Evolving AI-based automation - the continuing relevance of good administration

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*E.L. Rev. 617 Abstract

Automated decision-making (ADM*) systems using artificial intelligence (* AI*) are on the rise in EU and Member State administrations. The underlying technology is fast developing. However, requirements for legality and accountability of public decision-making continue to exist. This article argues that* ADM *systems using* AI *can be made fit for the requirements of the rule of law and general principles of EU public law. First, their use will require a relatively detailed pre-determination of an* ADM *system's capabilities in a legal basis. Second, at the level of decision-making, demanding detailed reasoning especially concerning the information and data used is central for ensuring compliance with EU legal principles. This is a pre-condition for any kind of human review, will contribute to ensuring effective remedies and will be the basis for regular monitoring of the output of* ADM.

Introduction

Public administration increasingly uses the support of Automated Decision-making (ADM) systems on the basis of Artificial Intelligence (AI) programming. Examples can be found in both EU administration and administration of EU Member States. AI technology will further evolve with potential increases in computing power and data availability. Despite the diversity of ADM technology and the fast pace of technological developments, basic legal requirements for the legality of public decision-making remain unchanged and fixed in principles of the rule of law and good administration. *E.L. Rev. 618 [1]

The question of how to ensure that constitutional principles deriving from the rule of law including principles of good administration, prevail in periods of rapid technological development and the spread of AI driven ADM in the scope of EU public law is pressing. We outline some basic technological considerations to be taken into account in public law and highlight some emerging use-cases in EU and national public administration. We then move on to argue that ADM systems including those using AI can be made fit to the requirements of the rule of law and general principles of EU public law such as good administration. In some instances, public administration might even be *required* to employ ADM systems to fulfil their duties under EU constitutional law.

The argument that existing principles in public law, such as those protected under the umbrella notion of good administration and the rule of law, can contribute to the accountability of public law is developed in three dimensions: First, we explain that compliance of ADM with constitutional principles can be ensured in various ways. Either, with relatively detailed pre-determination of an ADM system in legal provisions. Alternatively, or cumulatively, with review of the output of decision-making. Second, detailed reasoning of decisions, the decision-making procedure and the underlying legal basis, is central for compliance with EU legal principles. Third, the programming of ADM systems must be adapted to comply with principles of good administration. This may pose challenges for the use of AI in the public administration, whether the relevant software was programmed by the administrative services themselves or sourced externally for use in public procedures. Regardless, specific public law requirements set standards for the development and programming of systems to be used in ADM.

ADM in public law based on AI systems

The rising use of ADM in public policies raises some new questions and accountability issues. Thinking about the future of accountability in public law requires keeping a close eye on developments in decision-making assisting technology.

Use-cases of AI in public law ADM and their characteristics

ADM in public law based on AI systems is increasingly being deployed for use in various policy areas. The European Ombudsman has listed several examples of the EU administration's and Member States' public administrations using such systems.[2] AI is being used not only to develop translation within EU services, but also to improve communication with individuals via input platforms and participatory communication tools. Other examples include an "early warning and preparedness system" of the EU agency for asylum that assesses risk profiles in asylum and immigration matters, as well as a system used by the European Border and Coast Guard Agency (Frontex) to assess external border situations, such as vessels entering into EU waters.

Various initiatives are also being considered on the use of AI in communication with citizens, for example in participation and hearing procedures where feedback is considerable. Other projects aim to mobilise AI to be of assistance in searching and summarising relevant information from EU and external databases to support decision makers.

Some of the most advanced approaches for the use of AI in EU public decision-making arise from the EU's "Area of Freedom, Security and Justice". There, the EU Agency for the Operational Management of Large-Scale IT Systems (eu-LISA) seeks to enhance databases such as the SIS II and Eurodac by pairing it with AI approaches to search and investigation. AI has also been used by recruiters to screen applicants ***E.L. Rev. 619*** and this is currently also in development by the European Personnel Selection Office, which is looking into the possibility of using AI for recruitment activities. Further, AI systems are being used as tools to scan satellite pictures in the context of subsidies control in agriculture searching for suspicious patterns in farming land as well as detecting possible sources of marine pollution. The use of AI in national legal systems is equally rich and diverse, often used in tax and social security administrations, traffic control and guidance.[3] The uptake of AI tools, although slow at the beginning promises to become more abundant as further case studies of AI use and potential for use in the EU's public administration in the fields of regulatory and antitrust enforcement show.[4]

ADM systems and technology: qualitative and quantitative effects

Technology used to power AI-based ADM systems is not on the level of human intelligence. It might in fact be impossible to replicate the human brain in machines.[5] Nonetheless, this might not be necessary to create functioning AI that, without needing to resemble the human brain, will be able to carry out some activities that previously were the exclusive prerogative of human intelligence[6] and surpass purely human capacities in other areas.[7]

The fast-paced technological developments will certainly allow for many new and expanding use-options for AI-driven public decision-making systems. They essentially contain two features that make targeted use of AI driven ADM in public policies attractive but also have an effect on administrative procedure: First, the actual effect of the use of ADM impacts the *quantity* of information and *speed* by which information can be processed (quantitative effects). Second, the use of ADM influences the quality and depth by which information can be analysed (qualitative effects).

The *quantitative* effects consist primarily in increasing the volume of information that can be incorporated into decision-making and rule-making procedures. This allows for extracting greater amounts of relevant information from databases and to combine various data sets across sources. The dimension is unlike anything that a human could undertake alone. This approach is particularly useful in areas where fast-paced decision-making is central—like monetary policy, banking and finance supervision—so in cases where ***E.L. Rev. 620*** real-time market data may be essential for the capability of reacting to and influencing market conditions by regulatory means. With aspects of volume comes speed and efficiency: algorithms can quickly process large amounts of data, identify patterns and anomalies, and generate alerts leading to further investigations faster and more efficiently than manual methods that rely on human review. Data governance is the very oxygen of automation. Automated decision-making systems can process vast amounts of

data at a speed that would be impossible for humans to match, and they can identify patterns and relationships that may not be immediately obvious to human decision-makers.

Qualitative effects arise from the use of ADM systems, by way of simple possibilities of comparing data sets (e.g. in the context of the analysis of biometric data and matching of information that would not have been possible via human-only analysis). The qualitative change also becomes clear where algorithms are programmed to improve search results by drawing comparisons between current analytical results and prior analytical results, making decisions built on probabilities based on statistical comparisons. Algorithms, therefore, calculate outcomes based on factual correlations on the basis of data collected in the past and will not necessarily be programmed in a way to include normative orientations or justifications or programmatic reasons when taking a specific decision. [8] Where algorithms are pre-programmed, they can ensure both a certain degree of consistency and equal application of criteria across a range of cases—increasing equality where many officials are working on mass claims. Such systems are generally known as rules-based AI systems or "expert systems". Their application also may lead to improved accuracy where algorithms can analyse a wider range of data and use more sophisticated statistical models to identify, for example, cases of social-security fraud. Where other technology is used (e.g. generative AI or machine learning tools), these latter effects may be different, meaning more-adaptive decision-making that might come at the price of consistent approaches across the board.

The increasing availability of data and information combined with a new approach to its processing could lead to a finding that we are at a crucial step in the development of the public sector.

Automation by AI and decision-making phases: from zero automation to full automation?

Together, the above described effects allow decision-making procedures to be faster and more data-reliant than a human-only analysis of databases. A key feature of the integration of ADM technologies in various phases of decision-making is that it has a profound effect on *procedures* leading to the delivery of public policies in the EU. This has the potential to improve decisional quality and efficiency.

In terms of decision-making, various ADM systems may be used in several, sometimes progressive, phases of decision-making procedures. Although, to date, ADM systems are rarely known to have been employed in all phases of a decision-making process—from agenda setting to implementation, [9] today's most frequent use of ADM is in agenda setting and investigation phases from which results can pre-define certain decisions. Growing technical capabilities of AI-based software used in ADM systems, however, will contribute to their ability to re-shape the procedural design of implementation structures for EU policies.

To do this, it is necessary to start from an (obvious) observation: if data and information are the basis of all decisions, they are, above all, the basis of all decisions taken by public administrations. It is no coincidence that legislation on administrative procedure usually focuses

on the investigation phase of the administrative procedure, which is considered to be the central phase in view of preparation of and build-up to the public administration's final decision. ***E.L. Rev. 621***

Applying AI systems might even be applicable not only in individual phases of decision-making, such as the initiation of a procedure or the investigation of a matter. Instead, data analysed and presented with the use of AI might, in cases that do not leave any real room for manoeuvre, especially in areas of routine, repetitive and standardised activities, oblige the public administration to adopt binding administrative decisions. ADM systems are to date only very rarely established to undertake entire administrative procedures (which would lead to *full automation*), that is neither all phases in a single administration, nor, in the case of composite decision-making various phases of a decision-making procedure conducted by different actors on the national and the European levels. In the case of *full automation* —a scenario where algorithms automatically link data to documents—rules-based AI systems (better known as "expert systems") would have to be used to produce the final document expressing the administrative decision, which decision would be generated "automatically" and without human intervention. At present, for example, the Norwegian legislator is trying to move towards fully automated decision-making, [10] with the idea that this would enhance greater efficiency in public administration decision-making, equal treatment of citizens, and produce decisions less prone to error than human decisions. Academic scholars [11] note that, in Norway, most tax decisions concerning individual taxpayers are already automated, and that more than 70% of applications to the Norwegian State Educational Loan Fund and the majority of applications for housing benefits are, too. In many countries, the only case of procedures coming close to full automation are systems used to issue traffic citations, such as red-light cameras and speed cameras, which capture evidence of violations and automatically issue citations without any human intervention.

Full automation is, arguably, the most controversial and problematic case. Where personal data is involved, this may fall foul of the conditions of art.22 GDPR, [12] and art.24 EDPR [13] giving individuals the right to oppose fully automated decision-making affecting their rights. These articles are based on the concept of a decision being "based solely on automated processing" of personal data. [14] Nevertheless, we believe that the idea of cutting out discretionary power and moving toward fully automated decisions based on the idea that the decision is "indubitable" is, in our view, an illusion in public law. In most cases, interpretation of the law and discretionary elements of decision-making will be programmed into the software preparing individual decision-making. Hence our discussion of necessary legal basis, above.

Nonetheless, what we can mostly expect to happen, at present, is *semi-automated decision-making*, which is automation implying, at a certain point, human intervention. Automation combined with predictive activity can, in fact, be used as a very efficient support tool in the preliminary, as well as in the investigatory phase of an administrative procedure. For example, the Italian CONSOB, the public authority responsible for regulating the Italian financial markets, [15] in its March 2022 report on its activities carried out in 2021, highlights the importance of using AI tools in the

context of preparatory activities with respect to its decisions. [16] Even further, ARERA, the Italian Regulatory Authority for Energy, Networks and the **E.L. Rev. 622* Environment, which already makes extensive use of such tools in order to make its supervisory activity more efficient, relies on the decisions of AI tools to choose which companies to scrutinise. [17]

In the above-mentioned cases, automation—with the help of more or less-developed AI—refers only to internal/preparatory activities carried out by the public administration before and with a view to adopting its final decision (so-called back-office activities). From the point of view of the adoption of the final administrative decision, the one which has "external relevance" and can, therefore, usually be challenged before a court, procedures would not fundamentally change by the use of AI as tools for decision-making. [18] Nonetheless, how the final decision comes to life has changed. These changes have consequences on transparency, participation, accountability, and the duty to give reasons.

Apart from the many examples of use of such semi-automated systems at the EU level, [19] many EU Member States' public administrations have started to use these kinds of AI systems, resulting in semi-automated administrative activity, in which most of the automated activities are performed in the context of initiating the procedure or in its investigative phase. In that regard, they do not represent, as such, algorithmic decision-making in the strict sense.

trompe-l'oeil

When differentiating between *full-automation* and *semi-automation*, it is necessary to avoid the *trompe-l'oeil* effect and look at the reality of the situation: that is, to look at whether the public administration's decisions rely, more and more, on the basis of an administrative procedure whose outcomes are largely automated and, thus, virtually impossible to double-check by the public officer adopting the final decision (i.e. the one who is "pushing the final button"). [20] In such a context, exercising decision-making human discretion may become, in fact, illusory. When speaking of human intervention, we are not referring to the process of designing and training the automated system that is the basis of the final decision, but to that kind of human intervention that is necessary to produce the final decision once the process aimed at generating its content has been automated. So, at least formally, we still have a decision "generated" by a human public officer. [21]

One form of semi-automation of public administration decision-making involves *automation plus prediction*. In that case, machine-learning algorithms are used, which collect a lot of data in order to **E.L. Rev. 623* establish models, which are then translated into predictions, on the basis of certain statistical criteria. [22] This technique, when applied to the public sector, is primarily focussed on procedure initiation and could be very helpful in contexts where, first, administrative decisions are to be taken within a clear and simple regulatory framework and, second, there are clear decision-making trends in administrative activity, as well as a relatively stable case-law. Not only is this the case, for example, for the supervisory activity of independent administrative authorities, which may use AI systems based on machine-learning algorithms for predictive risk analysis, but also

for the administrative activity of tax authorities, which may use them for tax evasion risk analysis, etc. [23]

According to some voices in the academic literature, however, the greater the degree of automation relied on, the less public officers are willing to exercise their decision-making discretion, [24] which is sometimes described as the "default effect". [25] There are studies in the fields of social science and psychology that suggest that human agents can be strongly influenced by the outputs of algorithms in their decision-making. This phenomenon is referred to as "automation bias", which describes an observation of human agents relying heavily on the output of automated systems, even when the information provided by those systems is known to be unreliable or inconsistent with other evidence. [26] Some such studies conclude that people tend to trust the output of algorithms, particularly when the algorithms are complex or when the decision-making process is difficult or ambiguous. [27] Automation bias, then, could lead people to adopt the recommendations of the algorithm without fully considering alternative options or questioning the assumptions and data used when making the final decision. It is important for public administrators to be aware of the potential for automation bias and not to employ procedures that actually increase the effect of such potential biases. For example, where discretionary decision-making takes place and the latter relies on output generated by an AI-based ADM system, individual officers will often have—*de facto* —no ability to undertake a completely *de novo* investigation, searching by "hand" all of the relevant databases to find the relevant data. And even if such officer could physically perform such research, would they have the time to do so? And would not that much-increased effort to justify that human's decision encourage them to do a human investigation only in very exceptional cases? What might appear from the outside as some form of "bias" might appear—when looked at from the inside of a real administration—as a procedurally mediated push in the direction of a certain outcome. Such much-cited "biases" help to show that solutions to holding public actors using AI driven ADM systems to account, cannot come at the cost of disregarding well-established public law principles intended to hold public actors to account.

These weaknesses add to the problem that, from an administrative-law perspective, it is almost impossible to draw a clear line distinguishing genuinely discretionary administrative activity from all the various forms of relative openness resulting from law and its use of terminology. [28] Incentives arise for human ***E.L. Rev. 624*** officers to exercise their discretion in the way suggested by the relevant AI system. In that sense, it also appears near-impossible to draw a clear line as to where to allow the use of automated- or semi-automated decision-making, by asking if public administration actually possesses discretionary power, as the Norwegian legislator (discussed above) is apparently trying to do. [29]

Therefore, in our opinion such a delimitation will not help to make things easier. The focus should be on how much the use of ADM systems can help public administration to actually perform better.

Distinguishing rulemaking and programming of AI from single case ADM assisted decision-making

In much of the literature debate on AI and the use of ADM in public law, the discussion of the ADM system (represented by the software programming), is discussed together with notions of individual decision-making. A clear distinction is, however, necessary between the discussion of the *legality of ADM systems* in public law and the *legality of individual decisions* made with their help. Although problems with the latter may indicate problems with the former, the inverse is not necessarily true.

Pre-determination of ADM systems by law

The basic distinction between rules set out to prepare for individual decision-making and the actual decision-making phase itself is well illustrated by a recent case before the CJEU (Court of Justice of the European Union)—the Polish IP dispute concerning the interpretation of art.17(4) of the IP Directive.[30] That case shows that basic provisions must be in place to guide an automated decision-making process in individual cases. The IP Directive contained a *de facto* delegation of power to private companies that obliged them to police IP violations in the up- or download of online content if they wanted to avoid liability therefor. Thereby, those private companies were obliged to balance the fundamental rights of individuals and legal entities, such as property rights and freedom of expression in the pursuit of a public policy. On the basis of art.52(1) of the Charter of Fundamental Rights of the European Union ("the Charter"), the CJEU found that if basic elements of the balancing between freedom of speech and protection of property rights were to be undertaken by private parties, the power to do so must be contained in legislation that "lay[s] down clear and precise rules governing the scope and application of the measure in question and imposing minimum safeguards"[31] and must "indicate in which circumstances and under which conditions such measures may be adopted".[32] Explicitly, the CJEU held that the need for pre-defined criteria in law for limiting or balancing fundamental rights is "all the greater where the interference stems from an automated process."[33]

Article 52(1) of the Charter, therefore, quasi contains a built-in non-delegation doctrine for automated decision-making. Any limitations of fundamental rights that might result from the application of software-based ADM systems must be pre-determined in something that is recognisable as law under art.52(1). The notion of "law" in this context is conceptually linked to a rule-of-law-based requirement ***E.L. Rev. 625*** of accessibility, which means that individuals must be able to discern from freely available, officially published sources what limitations of their rights and freedoms they might be asked to endure.[34]

This requirement raises fundamental questions as to the nature of law in relation to software code. Pre-programming decision-making procedures and considerations are features of the computer program.[35] Although computer programs may—*de facto* —serve a similar function in specifying

legislative requirements as administrative rulemaking, that code is not law in the sense of legally binding rules or principles with normative content.

Pre-determination and accountability

Pre-programming is understood by the CJEU, in the context of the rule-of-law requirements, to be linked to limiting and balancing fundamental rights. Another consideration—also resulting from the rule-of-law requirements—is that of transparency. In this regard, individuals must be able to ascertain their obligations arising from the law and the criteria by which compliance with the legal basis will be assessed. Transparency is also a key demand in much of the discussion on ADM accountability.[36] Transparency can be required on two levels: the first is the transparency of the system-level normative requirements an individual faces, but it can also be required in individual decisions—in the latter case, the notion of transparency is linked to the publication and notification of a decision and its reasoning.

On the system-level basis, transparency can be hampered by both the complexity of computer code, which is often well-hidden in sometimes proprietary software and can also be interpreted, if at all, only by experts trained in specific specialist areas of computer science. This can be a problem in so-called expert systems. As the code underlying ADM systems frequently contains machine learning technology, even experts may find it difficult to predict the possible range of outcomes of decision-making procedures, because machine-learning technology is intentionally programmed to allow the algorithm to refine its own decision-making approach by experimentally changing the weight of certain factors and parameters in view of optimizing the calculations towards achieving certain results. Where machine-learning technology may amend the criteria of decision-making in a dynamic fashion, by adjusting future output based on the results of past calculations, it may become impossible to tell whether the system continues to comply with the essential elements of its original, pre-defined requirements. There may be no linear deduction that leads from comprehension of the computer code used to assist decision-making to the actual content of the decision itself, such that the code's original programmers may not fully understand how the system reached or will reach its output.

In the context of more-generative AI, the approach underlying modern systems based on large language models, such as GPT and LLaMa, access to the source code will not allow specific insights into the pathways of decision-making in individual cases.

This raises fundamental questions for a system developing with the help of machine-learning tools or generative-AI models, the logic of which goes against pre-defined criteria for limitation or balancing of rights. ***E.L. Rev. 626***

Irrespective of the possibility of gaining insight by understanding software code, any system engaged in supporting public decision-making has to consistently comply with higher-ranking legal values. For example, decision-making may not be arbitrary nor disproportionately limit rights. For example, the protection against discrimination contains criteria that may not be used

for differentiation. Article 21(1) of the Charter prohibits "*any*" discrimination based on grounds "such as sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation." The CJEU has stated that the pre-determined criteria must be defined in such a way that, while worded in a neutral fashion, their application does not place persons having the protected characteristics at a particular disadvantage." [37] Administrative bodies must ensure, and document that software ultimately used to make single-case decisions does not generate its output on the basis of such criteria, irrespective of whether they use pre-determined algorithms in expert systems, machine-learning systems, or generative AI systems.

More generally, when it comes to limiting or balancing fundamental rights, the principle of proportionality applies. By definition, that requires counter-factual considerations in order to show how a particular measure is the least-limiting means of achieving the policy objective. Proportionality-related reasoning can be developed in the legal act authorising the use of an ADM system. Proportionality criteria can also be programmed into an ADM system in order to be applied in individual decision-making. The latter, however, would require extensive documentation of the data to be taken into account and the comparison of alternative-outcome scenarios that document the various counter-factual considerations in the particular decision-making path. The difficulties of undertaking this approach have led the CJEU to be particularly critical of ADM supported by today's machine-learning approaches, which do not provide such information regarding the details of such balancing exercises. According to the CJEU, criteria for limitations or balancing of rights "should be specific and reliable." [38] In other words, the normative legal programming of limitations of rights must be not only be pre-defined in the delegating legal act, but such programming must also be reliably represented in the computer programming code underlying the particular ADM system. [39] That need has led the CJEU to take a critical view of machine learning. Where pre-defined criteria are contained in legislation, the CJEU has held, for example in the *Belgian PNR* case, that such a requirement "precludes the use of AI technology in self-learning systems ('machine learning'), capable of modifying without human intervention or review the assessment process and, in particular, the assessment criteria on which the result of the application of that process is based as well as the weighting of those criteria." [40] This statement is, arguably, *obiter dictum*. It refers to final decisions made by AI tools. As such, in our view, it should be understood not as a prohibition on the use of machine-learning technology. Instead, it should be understood to preclude technology that does not allow for human review or intervention in decision-making due to a lack of information about the information that has been taken into account, how such information was processed, under what criteria and to what result. These criteria are, not coincidentally, criteria for judicial review under the duty of care, a key principle of *ex post* judicial forms of supervision and accountability. ***E.L. Rev. 627***

Potentially, the CJEU would take a similarly critical view of decisions made with the help of generative AI, such as large language models, such as ChatGPT [41] and its successors. [42]

From the discussion herein, a further question arises. If the AI system's code is not law, what is it? Should the software be compared to an internal administrative document, subject to access to documents under art.42 of the Charter and Regulation 1049/2001 ?[43] Is it part of the file to which a concerned party to a procedure might have access under art.41(2)(b) of the Charter? Favouring such an approach is the fact that computer programming may play *de facto* functions of administrative rulemaking, notably the translation of legislative normative requirements towards individual decisions.

ADM and the right to good administration

The use of ADM based on AI systems cannot circumvent the principles that are designed to ensure accountability of the public law system and regulate administrative activity.[44] Instead, revisiting them can, in fact, yield interesting insights into the accountability necessities for the use of AI in the public sphere. In view of the discussions above, the compliance of ADM-assisted decision-making must also be reviewed under principles of good administration. AI programming must ensure that these requirements are met, but, at the same time, individual decision-making must be reviewed against these criteria, which pose particular challenges due to the data-based approaches of ADM. Therefore, the principles of good administration offer a good set of criteria for accountability of public action when supported by ADM procedures, as good administration principles are particularly well-designed to fit into an information-intense environment, given the origins of EU administrative law as a law of information.

Rights related to good administration are largely protected as general principles of EU law in the case law of the CJEU[45] and are applicable to Member States and EU bodies alike. Article 41 of the Charter also contains an enumeration of rights under the umbrella of good administration applicable only to EU institutions and bodies and in its first paragraph gives every person "the right to have his or her affairs be handled impartially, fairly and within a reasonable time".

The specific features of AI-based ADM systems, notably the increases in quantity and quality of information processing, are highly relevant to notions of good administration. Both may relate to the fairness and impartiality of decision-making required by the first paragraph of art.41 of the Charter. Specific requirements for decision-making also arise under the notions of the right to: (i) a hearing; (ii) access the file; and (iii) a reasoned decision-making—the principles of procedural fairness as summarised in art.41's second paragraph.

One example thereof is timeliness. Just as humans do, AI systems extract, select, and organise the available information to make decisions. They are however able to process a vastly larger quantity of information at a speed no human could match. The use of AI systems, especially in the investigatory phase ***E.L. Rev. 628*** of an administrative procedure, can help increase the speed of decision-making, making it more likely that decisions will be made "within a reasonable time". In fact, as AG Jacobs underlined in his Opinion in *Z v European Parliament*, "slow administration is bad administration".[46] From this point of view, the use of AI systems to collect and process

information during the initiation and investigative phases of an administrative procedure goes in the direction of the timeliness criterion for good administration.

However, a key to measuring compliance with the different substantive and procedural rights arising from good administration is the administration's obligation to reason decisions.[47] As the following discussion shows, to date, much of the debate on AI transparency has focussed on the right of individuals to obtain explanations as to how an automated system works and what personal information might be processed in that context. And, in our view, the use of AI-based ADM cannot justify aborting compliance with this key element of transparency in decision-making, as it is one of the pre-conditions that allow for effective judicial remedies (art.47 of the Charter), which are, in the words of the CJEU, of the essence for the rule of law.[48] Thus, we argue that next to general information, which is especially important in the data protection context, specific information regarding the use of data in automated procedures should be key to decisional reasoning. Such increased transparency, built into the reasoning behind an act might, in fact, increase transparency of decision-making irrespective of whether a computer programme based on generative AI or machine-learning tools is actually comprehensible to so-called lay people and computer experts alike.

Transparency and the obligation of the administration to give reasons

According to the CJEU's established case law, any public administration must be able to justify and explain the reasoning behind its decisions. Although reasoning can be contextual, in terms of the AI-enhanced ADM, with its heightened requirements for an underlying legal basis (discussed above), such reasoning must be detailed in terms of the pre-defined criteria in the law. Thus, a decision taken using ADM must contain proper justifications, including a clear and concise explanation of the reasoning behind the decision. Such reasoning can include a description of the factors that were taken into account by the algorithm, the methodology used, and any relevant data or information that was used in the calculation. We would argue that, for transparency reasons, the fact that an ADM tool was used in the decision-making process should form an integral part the administration's reasoning, regardless of what kind of AI tools were used, be they expert system, machine learning, or generative AI tools.

The problem with providing reasoned decision-making with AI might, however, lie in the fact that many of today's AI-based ADM systems generate their output via a "black box", which means that the system's software is not able, by design, to give a clear and concise explanation of how or why the system reached its output. Instead, what is currently being discussed is mostly using AI based tools which would use the output of an AI based ADM system and re-construct a possible reason on the basis of the output. If that is the case, however, there could be differences, at the end of the day, between the "real" considerations that influenced the final decision, and those considerations such "reasoning software" was trained to acknowledge as legitimate criteria for that decision.

We would, in contrast, argue that any reasoning provided under the principle of good administration, when AI-based ADM systems are used, should contribute to transparency in two

ways: (i) the reasoning of a decision should aim to provide as much information as possible about the fact that such automated **E.L. Rev. 629* methodology was used in decision-making; (ii) the databases used by the ADM system; and (iii) the ADM system itself. This combination should ensure understanding of the general design of the decision-making procedure as well as understanding the individual decision. The justification for such heightened, system-level transparency is that it would increase understanding of the process, with such openness raising trust in the system and informing an individual about potential for errors specific to automated systems.

In this respect, the French code of administrative procedures offers an example of an early legislative approach to transparency in ADM, which is applicable to both individual decision-making as well as to the system-rule making level. Article L.311-3-1 of the 2016 Code des relations entre le public et l'administration, [49] establishes an individual's rights to information regarding the extent of algorithm-based rules used to make administrative decisions, together with the criteria used and the weighting thereof by the computer programme. It equally provides that the person or persons concerned must be informed whenever a relevant administrative decision has been made on the basis of algorithmic processing and such persons have the option of requesting information about certain elements in the relevant procedure. [50] As innovative as that provision was at the time, early experience with it, in our view, has not been particularly promising, since understanding the details of an automated decision-making system may not be very helpful in terms of understanding the decision in an individual's case. Current moves towards increasing the use of generative-AI systems, which are general-purpose systems, makes such access to the systemic level even less promising. Access to the general-level AI system cannot replace knowledge about how the specific information leading to an individual decision is processed.

The Commission's draft AI Act contains some transparency and explaining obligations, but it is not specifically designed for public decision-making. [51] Article 11(1) of the Commission's draft AI Act obliges "high-risk" AI systems to maintain technical documentation "in such a way to demonstrate that the high-risk AI system complies with the requirements of the law and to allow supervisory authorities to verify such compliance". [52] Article 12 thereof also requires the administrative body (perhaps through the algorithm itself) to ensure that high-risk AI systems used in ADM "shall be designed and developed with capabilities enabling the automatic recording of events ('logs') while the high-risk AI systems is operating. Those logging capabilities shall conform to recognised standards or common specifications." Neither provision, however, is linked to individual reasoning of decisions. Possibly the most directly applicable concern will be for example in art.10(3) of the Commission's draft AI Act (concerning what the draft refers to as "high-risk AI systems") [53] under which data sets must meet certain quality criteria: they "shall be relevant, representative, free of errors and complete" and shall have "the appropriate statistical properties" for their purpose, which might include ADM in public contexts. **E.L. Rev. 630*

In addition, both the GDPR and EDPR contain obligations to explain decisions, when decision-making is based on personal data processing, but those obligations do not specifically target public bodies' decisions. Here, the distinction between rulemaking and decision-making is relevant.

Under art.15(1)(h) GDPR, the controller should provide data subjects "with information about the envisaged consequences of the processing, rather than an explanation of a particular decision." [54] Recital 63 of the GDPR focusses on the right of access to obtain some form of "communication" about the logic involved in the automated processing of personal data. The latter obligation is concerned with the general level. Individual decision-making-related transparency under that recital is only relevant if the ultimate decisions are based on profiling, in which case, the consequences of such processing must be made clear. The same is true for the EDPR, the data protection regulation applicable to EU institutions and bodies; its art.15(2)(f) requires disclosure to the data subject of the "existence of automated decision-making" that must offer "meaningful information about the logic involved, as well as the significance and the envisaged consequences of such processing for the data subject." Such transparency does not primarily concern individual decision-making, but the more systemic considerations on data protection.

Obligations to give reasoned decisions under the principle of good administration, although certainly not opposed to system-level transparency, is primarily concerned with the intelligibility of single-case decision-making. The extent of the reasoning required under that principle is directly proportionate to the level of potential judicial review. Overall, the reasoning obligation concerning details about the technology used is linked to ensuring compliance in available judicial procedures reviewing the decision-making process pursuant to the pre-defined legal basis. The goal is to ensure that the affected individual is able to understand the basis for the decision and to determine if there are grounds to challenge it. Reason giving is, in our view, one of the key tools for ensuring administrative accountability for decisions made using AI-based ADM systems. This accountability tool, used at the level of individual decision-making, must relate to further obligations in terms of decision-making that we explore below, including specific notions of compliance with the decision-maker’s duty of care, with hearing rights, and with the notion of access to the relevant file.

ADM and the reasoning of decisions to the standards of the duty of care

Good administration, arguably, cannot be achieved without accurate information used during the administrative procedure: no good decision can result from poor investigation during such a procedure. From this point of view, automation of decision-making may help because it may increase both the speed and quality of data analysis. Therefore, AI-powered automation and innovation require proper data governance and management to make it possible to infer how data relates to the documentation that reflects human decisions. After all, the greater the volume of data collected, stored, and processed, the greater the potential for error and unlawfulness in the automatically generated, factual sources supporting such decision-making. [55]

Moreover, unlike an administrative officer with natural intelligence, an AI system may not be able to provide a detailed explanation of how it reached a certain result, or what factors it weighed, much less the comparative weights it gave such factors, to get there. This is especially true when using "deep-learning" algorithms: in that case, it is—in principle—impossible to establish how such an algorithm evaluates the data and information it processes; that, in turn, leads to black-

box decisions. [56] A black-box system is a *E.L. Rev. 631 calculation tool in which input data is known and the output is understood, but the way it arrived there is not. The "code" is impenetrable because the program was designed to "evolve", such that humans can no longer know or, perhaps, understand the specific process that the algorithm followed to arrive at a given solution. [57]

Even when opacity is not the result of using algorithms and software that are copyrighted intellectual property, but are freely accessible and open-source, the problem is that, more generally, those who do not have specific technical skills will not be able to retrace the process performed by the AI based software whose analysis is carried out through a logical-mathematical language, understandable only to those who have a high degree of specialisation in the field of engineering and computer science. Non-experts will have to turn to an expert for help. Moreover, the use of large amounts of data and "big data" collections potentially makes the opacity problem bigger, given the high inaccuracy and unpredictability of the results. The same structure of the algorithms may, in fact, generate uncertainty and the algorithmic calculation realised on a large scale might generate unreliability problems. If all (or even part) of that is the case, allowing a public administration to use ADM could, in fact, create more problems than those it was originally intended to solve.

This set of technical difficulties must not deter the search for possibilities of explanation. According to what we have been able to glean from discussions with AI experts some more advanced uses of generative AI are beginning to be able to point to sources of information used in their output. This should in our view become a requirement and in fact, the EU's principle of care under the umbrella of notions contained in good administration could create the necessary link between obligations of reasoning and of holding ADM procedures to account. The duty of care is especially linked to notions of impartiality and fairness under art.41(1) of the Charter. The use of AI systems and ADM could in fact help promoting greater impartiality in the decision-making of public administrations. The CJEU case law, for example, makes it clear that "as a prerequisite for an impartial decision", there is an obligation placed on the public administration "to apply due diligence in the decision-making process and to adopt its decision on the basis of all information which might have a bearing on the result". [58] Therefore, requirements applied to ADM procedures, like those applied to human-only decision-making, arise from the EU's specific notion of the duty of care, which requires that the reasoning behind a measure [59] must demonstrate that the decision was taken on the basis of "the most complete 'factually accurate, reliable and consistent' information possible." [60] Therefore, in our view, under this interpretation of the duty of care, a proper reasoning of an ADM-based decision will not only require documentation describing the information sources used and the processing activities undertaken generally, but must also provide the same for the specific decision at hand. This holds equally *E.L. Rev. 632 true with discretionary decisions. The more important discretion and proportionality considerations are to a specific decision, the more important the data and information taken into account becomes. Such matters must be documented in the reasoning behind the decision. Since showing compliance with the duty of care is information-related—in that a decision maker must show how a specific decision was made and on the basis of what information—the duty of care requires detailed documentation

thereof in terms of ADM systems, the traceability of such information in the justification would render the process transparent and, thus, would open such decisions otherwise taken via an AI-based black box system to detailed review.

Such detailed information-related reason giving would also be likely to contribute to compliance with the principle of transparency, more than any necessarily vague and schematic explanations of the workings of a computer system, as such, could give. Reason giving in public decision-making [61] should, therefore, be based—as a central element—on the recording of operations within the system, the source and type of the general informational data input used for decision-making and should explain how the data processed relates to the final decision taken.

Draft EU legislation has already started to recognise the necessity thereof. For example, demanding traceability of data movements and data processing by ADM, which had been made in legal literature, [62] has found its way into art.12 of the Commission's draft AI Act applicable to "high-risk" AI systems. The latter, if adopted in its draft form, would require AI systems to incorporate record-keeping facilities that log and track the AI system's operations. Such record keeping facilities, according to art.12 of the Commission's draft AI Act, would need to "ensure a level of traceability of the AI system's functioning throughout its lifecycle" and its logging capabilities would have to record, at a minimum, "the period of each use of the system … the reference database against which input data has been checked by the system; the input data for which the search has led to a match" as well as "the identification of the natural persons involved in the verification of the results." This formulation is technology-neutral, but some work is being undertaken to harness distributed ledger technology such as blockchain approaches to maintain such tagging and tracking.

Such detailed reason giving may in turn also favour the adoption of an administrative decision based on an as complete as possible documentation-base—and, thus, be welcomed—but an essential pre-condition demands that information technology used in public decision-making must be developed to secure information in a "tamper-evident record that provides non-repudiable evidence of all nodes' actions", [63] which is becoming increasingly relevant. Such a precondition would enhance the traceability of data across its sources within multi-level information systems. It would also allow review of an ADM system's processes in a concrete procedure. [64] On the other hand, obligatory individualised reasoning cannot be achieved by simply providing lay people (i.e. non-expert humans) with some technical data regarding the types of data the AI system generally takes into account. Moreover, providing technical data sheets may not only create formidable technical obstacles (depending on the complexity of an algorithm) to meaningful ***E.L. Rev. 633*** explanation, but also raise questions relating to intellectual property rights and state and trade secrets incorporation in an ADM system. [65]

Thus, the "right to an explanation" of how an ADM produced its output in a single case [66] is inextricably linked to the right to a reasoned decision, with the level of detail needed being established by the CJEU's case law regarding principles of good administration and the right

to effective judicial protection. Arguably, when ADM systems are used, the reasoning must be more complete than that in a traditional decision-making process; it should include the information that was taken into account, how it was processed, and how the ADM system's output ultimately influenced the outcome of a decision-making, since the probabilities used by AI systems are not like the those used in a human-causality-driven approach. Moreover, the obligation to justify an ADM-based decision with detailed accounts of information considered further follows from the right to an effective remedy, a general principle of EU law also protected under art.47 of the Charter. Thereunder, a decision must demonstrate compliance with essential procedural requirements. The CJEU frequently formulates that obligation as an obligation to provide reasoning that allows the concerned person "to ascertain the reasons upon which the decision taken in relation to him or her is based … so as to make it possible for him or her to defend his or her rights in the best possible conditions…". [67]

That formulation does not preclude, in individual cases, that appropriate reason giving might also require explanations concerning the system-level functioning and logic of programmes used in ADM. [68] However, it does not require it as such, since the system level might only indicate the outcome in programming which is purpose-built and, to a certain degree, static with respect to the outcome. Accordingly, demands have been made that in order to "enable third parties to probe and review the behaviour of the algorithm", ADM "should be accompanied by a 'datasheet' that records the choices and manipulations of training data and the 'composition, collection process, recommended uses and so on." [69]

ADM, access to a file and the right to be heard

The notions discussed above with respect to the duty of care are also relevant to the notion of an individual's right to be heard prior to decision-making. Hearing a party contributes to the full and impartial assessment of a case and constitutes a necessary element thereof. Although automated procedures can contribute to facilitating hearings and participation—in that the individual can be included in the process—linking data recovered from databases with individually created content in a response to a hearing is more difficult. The quintessential characteristic of the digital world is that it is a "universe of immediacy", [70] because the idea of space (and physical place) becomes irrelevant. This, of course, could help to reduce the inefficiencies related to the timing of hearings and participation therein in the context of administrative procedures that are, by nature, asynchronous. ***E.L. Rev. 634***

Currently, procedures that include a hearing will often be semi-automated procedures. The automated generation of a draft decision, for example, could increase the speed of the procedure and, thus, can give valuable time to provide for the possibility of a hearing. It would also allow individuals to better assess whether a hearing would have influenced the decisional outcome of a case and, thus, whether judicial review could be a possible solution to a perceived violation of the right to a hearing. For example, the CJEU, in 2014, addressed a limitation of the right to a hearing by the Dutch authorities in the interest of procedural efficiency since, according to the Netherland's

Government, in customs matters "the very large number of demands for payment, a prior hearing of the interested parties would not be efficient." [71] Nevertheless, the CJEU noted that "the principle of respect for the rights of the defence by the authorities and the resulting right of every person to be heard before the adoption of any decision liable adversely to affect his interests (…) apply in the context of the Customs Code," but underscored that "an infringement of the principle of respect for the rights of the defence results in the annulment of the decision in question only if, had it not been for that infringement, the outcome of the procedure could have been different." [72]

Rights to a hearing and access to the file are often linked, but that is not necessarily the case. Under art.41(2)(a) of the Charter, hearing rights are explicitly rights of defence whereas art.41(2)(b) of the Charter, on the other hand, explicitly formulates the rights of access to any person concerned by a file, which may include more than just the parties to the procedure. [73] Further, access to the file under art.41(2)(b) of the Charter must be granted regardless of whether the file arises in a multi-step procedure originating from, or continuing to be addressed by, one or several Member State administrations, including composite procedures. Therefore, the right of access to a file under art.41(2)(b) of the Charter should be interpreted to also concern the information sources and the specific data taken into account in an AI-driven ADM data-processing operation. Again, as with our earlier discussions, that requires data storage formats and tagging that allow for such an approach, which could be built around the data-specific requirements of AI based ADM. The gain in transparency and accountability would be considerable.

The AI revolution comes, public law remains: summary, conclusions and outlook

When thinking of the specific criteria of AI-assisted ADM in public law, we argue that it is important to distinguish administrative rulemaking from single, specific-case decision-making. Each has distinctive functions in the implementation of legislative provisions, and each has different procedures for its creation. Principles of good administration are particularly well adapted to address AI-related matters in single-case decision-making.

Administrative rule-making concerns particularly questions of ensuring that the use of AI based software has a legal basis. Any regulatory activity touches upon fundamental rights and thus requires under art.52(1) of the Charter a basis in law. Software not being "law" but capable of fulfilling some of the functions of administrative rulemaking must therefore be pre-determined by a legal basis. The latter would need to include providing clear and concise explanations of the balancing decisions to be undertaken by the algorithms contained in the software used and the data and information that is to be taken into account in ADM. Regular evaluations of the accuracy and reliability of the algorithms used must be provided for, a requirement the draft AI Act formulates for certain types of AI. ***E.L. Rev. 635***

Databases used for AI supported ADM must also be well regulated. This feeds into the necessity of ensuring that transparency is not only ensured by explainability of decision-making procedures as such, but also by ensuring that the data and information taken into account and weighed in

decision-making procedures is recorded and can become part of the reasoning of a decision. That same information must also be available for those having the right of access to a file.

In addition, incorporating human review and oversight into the decision-making process can help to mitigate the effects of automation bias and ensure that decisions are based on a comprehensive and well-considered analysis of all relevant information. Such linking of automated and human decision-making procedural elements might also be essential in the context of including participatory elements under the right to a fair hearing as one of the elements of good administration. Judges will want to develop reasoning obligations for decisions that are adapted to and adequate for the use of AI and ADM. That will require an updated consideration of the duty of care showing that all relevant data has been taken into account prior to decision-making. Individualised identification of the data and information considered, and for a decision-maker to show how such data was weighted in the decision-making process as well as how such information has influenced the decisional outcome should be the new standard. This would also require that data management is adapted for tagging or identifying data in a decision-making process.

A meaningful human intervention must be guaranteed and the actual exercise of decision-making discretion in order to avoid that public officers refuse to use their authority to change a decision where possible. [74] Italian case-law in administrative matters is instructive in this respect having held that in the context of administrative activity, AI-based ADM should not fully replace the decision-making activity of "human" public officers. [75]

Overall, respecting the specificities of public law, adapting the principles of good administration to the necessities and possibilities of ADM and the highly data-driven AI systems is a key element of the future of public actors' accountability. Under these conditions, AI systems in public law can not only enhance the quality of decision-making (as well as the possibilities of human officers using their natural intelligence) by increasing the speed and the depth of data and information processing to the advantage of the public policy objectives of the administration; they can even help increasing the "overall intelligence" of the (administrative law) system.

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Footnotes

1 We may therefore paraphrase two quotes from 20th century public law as stating, first that while AI technology changes, administrative law principles remain relevant (the original quote was [in our own translation] "constitutional law changes, administrative law perseveres" see *O. Mayer, Deutsches Verwaltungsrecht, 3rd edn (Berlin: Duncker & Humblot, 1924), Band I*. His remark was made in review of the developments of administrative law in Germany in the wake of the adoption of the "Weimar Constitution" of 1919, which replaced the former empire's constitution with that of the republic). Further, normatively speaking, ADM programming might be considered "the concretisation of constitutional provisions". The original thereof can be found in the title of a famous article by Fr. Werner, "Verwaltungsrecht als konkretisiertes Verfassungsrecht" (1959) 74 Deutsches Verwaltungsblatt 527, which the authors translate as "Administrative Law as the Concretisation of Constitutional Provisions", which outlines the growing post-Second World War consensus that constitutional norms and especially fundamental rights were the ultimate criteria to assess the legality of administrative law arrangements.

2 Letter of 16 June 2022 from the European Ombudsman to the European Commission, "Closing note on the Strategic Initiative concerning the impact of AI on the EU administration and public administrations in the EU".

3 In this regard, see the reports recently published in CERIDAP, H.C.H. Hofmann, "Comparative Law of Public Automated Decision-Making. An Outline" p.1; D.U. Galetta and G. Pinotti, "Automation and Algorithmic Decision-Making Systems in the Italian public administration" p.13; E. Gamero Casado, "Automated Decision-Making Systems in Spanish Administrative Law" p.24; F. Merli, "Automated Decision-Making Systems in Austrian Administrative Law" p.41; I. Pilving, "Guidance-based Algorithms for Automated Decision-Making in public administration: An Estonian Perspective" p.51; J. Reichel, "Regulating Automation of Swedish public administration" p.75; *J.-P. Schneider and F. Enderlein, "Automated Decision-Making Systems in German Administrative Law" p.95 (2023/1) CERIDAP.eu*, https://ceridap.eu/category/dottrina/articoli/page/2/.

4 H.C.H. Hofmann and I. Lorenzoni, "Future Challenges for Automation in Competition Law Enforcement" (2023) 3 Stanford Computational Antitrust (https://law.stanford.edu/codex-the-stanford-center-for-legal-informatics/computational-antitrust/); *H.C.H. Hofmann, O. Mir and J.-P. Schneider, "Digital Administration —The ReNEUAL Model Rules on EU Administrative Procedure Revisited" in D. Fromage (ed.), Jacques Ziller, a European Scholar (Florence: EUI, 2023), pp.77–106*.

5 Alan Turing had anticipated that a thousand years probably will not be enough to arrive at a complete mathematical description of the way the human brain works:

A.M. Turing, "Computing Machinery and Intelligence" (1950) 59 Mind 433, https://redirect.cs.umbc.edu/courses/471/papers/turing.pdf.

6 See, e.g. comments by R. Brooks et al., "Is the Brain a Good Model for Machine Intelligence?" (2012) Nature 462–463, 482, https://www.nature.com/articles/482462a.

7 In addition, it is important to keep in mind that the development of AI is not—at least not exclusively—about imitating or copying the human brain. AI uses a variety of methods to process information and solve problems or make decisions: in the same way that aeronautical engineers have not imitated or copied the method or techniques of learning from birds to build modern aircraft. On this point, see further in D.U. Galetta and J.G. Corvalán, "Intelligenza Artificiale per una Pubblica Amministrazione 4.0? Potenzialità, rischi e sfide della rivoluzione tecnologica in atto" (2019) 3 Federalismi.it 1 with further references, https://www.federalismi.it/nv14/homepage.cfm.

8 J.-B. Auby, "Le droit administratif face aux défis du numérique" (2018) 15 A.J.D.A. 835, with further references to *D. Cardon, À quoi rêvent les algorithmes. Nos vies à l'heure des big data (Paris: Le Seuil, 2015), p.39*.

9 A rare example is a speed camera on the roadside analysing a violation of speed limitations and automatically mailing speeding tickets to the registered car owners.

10 See *Norwegian Ministry of Local Government and Modernisation, National Strategy for AI (2020)*, https://www.regjeringen.no/contentassets/1febbbb2c4fd4b7d92c67ddd353b6ae8/en-gb/pdfs/ki-strategi_en.pdf.

11 See E.M. Weitzenboeck, "Simplification of Administrative Procedures through Fully Automated Decision-Making: The Case of Norway" (2021) 11 Administrative Sciences 149, https://www.mdpi.com/2076-3387/11/4/149.

12 Regulation 2016/679 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 [2016] OJ L119/1. See to this specific regard *L.A. Bygrave, "Article 22 Automated individual decision-making, including profiling" in Ch. Kuner et al., (eds), The EU General Data Protection Regulation (GDPR): A Commentary (Oxford: Oxford University Press, 2020), pp.522 et seq*.

13 Regulation 2018/1725 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation 45/2001 and Decision 1247/2002 [2018] OJ L295/39.

14 Regulation (EDPR) 2018/1725 art.24(1).

15 See https://www.consob.it/web/consob-and-its-activities/consob.

16 See https://www.consob.it/documents/1912911/1997967/ra2021.pdf/0685b71e-baf0-9285-e68c-325e9c00144e.

17 See https://www.arera.it/it/inglese/index.htm#.

18 In many EU countries a preparatory measure or an intermediate measure (for example an opinion, even when it is binding on decision-taking authority), cannot be challenged as such, but only when action is brought against the final decision adopted

by the decision taking authority. See to this regard the famous *Oleificio Borelli SpA v Commission of the European Communities (C-97/91) EU:C:1992:491*.

19 See examples mentioned in *S. Demková, Automated Decision-making and Effective Remedies. The New Dynamics in the Protection of EU Fundamental Rights in the Area of Freedom, Security and Justice (Cheltenham: Edward Elgar, 2023)*.

20 See to this regard the interesting decision of the Regional Administrative Tribunal of Puglia Region (TAR Puglia), Chamber III, 22 April 2022, Decision No.552. The litigation was about the allocation of benefits provided for in the context of a public policy aimed at promoting non-productive investments for interventions aimed at sustainable forest management and the protection of forest biodiversity, as well as the public use of forests. The dispute concerned the lack of concrete knowledge as to the method used by the algorithm to rank the applications, on the basis of which benefits where then allocated.

21 AlgorithmWatch defines semi-automated decision-making as "[a]lgorithmically controlled, automated decision-making or decision support systems" that are "procedures in which decisions are initially—partially or completely—delegated to another person or corporate entity, who then, in turn, use automatically executed decision-making models to perform an action." See the report *Automating Society: Taking Stock of Automated Decision-making in the EU (AlgorithmWatch in cooperation with Bertelsmann Stiftung, supported by the Open Society Foundations, 2019), p.9*, https://www.ivir.nl/publicaties/download/Automating_Society_Report_2019.pdf.

22 See *J.-C. Heudin, Comprendre le Deep Learning: Une introduction aux réseaux de neurones (Science-eBook, 2016)*; *N. Bostrom, Superintelligence: Paths, Dangers, Strategies (Oxford: Oxford University Press, 2017)*.

23 See references in Galetta and Pinotti, "Automation and Algorithmic Decision-Making Systems in the Italian public administration" (2023), para.2.

24 A. Hall, "Decisions at the Data Border: Discretion, Discernment and Security" (2017) 48 Security Dialogue 488, 493. See also S. Demková, "The Decisional Value of Information in European Semi-Automated Decision-Making" (2021) 14 Review of European Administrative Law 29.

25 This is a concept developed in the context of the nudge theory to explain the tendency for an agent to generally accept the "default option".

26 See L. Skitka, K. Mosier and M. Burdick, "Accountability and Automation Bias" (1999) 52 International Journal of Human-Computer Studies 701–717.

27 J.M. Logg, J.A. Minson and D.A. Moore, "Algorithm Appreciation: People Prefer Algorithmic to Human Judgment" (2019) 151 Organizational Behavior and Human Decision Processes 90, https://www.sciencedirect.com/science/article/abs/pii/S0749597818303388?via%3Dihub.

28 See most recently A. Zito, "Teoria della scelta razionale e teoria giuridica della discrezionalità amministrativa: prolegomeni per un inquadramento sistematico" (2022) 1 Nuove autonomie.

29 See *Norwegian Ministry of Local Government and Modernisation, National Strategy for AI (2020)*.

30 Directive 2004/48 on the enforcement of intellectual property rights [2004] OJ L157/45. *Poland v European Parliament (C-401/19) EU:C:2022:297; [2023] 4 W.L.R. 24*.

31 *Poland v European Parliament (C-401/19) EU:C:2022:297* at [67] with reference to *Data Protection Commissioner v Facebook Ireland Ltd (Schrems II) (C-311/18) EU:C:2020:559; [2021] 1 C.M.L.R. 14* at [176]. The reason for this is "that the persons whose exercise of those rights is limited have sufficient guarantees to protect them effectively against the risk of abuse."

32 *Poland v European Parliament (C-401/19) EU:C:2022:297* at [67] with reference to *Data Protection Commissioner v Facebook Ireland Ltd (Schrems II) (C-311/18) EU:C:2020:559* at [176].

33 *Poland v European Parliament (C-401/19) EU:C:2022:297* at [67]; *Data Protection Commissioner v Facebook Ireland Ltd (Schrems II) (C-311/18) EU:C:2020:559* at [176].

34 *Proceedings Brought by Heinrich (C-345/06) EU:C:2009:140; [2009] 3 C.M.L.R. 7* at [41]–[47] and [64]–[66]; Opinion of AG Sharpston in *Proceedings Brought by Heinrich (C-345/06) EU:C:2008:212* at [70]–[77].

35 B. Lepri et al., "Fair, Transparent, and Accountable Algorithmic Decision-Making Processes" (2018) 31 Philosophy & Technology 611–627; D. Innerarity, "Making the Black Box Society Transparent" (2021) 36 AI and Society 975–981.

36 For an overview of the diverse approaches to the requirement of transparency in ADM see e.g. D.R. Desai and J.A. Kroll, "Trust but Verify: A Guide to Algorithms and the Law" (2017) 31 Harvard Journal of Law & Technology 1–65; M. Ananny and K. Crawford, "Seeing Without Knowing: Limitations of the Transparency Ideal and Its Application to Algorithmic Accountability" (2018) 20 New Media & Society 973–989 (discussing on the various facets of transparency on the backdrop of AI and algorithms); T.D. Krafft, K.A. Zweig and P.D. König, "How to Regulate Algorithmic Decision-Making: A Framework of Regulatory Requirements for Different Applications" (2020) 16 Regulation & Governance 1–18, 18.

37 *Ligue des droits Humains v Conseil des Ministres (C-817/19) EU:C:2022:491; [2022] 3 C.M.L.R. 25* at [197].

38 *EU-Canada Passenger Name Record Agreement, Re (Opinion 1/15) EU:C:2017:592; [2018] 1 C.M.L.R. 36* at [172].

39 Lepri et al., "Fair, Transparent, and Accountable Algorithmic Decision-Making Processes" (2018) 31 Philosophy & Technology 611–627; Innerarity, "Making the Black Box Society Transparent" (2021) 36 AI and Society 975–981.

40 *Ligue des droits Humains v Conseil des Ministres (C-817/19) EU:C:2022:491* at [194].

41 "ChatGPT" stands for Chat Generative Pre-trained Transformer, which is, according to Wikipedia, "a large language model-based chatbot developed by OpenAI and launched on 30 November 2022, which enables users to refine and steer a

conversation towards a desired length, format, style, level of detail, and language used." Wikipedia, https://en.wikipedia.org/wiki/ChatGPT.

42 See: Council of the European Union, General Secretariate, "ChatGPT in the Public Sector—overhyped or overlooked?" (24 April 2023) Research Paper, https://www.consilium.europa.eu/media/63818/art-paper-chatgpt-in-the-public-sector-overhyped-or-overlooked-24-april-2023_ext.pdf.

43 Regulation 1049/2001 regarding public access to European Parliament, Council and Commission documents.

44 Italian Council of State, Decision No.2270/2019 cit. para.8.2, as well as Italian Council of State, VI, judgment 13 December 2019, Decision No.8472, https://www.giustizia-amministrativa.it/web/guest/-/utilizzo-degli-algoritmi-nel-procedimento-amministrativo.

45 See *D.U. Galetta,"Das Recht auf gute Verwaltung in der Europäischen Charta der Grundrechte und in der Rechtsprechung der EG-Gerichte" in K. Stern and P. Tettinger (eds), Die Europäische Grundrechte-Charta im wertender Verfassungsvergleich (Berlin: Berliner Wissenschafts-Verlag, 2005), p.207*.

46 Advocate General Jacobs, Opinion in *Z v European Parliament (C-270/99 P) EU:C:2001:180* at [40]. See also especially *Guerin Automobiles v Commission of the European Communities (C-282/95 P) EU:C:1997:159; [1997] 5 C.M.L.R. 447* at [37].

47 Charter of Fundamental Rights of the European Union art.41(2)(c).

48 Amongst many see: *Associacao Sindical dos Juizes Portugueses v Tribunal de Contas (C-64/16) EU:C:2018:117; [2018] 3 C.M.L.R. 16* at [31], [40] and [41]; *Minister for Justice and Equality v LM (C-216/18 PPU) EU:C:2018:586; [2019] 1 C.M.L.R. 18* at [63]–[67].

49 As a disclaimer: The author of this paper was a member of the *cercle d'experts* appointed by the French Prime Minister's office's legislative service to advise on the 2016 Code des relations entre le public et l'administration.

50 See French Décret No.2017-330 du 14 mars 2017 relatif aux droits des personnes faisant l'objet de décisions individuelles prises sur le fondement d'un traitement algorithmique JORF n°0064 du 16 mars 2017.

51 "Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts" COM(2021) 206 final art.52, requires no specific type of transparency for AI systems that are not deemed to be high risk other than notifications to natural persons that they are interacting with an AI system, unless such is obvious (art.52(1)), and that they might be exposed to their data "being processed by an emotion recognition system" (art.52(2)) or that their images have been artificially recreated or manipulated (art.52(3)) unless this is done for public security or other prevailing public interests.

52 "Proposal for a Regulation Laying Down Harmonised Rules on Artificial Intelligence (AI Act)" COM(2021) 206 final.

53 "Proposal for a Regulation Laying Down Harmonised Rules on Artificial Intelligence (AI Act)" COM(2021) 206 final.

54 "Data Protection Working Party, Guidelines on Automated Individual Decision-Making and Profiling for the Purposes of Regulation 2016/679 art.29" (2018) p.27, https://ec.europa.eu/newsroom/article29/items/612053.

55 See on this the recent analysis by *Demková, Automated Decision-making and Effective Remedies. The New Dynamics in the Protection of EU Fundamental Rights in the Area of Freedom, Security and Justice (2023), Ch.2*.

56 *J. Barrat, Our Final Invention (Mexico: Paidós, 2014), p.92*. See also M. Martini and D. Nink, "Wenn Maschinen entscheiden" (2017) Neue Zeitschrift für Verwaltungsrecht 682; S. Wachter, B. Mittelstadt and C. Russell, "Counterfactual Explanations Without Opening the Black Box: Automated Decisions and the GDPR" (2018) 31 Harvard Journal of Law & Technology 31.

57 See among many: Wachter, Mittelstadt and Russell, "Counterfactual Explanations without Opening the Black Box: Automated Decisions and the GDPR" (2017) 31 Harvard Journal of Law & Technology 841; B. Waltl and R. Vogl, "Increasing Transparency in Algorithmic-Decision-Making with Explainable AI" (2018) 42 Datenschutz und Datensicherheit—DuD 613.

58 *Estabelecimentos Isidoro M. Oliveira SA v Commission of the European Communities (T-73/95) EU:T:1997:39* at [32]. See also *Jean-Louis Burban v European Parliament (C-255/90) EU:C:1992:153* at [7].

59 See e.g., *Mukarubega v Prefet de police (C-166/13) EU:C:2014:2336; [2015] 1 C.M.L.R. 41* at [43]–[49]; *N v Minister for Justice, Equality and Law Reform (C-604/12) EU:C:2014:302; [2014] 1 W.L.R. 3371* at [49]; *Kingdom of Spain v Council of the European Union (C-521/15) EU:C:2017:982* at [89].

60 H.C.H. Hofmann, "The Duty of Care in EU Public Law—A Principle Between Discretion and Proportionality" (2020) 13 Review of European Administrative Law 87, 100, citing *Spain v Commission of the European Communities (C-525/04 P) EU:C:2007:698; [2008] 1 C.M.L.R. 40* at [57]. In this judgment the Court reiterated that "not only must the Community judicature establish whether the evidence relied on is factually accurate, reliable and consistent but also whether that evidence contains all the information which must be taken into account in order to assess a complex situation and whether it is capable of substantiating the conclusions drawn from it."

61 I. Koivisto, "The Anatomy of Transparency: The Concept and its Multifarious Implications" (2016) EUI MWP Working Paper No.2016/09.

62 See e.g. H.C.H. Hofmann and M. Tidghi, "Rights and Remedies in Implementation of EU Policies by Multi-Jurisdictional Networks" (2014) European Public Law 147–164, discussing notions of tagging of information.

63 A.Z. Huq, "Constitutional Rights in the Machine Learning State" (2020) 105 Cornell Law Review 49, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3613282; Desai and Kroll, "Trust but Verify: A Guide to Algorithms and the Law" (2017) 31 Harvard Journal of Law and Technology 10–11. One currently increasingly

wide-spread approach is based on distributed ledger technology often known as "blockchain".

64 Hofmann and Tidghi, "Rights and Remedies in Implementation of EU Policies by Multi-Jurisdictional Networks" (2014) European Public Law 147–164, discussing notions of tagging of information.

65 M. Brkan, "Do Algorithms Rule the World? Algorithmic Decision-Making and Data Protection in the Framework of the GDPR and Beyond" (2019) 27 International Journal of Law and Information Technology 91, 120.

66 L. Edwards and M. Veale, "Slave to the Algorithm? Why a 'Right to an Explanation' Is Probably Not the Remedy You Are Looking For" (2017) 16 Duke Law & Technology Review 18; B. Casey, A. Farhangi and R. Vogl, "Rethinking Explainable Machines: The GDPR's 'Right to Explanation' Debate and the Rise of Algorithmic Audits in Enterprise" (2019) 34 Berkeley Technology Law Journal 143.

67 *RNNS v Minister van Buitenlandse Zaken (C-225/19 and C-226/19) EU:C:2020:951; [2022] 3 C.M.L.R. 1* at [43].

68 G. Coglianese and D. Lehr, "Regulating by Robot: Administrative Decision-making in the Machine-Learning Era" (2017) 105 The Georgetown Law Journal 1147–1223, 1207, state that reason giving will require "disclos[ing] algorithmic specifications, including the objective function being optimized, the method used for that optimization and the algorithm's input variables."

69 Huq, "Constitutional Rights in the Machine Learning State" (2020) 105 Cornell Law Review 48.

70 *V.-A. Martínez Fernández, "Immediacy and Metamedia" in F. Campos Freire et al. (eds), Time Dimension on Networks (Vienna: Springer, 2017), p.19.*

71 *Kamino International Logistics BV v Staatssecretaris van Financien (C-129/13) EU:C:2014:2041* at [42].

72 *Kamino International Logistics BV (C-129/13) EU:C:2014:2041* at [35], [77], [80].

73 The English version of that provision speaks of anyone having access to "his or her file," which can be misleading since it might insinuate that only those party to a procedure might have access to the file. The French, German and Italian versions respectively of art.41(2)(b) of the Charter) are clearer by allowing anyone concerned ("le droit d'accès de toute personne au dossier qui la *concerne*" and "Zugang zu den *sie betreffenden* Akten", "accedere al fascicolo *che la riguarda*").

74 See further: B. Wagner, "Liable, but Not in Control? Ensuring Meaningful Human Agency in Automated Decision-Making Systems" (2019) 11 Policy & Internet 104, 114–16.

75 So TAR Lazio, Rome, sec. III, 28 June 2022, Decision No.8808, para.4. In the same sense, TAR Lazio, Rome, sect. III bis, 15 October 2018, Decision No.9979; TAR Lazio, Rome, sect. III bis, 8 August 2018, Decision No.8902 and TAR Lazio, Rome, sect. III bis, 10 September 2018, Decision No.9230, confirmed by Cons. St., VI, 13 December 2019, Decision No.8472. Authors' translation.

