law as Critique* (2016), 85–96; R. Hirschl, *Comparative Matters. The Renaissance of Comparative Constitutional Law* (2014) 16, 211–212; A. Peters & H. Schwenke, *Comparative Law beyond Post-Modernism*, 49 Int'l & Comp. L. Q. 800–834, at 829 (2000); G. Frankenberg, *Critical Comparisons: Rethinking Comparative Law*, 26 Harv. Int'l L. J. 411–456, at 422–424 (1985).

[55] In recent years a number of studies have devoted their attention to Central and Eastern Europe. Apart from the CoCEAL project mentioned above, at 2, see J.J. Hesse (ed.), *Administrative transformation in Central and Eastern Europe: towards public sector reform in post-communist societies* (1993); D.J. Galligan & D.M. Smilov (eds.), *Administrative Law in Central and Eastern Europe* (1999); R. Scarciglia (ed.), cit. at 4; D. Goncharov, S. Liebert, S.E. Condrey (eds.), *Public Administration in Post-Communist Countries. Former Soviet Union, Central and Eastern Europe, and Mongolia* (2017); U. Stelkens & A. Andrijauskaitė (eds.), *Good Administration and the Council of Europe: Law, Principles, and Effectiveness* (2020); I. Deviatnikovaitė (ed.), *Comparative Administrative Law. Perspectives from Central and Eastern Europe* (2024).

[56] On the features that follow, C. Cercel, A. Mercescu, M.M. Sadowski (eds.), *Law, Culture and Identity in Central and Eastern Europe. A Comparative Engagement* (2024); A. Shirvindt, *Former Soviet States of Eastern Europe, Caucasus and Central Asia*, in M. Siems & P.J. Yap (eds.), *The Cambridge Handbook of Comparative Law* (2024) 275–301; W. Butler & O. Kresin, cit. at 54; Z. Kühn, *Comparative Law in Central and Eastern Europe*, in M. Reimann & R. Zimmermann (eds.), *The Oxford Handbook of Comparative Law* (2nd edn, 2019) 181–200; R. Mańko, *Delimiting Central Europe as a Juridical Space: A Preliminary Exercise in Critical Legal Geography*, 89 Acta Universitatis Lodziensis. Folia Iuridica 63–80 (2019); B. Bugaric, *Law and Development in Central and Eastern Europe. The Neoliberal Developmental State and*

three Baltic states up north have little in common with the Slavic region historically under the influence of the Byzantine Eastern Roman Empire down in the South. Speaking of empires, many countries in the region were for a large part of their history included in wider political units (in particular, the Ottoman empire in the South and the Habsburg Empire in the Centre); others, such as Poland, were for a long time autonomous or semi-autonomous kingdoms. A large majority of the countries in question are Christian Orthodox, but some of them are overwhelmingly Catholic (for instance, in Poland), Lutheran (e.g., Latvia) and Muslim (Turkey and Albania). In the Twentieth century, many of the countries in our group (excluding Turkey) were either part of the Soviet Union or affiliated to the Soviet Block, and then were subject to conspicuous reforms in their transition from socialism to capitalism. All the countries surveyed are nowadays members of the Council of Europe; the majority of them also belong to the European Union (the exceptions are Albania, Serbia and Turkey).

From an administrative law viewpoint, the state architecture and functioning in the jurisdictions surveyed are typical of civil law jurisdictions; some of these countries adopted the French model of the administrative state (most notably, Turkey[57]), while others (such as Poland, Hungary and former Czechoslovakian and Yugoslavian countries) were under the influence of the Austrian system, as shown by the enactment of a special legislation on administrative procedure along the lines of the Austrian General Administrative Procedure Act of 1925[58]. While not all the countries examined underwent a socialist period, all of them were in recent times influenced, either directly or indirectly, by requirements,

Its Problems, in R. Peerenboom & T. Ginsburg (eds.), *Law and Development of Middle-Income Countries: Avoiding the Middle-Income Trap* (2014) 131–155.

[57] See E. Örücü, *Conseil d'Etat: The French Layer of Turkish Administrative Law*, 49 Int'l & Comp. L. Q. 679–700 (2000); T. Balta, *Reports on Turkish Administrative Law and Institutions*" (1956) 5 Annales de la Faculté de Droit d'Istanbul 186–204 (1956).

[58] I. Deviatnikovaitė & S. Bareikytė, *Comparative Remarks*, in I. Deviatnikovaitė (ed.), cit. at 55, 225–239, at 225; G. della Cananea, *The Common Core of European Administrative Laws* (2023) 74–77; L. Potesil & F. Křepelka, *The Legislation on Administrative Procedure in Czechoslovakia*, in G. della Cananea, A. Ferrari Zumbini, O. Pfersmann (eds.), *The Austrian Codification of Administrative Procedure. Diffusion and Oblivion (1920-1970)* (2023) 86–99; S. Lilić & M. Milenković, *Administrative Procedure in Former Yugoslavia and the Austrian Administrative Procedure Act*, ibidem, 119–134; A.Zs. Varga, *The Hungarian Legislation on Administrative Procedure*, ibidem, 135–144.

standards and models stemming from either Strasbourg or Brussels/Luxembourg, as well as from neoliberal ideology coming from the United States and international financial institutions[59]. All these features made Central and Eastern European countries the ideal candidates for a study on the law of the algorithmic and automated state: they all have old, well-established and broad public infrastructures that are at the same time sufficiently close to be meaningfully compared with one another and sufficiently diverse to provide interesting results.

5. The Project's Methodology

As said before, the comparative research herein carried out has benefited from previous Common Core-inspired research projects[60], and is the result of a collective effort by many people acting as national reporters for their own country. In the summer of 2023, we gathered a team of experts from twelve jurisdictions, developed with them a set of questions about the use of ADMs and AI by public powers, and convened them in Trieste on 26-27 September 2024 to present and discuss the findings on their national experience.

Readers not familiar with Trieste's history may wonder why Trieste[61]. Trieste today is Italian, but has historically been at the crossroad of Roman, Slavic, and Germanic influence. The former Illyric, subsequently Roman, settlement of Trieste in the fourteenth century sought shelter under the Habsburg Empire in order to escape Venetian subjugation. The city got in 1719 the status of Free Harbour and in 1769 that of Free City, which included the at the time not-so-common freedom of religion. The city rapidly became a vivid commercial centre where people of Giulian-Dalmatian, Venetian, Friulan, Slovenian, Austrian, Armenian, Jewish, Serbian,

[59] I. Deviatnikovaitė & S. Bareikytė (n.58) 226 238–239 (as to the EU); U. Stelkens & A. Andrijauskaitė, *Introduction: Setting the Scene for a 'True European Administrative Law*, in U. Stelkens & A. Andrijauskaitė (eds.), cit. at 55, 1–54 (as to the CoE); G. della Cananea, cit. at 58, 17–19 (as to the CoE and the EU); B. Bugaric, cit. at 56, 131–155 (as to neoliberal paradigms).

[60] See above, at nn 2–3.

[61] On what follows, see J. Morris, *Trieste and the meaning of nowhere* (2002); E.-N. Kappus, *Changing history: ethnic identity management in Trieste*, in C. Govers & H. Vermeulen (eds.), *The politics of ethnic consciousness* (1997) 90–120; A. Ara & C. Magris, *Trieste. Un'identità di frontiera* (1987); V. Scussa, *Storia cronografica di Trieste dalla sua origine sino all'anno 1695* (1863).

German, Greek, and other origins integrated into the urban merchant life. Annexation of Trieste to Italy at the end of WWI marked the decline of the commercial fortunes of the city and the spread of ethnic conflict. After WWII and until the dissolution of socialist Yugoslavia, Trieste found itself at the border of the European Iron Curtain, stretching from Stettin to the Adriatic Sea. Even today, Trieste is the last Italian city before the border with Slovenia. The city's strategic location and its historical connective role between Central and Eastern Europe and the Mediterranean Sea make it an ideal confluence place to discuss legal developments in Central and Eastern Europe.

All national reporters therefore convened in Trieste in September 2024 to present and discuss their findings. Obviously, national reporters abided by the guidelines established at the outset of the project in a manner they deemed appropriate, which has resulted in some divergence and diversity in execution. Apart from this unavoidable variation, the following methodological caveats have to be kept in mind when appreciating the findings of this special issue.

First of all, as in any collective endeavour based on responses given to a questionnaire by a handful of national reporters, national overviews are inevitably informed by the reporters' subjective views on their own legal system and technological developments, as well as by their personal beliefs and idiosyncrasies. Other persons from the same jurisdiction may have provided a different description of the state-of-the-art of the country.

Second, the topic in itself suffers from an inherent ambiguity. As most of the papers underline, there is currently no agreed definition for many of the terms herein employed. This holds true, for instance, for the meaning of algorithm, automation, digitisation, ADM and AI[62]. The ambiguity problem is aggravated by the need to translate into English concepts that were originally expressed in another language. Moreover, clear data about the technologies employed and the practices followed are often missing – which is

[62] It should nevertheless be noted that, for some of these notions, a partial definition can be found in international and supranational texts. For instance, the Organisation for Economic Co-operation and Development has provided a generally-agreed upon definition of artificial intelligence (see https://oecd.ai/en/wonk/ai-system-definition-update, visited 15 September 2024), that is now enshrined into the definition of an AI system under the Art. 3, no. 1, of the EU AI Act.

the reason why many of our reporters resorted to interviews and exchanges with administrators and officials to gather relevant information[63].

Third, a further layer of complexity comes from the fact that the legal systems differ not only in their rules, but also in the vocabulary and in the general frameworks they resort to for dealing with administrative law. For instance, the countries herein considered may have diverging understanding not only of what digitisation entails, but also of notions of public administration, administrative proceedings, judicial review, and so on and so forth. While these differences in rules, vocabulary and frameworks convey the 'spirit' of the legal culture they stem from, they obviously also affect the comparability of the national answers herein collected.

All the above caveats obviously apply to the work of the editors as well. In spite of our best efforts, our own bias may have affected the questions we thought were relevant, as well as our own interpretation of the reporters' results. We hope that nevertheless the following results are interesting.

6. What We Learned

The country papers collected in this issue highlight clear lines of convergence inasmuch as all the states considered are involved in redesigning government service delivery mechanisms and adjusting them to (what is often called) the 4th Industrial Revolution. In all the countries surveyed, this implies the restructuring of traditional services, the testing and development of diverse technologies and solutions, the recalibration of the functions of the public administration apparatus, the training of public employees, the internal standardisation of services, the establishment of new forms of public-private partnerships and the creation of new avenues of interaction with the citizenry. In many cases, this adjustment is occurring in the absence of a parallel restructuring of the legal framework, thus opening up doubts and possibilities as to the adaptability of old principles and rules to new scenarios. It seems that, differently from what we saw happening in the United States and Western Europe, scholars and courts in the

[63] See the papers on Bulgaria, Latvia, Poland and Romania.

region have yet to carefully consider the implications of the above developments.

At the same time, the following national papers also show a considerable divergence between countries as to the path and pace of change. While in some places (e.g. Bulgaria) the main focus is still on transitioning from in person, paper-based services to electronic services, other countries are experimenting with ADM (this is for instance the case for Latvia and Lithuania when handling tax and traffic violations) and with AI (as is happening in Albania and Turkey in the context of crime, security and border management). Quite unsurprisingly, these different paths and paces seem to be connected to varying degrees of cautiousness and enthusiasm vis-à-vis this technological transformation. The slower the pace, the higher the awareness of the possible risks associated with technology; the faster the pace, the keener the enthusiasm for the possibilities new technologies open up. It is however hard to tell whether it is the level of technological development that influences attitudes towards risk, or rather the reverse.

In the following pages, we will try to detail our main comparative findings with regard to the timing and context of the transformations just mentioned (section 6.1), the sectors and the technologies that are mostly concerned with them (section 6.2), and the impact of these developments on national legal architectures (section 6.3).

6.1. Time, Hopes and Fears

All the countries herein investigated have, in recent times, engaged in a massive restructuring of their public administration. From the papers collected in this issue, two massive waves of transformation are evident[64]. The first one started at the beginning of the 2000s, leading many countries to work on the creation of e-government, that is, the idea of re-organising government around the management and use of information in electronic format. A second wave of reforms is visible from 2020 onwards, as distinctly aimed at the implementation of a digital, smart and automated government, in which diverse technologies and smart tools are a

[64] This is in line with the development of research and literature on e-government and the digital state: see E.W. Welch, *Introduction to the Research Handbook on E-Government*, in E.W. Welch (ed.), *Research Handbook on E-Government* (2021) 1–11, at 4–7. See also D.R. Trotiño, *eGovernance as a Future Option*, in D.R. Trotiño (ed.), *e-Governance in the European Union* (2024) 1-6.

core-integrated part in the functioning and operation of public administration at many levels, including some involving decision-making.

The rationale upon which such transformations are based are everywhere the same. Embracing digital technologies is expected to enhance the quality, efficiency and effectiveness of public administration, to increase transparency, accountability, accessibility and equal access of public services, to favour coordination and uniformity, to reduce red tape and costly delays, to limit corruption and ultimately improve governance[65]. The country papers also highlight substantial international pressure for governments to move in this direction. The digital transformation of the public sector is actively promoted by supranational global and regional actors, such as the United Nations (UN), the Organisation for Economic Cooperation and Development (OECD), the Council of Europe (CoE) and the European Union (EU)[66]. The international pressure is further substantiated by the many indicators that have emerged in recent years to reward countries with technological developments[67]. Our reporters mention, for instance, the e-Government Index of the United Nations[68], the Digital Government Index by the Organization for Economic Cooperation and Development[69], the Digital Economy

[65] See the country papers in this special issue, but also the collection of trends of digital government policies and practices sponsored by the Organisation for Economic Co-operation and Development at https://www.oecd-ilibrary.org/governance/oecd-digital-government-studies_24131962, accessed 20 September 2024.

[66] See the references contained in the national report to the UN (Albania, Poland, Serbia, Slovenia), the OECD (Albania, Poland, Lithuania, Turkey), the CoE (Albania, Bulgaria, Poland, Slovenia, Turkey) and the EU (Albania, Bulgaria, Croatia, Czech Republic, Hungary, Latvia, Lithuania, Poland, Romania, Serbia, Slovenia Turkey). Romania interestingly partenered in 2009 with the South Korean Ministry of Public Administration to implement the transition to e-government.

[67] On these technology-related indicators and their effects, see T. Erkkilä, *Global indicators and AI policy: Metrics, policy scripts and narratives*, 40 *Review of Policy Research* 811–839 (2023), DOI:10.1111/ropr.12556. Indicators are well-known to work are as invisible tools for legal harmonisation: see, among the many, S.P. de Souza, *Designing Indicators for a Plural Legal World* (2022) 99–103; M. Infantino, *Global indicators*, in S. Cassese (ed), *Research Handbook on Global Administrative Law* (2016) 347–358; D. Restrepo Amariles, *Legal indicators, global law and legal pluralism: an introduction*, 47 *Journal of Legal Pluralism & Unofficial Law* 9–21 (2015).

[68] See the papers on Albania, Czech Republic and Turkey.

[69] See the papers on Czech Republic and Lithuania.

and Society Index by the European Union[70], and the Government AI Readiness Index Reports" prepared by Oxford Insights[71]. From this perspective, winning the digital race may occasionally also be a matter of national pride[72].

At the same time, as hinted above, many papers also cast doubts on the unqualified desirability of this transition. Many national reporters seem to be wary of the implications that the rise of the smart state may have for privacy and data protection[73], as well as for transparency of public decision-making and actions[74]. The need for strong cybersecurity to protect the system from internal failures and malevolent attacks is also deeply felt[75]. A few country papers also highlights the risk that technological developments may cause unemployment[76], exclude certain groups from participating in public life and the enjoyment of public services[77], and increase national dependence on foreign technology providers[78].

Before seeing the extent to which these hopes and fears have been, and are currently being translated, into legislative texts, administrative practice, rulings by independent bodies and courts, and scholarly interpretations, we need to provide a brief snapshot of the sectors that are mostly affected by these changes and the technologies involved.

6.2. The Sectors and the Technology Involved

While all our reporters agree that their national administrations (i.e., the government, agencies, local administration, specialised bodies) are increasingly relying on algorithms in their daily operation, almost all of them also note how

[70] See the papers on Czech Republic, Hungary, Lithuania, Poland and Turkey.
[71] See the papers on Lithuania, Serbia and Turkey.
[72] See the papers on Slovenia and Turkey.
[73] See the papers on Albania, Bulgaria, Latvia, Poland, Romania, Serbia and Slovenia.
[74] See the papers on Albania, Bulgaria, Cezch Republic, Latvia, Poland, Romania and Serbia.
[75] See the papers on Albania, Bulgaria, Hungary and Poland.
[76] See the paper on Czech Republic.
[77] For instance, the authors of the papers on Hungary note the risk of exclusion of certain age groups, while the authors of the paper of Albania highlight the risk of discriminatory and exclusionary outcomes for Roma and Egyptian minorities in the country.
[78] See the paper on Hungary.

hard it is to collect consistent data about the precise state-of-the-art of the technological advancement, the technologies that are being used, and who develops them and how.

We can nevertheless say something about the sectors that currently seem to be most affected by the digitisation and automation wave. As can be seen from the table below, almost everywhere the turn to the digital state has generated the establishment of a unique digital citizen identity and of online, semi-centralised portals whereby people can directly access data and documents, obtain certificates and licenses, and manage registration, enrolment, and similar processes. Besides these, other sectors that have been seriously touched by the digital turn are those in which public officials typically have little to no discretion: payment of taxes, disbursement of welfare benefits, automation of transportation services and issuance of fine tickets for certain traffic violations. This is hardly surprising: after all, as the Latvian reporter notes, automated traffic lights may be considered general administrative acts and therefore a proto-form of automated decision-making. Less widespread, but still noticeable, are experiments with digital and smart technologies in the fields of internal security and border management, education, agriculture, work and health. As the table below shows, experiments with the algorithmic state in non-EU countries cover many more fields than in EU countries. Worth mentioning is also the project, launched by the Albanian government, of using AI for approximating national legislation to the EU's *acquis communautaire*.

	EU									Non-EU		
AREAS	**BG**	**CZ**	**HR**	**HU**	**LT**	**LV**	**PL**	**RO**	**SL**	**AL**	**RS**	**TR**
relationship with citizens	x	x	x	x	x	x	x	x	x	x	x	x
certificates and licences	x		x	x		x	x			x		x
tax	x	x	x		x	x	x		x	x	x	x
welfare			x		x					x		x
transportation and traffic	x	x			x	x	x	x		x	x	x
crime and border management	x	x		x			x			x		x
education	x	x					x			x	x	x
agriculture				x			x		x		x	x
work							x					
health							x				x	x

Table 1: Sectors mostly affected by the current digital turn (authors' elaboration)

Even harder is to understand the technologies that national public administrations are relying on, for what purposes, and how these are developed. Yet, a few papers highlight specific challenges and opportunities in this regard that deserve to be mentioned. Some reporters for instance highlight the difficulty of deploying text-based AI technologies in countries whose national language has a limited number of speakers and small linguistic corpora in digital forms[79], even though many efforts are currently being done in this direction[80]. Others note that the development of IT tools, software and applications mandates strong cooperation with private (and sometime foreign) companies[81]. While such cooperation has in some cases (such as in Bulgaria, Poland and Turkey) fostered innovative public-private partnership, in other cases it has led to the nationalisation of the company involved, as happened in Hungary.

6.3. The Algorithmic State and Statutory Law

When one reads the country papers herein collected, the general impression is that the above transformations have occurred quite independently from formal changes in the legal infrastructure governing public administration.

Let us be clear. In many countries, legislatures have been active on the matter, creating a thick layer of Acts and Regulations dealing with the establishment and management of e-government and the digital state. General statutes on e-government and digitisation of public administration have been enacted, for instance, in Albania, Bulgaria, Croatia, Hungary and Serbia[82].

[79] See the papers on Bulgaria and Hungary.

[80] In March 2024, the Bulgarian Institute for Computer Sciences, Artificial Intelligence and Technologies (INSAIT) unveiled BgGPT, the first open-source language model specifically adapted to the Bulgarian language; INSAIT has encouraged Bulgarian public administration to adopt BgGPT.

[81] See the papers on Albania, Bulgaria, Cezch Republic, Hungary, Poland, Serbia and Turkey.

[82] In Albania, see the Law on Electronic Communication of 2008, the Law on Electronic Identification and Trusted Services of 2015, the Law on Electronic Governance of 2023; in Bulgaria, see the E-Government Act of 2007; in Croatia, see the Act on State Information Infrastructure of 2014; in Hungary, see the Act of 2015 on the General Rules of Electronic Administration and Trust Services (GREATS) and the Digital State Act of 2023; in Serbia, see the 2018 Law on

Specific rules prohibiting or allowing automated decision-making in administrative matters exist in a few jurisdictions[83]. Yet, in the majority of the countries surveyed (if not in all of them), legislatures have so far refrained from intervening broadly on the standards and procedures for relying on algorithms and AI (while, almost everywhere, the void has been filled by the governments' adoption of strategies, programmes and national plans). Experiments with algorithms and AI are for the time being governed by the statutes on e-administration, where available, and by the pre-existing general rules on how administrative decisions are made, what their contents and requirements are, and what rights their addressees have[84]. These rules have largely remained the same as they were before. In other words, in the majority of the countries surveyed (if not in all), the rules applicable to administrative acts and actions (e.g. in terms of privacy, cybersecurity, quality of the datasets, impact assessments, transparency duties, right to explanations, right to review/ remedy) derive from pre-existing, technology-neutral norms.

On the one hand, this choice seems to be very wise, since technology evolves too rapidly for legislatures and governments to run after it. On the other hand, this implies that much of the current development is left in the hand of the more or less open, more or less restrictive readings that public authorities, courts, employees, and scholars will give to pre-existing texts.

For instance, the paper on Bulgaria states that "[t]here are no overarching legal requirements concerning privacy, impact assessments, transparency duties, right to access codes, etc., that apply to the reliance on algorithmic automation/AI by public administration. Bulgarian legislation does not even impose any legal prohibitions on the use of algorithmic automation or AI by

Electronic Administration. In both Serbia and Turkey, a draft AI Bill, largely imitating the EU AI Act, is currently being discussed.

[83] For instance, in Bulgaria many regulatory texts provide for the use of automation and AI in some specific sectors. In Latvia statutory law expressly prohibits the use of automated individual decision-making in criminal proceedings, but expressly allows automated decision-making for the issuance of administrative fines in traffic and tax-related matters; a 2024 amendment is about to prohibit the use of machine learning in cases on administrative offences. In Lithuania automated administrative orders for traffic and tax violations are authorised by a law of 2019.

[84] This is explicitly emphasised in the papers on Bulgaria, Croatia, Hungary, Latvia, Poland, Serbia and Turkey.

public administration. Instead, the requirements for reliance on algorithmic automation/AI are dispersed across various legal acts and refer predominantly to quality of datasets, protection of personal data, cybersecurity and security of the systems and their contained data"[85]. Similarly, the Croatian reporters stress that the Croatian General Administrative Procedure Act of 2009 does not provide for adjudication in administrative matters being made by algorithms and AI. They conclude that "[a]lthough there is no general legal regulation allowing this, numerous provisions of the General Administrative Procedure Act speak in favour of it", but also add that rules in the same Act mandating public administrative bodies to respect the principle of material truth and the principle of cooperation with the interested party "will in many cases prevent the use of algorithms and AI in the adjudication of administrative matters"[86]. More concisely, the Latvian reporter states that the Latvian general Administrative Procedure Law of 2001 "neither provides for nor prohibits the use of automated decision-making systems in determining administrative acts"[87], and thus leaves the matter entirely open to interpretation.

The result of such situations is that, for the time being, the conditions and limits under which the public administration can resort to algorithms, automation and AI, as well as the legal requirements applying to the reliance on technology by the administration and the rights of the addressees, remain quite unclear. In almost the entire region, this uncertainty has yet to be addressed by interpretive formants – i.e., courts and scholars.

While in some countries there is lively debate on when and how public administration can rely upon algorithms and resort to automated decision-making[88], many reporters raise concerns about the lack of interest in local scholarship for issues concerning the algorithmic state[89]. Moreover, in the absolute majority of the countries surveyed, the rise of the algorithmic state has so far generated no litigation. Under section 3, we saw that independent authorities and courts in the United States and in Western Europe have been asked many questions, concerning for instance the

[85] See the paper on Bulgaria.
[86] See the paper on Croatia.
[87] See the paper on Latvia.
[88] See for instance the paper on Croatia, Czech Republic, Latvia, Poland, Slovenia and Turkey.
[89] See for instance the paper on Albania, Bulgary, Hungary and Serbia.

standard of algorithmic transparency, the right to access underlying codes, and the extent to which mandatory human supervision is necessary in automated procedures. Nothing similar, for the time being, has occurred in the countries covered by this issue. The paper on Poland reports about a 2018 decision by the Polisch Constitutional Tribunal[90] in which the labour law provisions mandating the automated profiling of unemployed persons by labour offices were held to be uncostitutional inasmuch as no appeal against the automated profiling was possible[91]. The paper on Bulgaria mentions a few challenges brought against automated traffic penalty tickets issued by stationary devices, explaining how such litigation has given the occasion to Bulgarian authorities and courts to specify what automated decisions are, when they can be issued and under what conditions[92]. The paper on Serbia states that the legality of the use of the so-called 'Hawk Eye' program by police in the city of Belgrade for assessing compliance with traffic rules is currently being questioned before the Serbian Constitutional Court; the case is still pending[93]. The paper on Slovenia highlights that the practice of relying on automated decisions on taxpayers' presumed income by the Slovenian tax authorities is very likely not compliant with current legal requirements and would not stand a challenge in courts; however, the reporters also not that nobody so far as proposed such challenge[94]. Even more tellingly, the paper on Albania notes that, notwithstanding a significant data breach in 2021, in which data, including personal and sensitive information such as health records, family details, political affiliations, religious beliefs and ethnicity, of almost one million Albanians, was leaked, no complains or litigation ensued.[95] Perhaps this is an area where we can most expect some interesting developments to happen in the years to come.

[90] Judgment of the Constitutional Court of Poland, 6 June 2018, file no K 53/16.
[91] See the paper on Poland.
[92] See the paper on Bulgaria. See also the papers on Hungary and Turkey, which mention some decisions by independent data protection authorities on uses of technology by private actors.
[93] See the paper on Serbia.
[94] See the paper on Slovenia.
[95] See the paper on Albania.