Digital Administration

The ReNEUAL Model Rules on EU Administrative Procedure Revisited

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European Union (EU) institutions and bodies as well as Member States acting in the scope of EU law are increasingly using (fully or partially) automating procedures leading to the adoption of public acts, a process we refer to in the following as automated decision-making procedures. Administrative procedure law has potential to ensure compliance with rights and obligations in this transformation of decision-making procedures towards automation. Given that the phenomenon of automated decision making is not limited to specific policy areas, general administrative law, as developed by the ReNEUAL Model Rules on EU Administrative Procedure,[2] might be well suited to address the challenges arising from automation and digitalisation. These had addressed matters of multi-level administrative procedures and joint data collections. Now, with automated decision-making applying software using tools and approaches referred to as artificial intelligence (AI), we argue that additions to the existing best-practice expressed in the ReNEUAL Model Rules should be reviewed as to whether they might require adaptation to new digital realities. This analysis is part of the INDIGO project coordinated by the three authors of this paper. INDIGO focuses on the future of democratic governance in Europe and the relation between the individual and the public sphere. The project addresses the impact of the digitalisation on the implementation of policies in Europe through joint information systems and the use of advanced machine learning systems.

I. The use of AI by the EU Administration and the importance of the administrative procedure

The use of advanced algorithms by the EU Administration itself (mainly the European Commission and the various EU agencies) is growing. In particular, the current use and

[2] Paul Craig/Herwig C. H. Hofmann/Jens-Peter Schneider/Jacques Ziller (eds.), ReNEUAL Model Rules on EU Administrative Procedure, OUP 2017, for details about translations into other languages see www.reneual.eu/projects-and-publications/reneual-1-0.

considerations about the possibilities of the use of such algorithms to contribute to the taking of administrative decisions with legal effects on citizens and businesses, be they rules of general scope (non-legislative acts of general application adopted by the Commission, often on the proposal of the agencies) or single-case decisions (administrative sanctions, inspections, authorisations, product recalls, subsidies, selection of civil servants and contractors, registration of trademarks, etc.). Although the administrative implementation of EU law is primarily the responsibility of the Member States, the Treaties and secondary legislation also give the Commission and the European agencies significant powers to adopt this type of decisions. Further, the EU has developed a unique approach to cooperative federalism linking Member State and EU levels in a multitude of procedural forms of cooperation, often through joint data collections and procedures of the use and re-use of such data.

Against this background, we will discuss whether the ReNEUAL Model Rules, which were proposed as a set of minimum procedural rules applicable to the adoption of such decisions by the EU Administration and were drawn from inspiration from existing sectoral rules and national procedural laws in Member States' administrations, should be reviewed in view of ADM using AI tools. First, we do so with a look at certain characteristics of ADM in EU administrative law (1) before looking (2) at specific case studies of the use of ADM in EU law.

1. Characteristics of ADM

In EU administrative law, the development of automated decision making is often linked to the establishment of large-scale information systems. Automated decision making requires large sets of data to be able to provide the quantity and quality of data processing. Large scale data sets require automated decision-making technology to process the data to make use of the advantages of data availability for decision-making.

Some of the most well-known large scale information systems in the EU are in the field of the Area of Freedom, Security and Justice (AFSJ) such as the Schengen Information System (SIS II).[3] The link between the development of large scale databases and automated decision making technology is explicit in the creation of a single agency (eu-LISA).[4] Other large-scale information systems exist for example in the areas regulating risk in food, animal feed, plant health,[5] human and veterinary medicine products.[6]

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[3] A large-scale information system for border management in operation in EU and non-EU countries on the basis of Regulations (EU) 2018/1860-1862 (OJ 2018 L 312/1, 14 and 56)

[4] The European Union Agency for the Operational Management of Large-Scale IT Systems in the Area of Freedom, Security and Justice (eu-LISA) is an agency established under Regulation (EU) No 1077/2011 (OJ 211 L 286/ 1 replaced by Regulation (EU) 2018/1726, OJ 2018 L 295/99–137).

[5] Commission Implementing Regulation (EU) 2019/1715 (OJ 2019 L 261/ 37).

[6] See: Simona Demková, The Decisional Value of Information in European Semi-Automated Decision Making, (2021) *Review of European Administrative Law*, 9.

Relevant for the introduction of automated decision making with AI approaches is the availability of data. In this context, first, in single market regulation, as well as in data collections pertaining to the AFSJ, interoperability is becoming the norm for connecting different databases established initially for different causes.[7] The principle of interoperability enables interconnectivity of data collections and thereby enlarges the 'data lake' available to processing by automated decision making technology.[8] For example, in the field of the AFSJ, the Electronic Travel Information and Authorisation System (ETIAS)[9] and the Passenger Name Record (PNR)[10] system will become linked with interoperability functions, allowing for searches taking place within these databases to be enriched with data from certain interconnected other databases.[11] It also allows for further integration of automated decision making technologies into decision making procedures by introducing novel technical capacities for matching of available data.[12]

Next to interoperability requirements, relying on the sharing of information across different *systems*, sharing data across EU and Member State administrations is an important approach in EU administrative law to enlarge data availability.[13] Interoperability requirements arose initially from mutual assistance requirements between European administrations.[14] These have, in many areas, evolved towards more integrated informational cooperation following requirements of a single legal space in the EU

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[7] The protection of personal data is particularly vulnerable to this because of the principle of purpose limitation of data collection.

[8] Teresa Quintel, 'Connecting Personal Data of Third Country Nationals: Interoperability of EU Databases in the Light of the CJEU's Case Law on Data Retention' (2018) 002–2018 University of Luxembourg Law Working Paper Series <https://ssrn.com/abstract=3132506 or http://dx.doi.org/10.2139/ssrn.3132506> accessed 2 April 2018.

[9] Regulation (EU) 2018/1240 of the European Parliament and of the Council of 12 September 2018 establishing a European Travel Information and Authorisation System (ETIAS) and amending Regulations (EU) No 1077/2011, (EU) No 515/2014, (EU) 2016/399, (EU) 2016/1624 and (EU) 2017/2226, OJ L 236, 19.9.2018, p. 1–71, pursuant to which visa free Third Country Nationals (TCNs) have to apply for an electronic authorization in order for the risk they pose to be assessed in advance.

[10] Directive (EU) 2016/681 of the European Parliament and of the Council of 27 April 2016 on the use of passenger name record (PNR) data for the prevention, detection, investigation and prosecution of terrorist offences and serious crime, OJ L 119, 4.5.2016, p. 132–149.

[11] Niovi Vavoula, 'Consultation of EU Immigration Databases for Law Enforcement Purposes: A Privacy and Data Protection Assessment' (2020) 22 European Journal of Migration and Law 139, 145–146.

[12] Such novel automated decision making capacities are especially embedded in the shared BMS interoperability tool, see eu-LISA, 'Shared Biometric Matching Service (SBMS): Feasibility Study - Final Report' (eu-LISA 2018) Website <http://op.europa.eu/en/publication-detail/-/publication/10175794-3dff-11e8-b5fe-01aa75ed71a1/language-en> last accessed 22 August 2022.

[13] Jens-Peter Schneider, Information Exchange and its problems, in: Harlow/Leino/della Cananea (eds.) Research Handbook on EU Administrative Law, Cheltenham 2017, 81-112; see also Jens-Peter Schneider, Basic Structures of Information Management in the European Administrative Union, (2014) 20 European Public Law, 89, 98-106. See in other context, for instance, as part of the EU Digital Strategy Regulation (EU) 2022/868 of the European Parliament and of the Council of 30 May 2022 on European data governance and amending Regulation (EU) 2018/1724 (Data Governance Act), OJ 2022 L 152/1–44.

[14] See especially the ReNEUAL Model Rules Book V; Jens-Peter Schneider, Information Exchange and its problems, in: Harlow/Leino/della Cananea (eds.) Research Handbook on EU Administrative Law, Cheltenham 2017, 81, 86-90. For the discussion of the evolution of EU administration Herwig C.H. Hofmann, Mapping the European Administrative Space, 31 *West European Politics* [2008], 662-676.

without internal frontiers.[15] For example, food and non-food mutual warning systems (RASSF or RAPEX)[16] also serve as large-scale storages of information. Imbedding the automated decision-making technology within EU large scale databases aids multi-level, decentralized implementation of EU policies in the context of composite decision-making within administrative networks providing, for example, for information exchange, joint warning systems and structures of coordinated remedies.

Many policy areas allow access by public bodies to privately held or collected data.[17] Travel, communications, banking and financial institutions face certain data retention obligations in order to allow for subsequent access to data by public authorities.[18] But increasingly EU policies also impose reporting obligations or the possibilities of regulatory agencies to demand the provision of relevant information falling within the regulatory ambit of the agencies.[19] These reporting obligations allow agencies to access information regarding the possible necessity for regulatory action by an agency and enforcement.[20]

The composite approach to data collections and the interoperability paradigm also raises challenges concerning the quality and accuracy of data input into decision making – which has in turn effects on accountability in automated decision-making procedures

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[15] See especially the ReNEUAL Model Rules Book VI. See e.g. such information exchange under the *Internal Market Information System* (IMI) systems ('About IMI-Net' https://ec.europa.eu/internal_market/imi-net/about/index_en.htm). Micaela Lottini, 'An Instrument of Intensified Informal Mutual Assistance: The Internal Market Information System (IMI) and the Protection of Personal Data' (2014) 20 European Public Law, 107; Simona Demková, The Decisional Value of Information in European Semi-Automated Decision Making, (2021) *Review of European Administrative Law*, 9.

[16] European Commission, 'Safety Gate: The Rapid Alert System for Dangerous Non-Food Products' (*ec.europa.eu*),
https://ec.europa.eu/consumers/consumers_safety/safety_products/rapex/alerts/repository/content/pages/ rapex/i ndex_en.htm; European Commission, 'RASFF - Food and Feed Safety Alerts', https://ec.europa.eu/food/safety/rasff_en; more generally on duties to inform Jens-Peter Schneider, Information Exchange and its problems, in: Harlow/Leino/della Cananea (eds.) Research Handbook on EU Administrative Law, Cheltenham 2017, 81, 82-83, 91-94.

[17] Buying services – from geolocalisation to cloud storage and associated search services is not uncommon in various areas covering research, environment, farming, fishing and other fields.

[18] See Joined Cases C-203/15 and C-698/15, Judgment of the Court (Grand Chamber) of 21 December 2016, *Tele2 Sverige AB v Post- och telestyrelsen* (C-203/15: ECLI:EU:C:2016:970), *Secretary of State for the Home Department v Tom Watson, Peter Brice, Geoffrey Lewis* (C-698/15: ECLI:EU:C:2016:970). Joined Cases C-511/18, *La Quadrature du Net and Others*, C-512/18, *French Data Network and Others*, and C-520/18, *Ordre des barreaux francophones et germanophones and Others* (ECLI:EU:C:2020:791).

[19] E.g. in the field of financial regulation see reporting duties established by ESMA and national financial regulators under provisions such as Art. 26a and Art. 99e of Directive 2014/91/EU of the European Parliament and of the Council of 23 July 2014 amending Directive 2009/65/EC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS) as regards depositary functions, remuneration policies and sanctions Text with EEA relevance, OJ 2014 L 257/186.

[20] E.g. in the field of data protection, Art. 49(1) third sentence GDPR requires that data controllers "shall inform the supervisory authority of the transfer" of data to a third country when acting under the criteria of Art. 49 GDPR.

based on such data.[21] Data are collected and processed stemms from various levels and sources (EU and Member State, public and private). In view of this being possibly one of the most crucial aspects of the possibility of successful use of automated decision making and at the same time a topic of high concern for the exercise of individual rights, the use of automated decision making requires supervision of the quality of data-input.[22] The latter concern of quality control is also of extraordinary relevance due to the links between public and private data collections used as bases for automated decision making in some policy areas. Information quality is not just a matter of maintaining up to date and correct data in public databases but also covers the control of information imported from or accessed from private actors. Raising some of these conditions, Art. 10 of the Commission's draft AI Act directs data and data governance in what the draft refers to as "high-risk AI systems".[23] Data sets must meet certain quality criteria including under Art. 10(3) AI Act "shall be relevant, representative, free of errors and complete" and shall have "the appropriate statistical properties".

2. The use of AI by the EU Administration: a mapping exercise

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[21] E.g. Art. 17, 18 EDPR requires that data must be correct and up-to-date. This requires access to data, and its possible rectification are key in this context. Unauthorized or unlawful processing as well as (accidental) loss must be avoided. Data should not be accessible by non-authorised parties be they internal to an organisation or external. This is a requirement under the principle of data security also codified in data protection legislation. For case law see also Opinion 1/15 (*EU-Canada PNR Agreement*) of 26 July 2017, EU:C:2017:592, para 172: "Similarly, it should be stated that the databases with which the PNR data is cross-checked must be reliable, up to date and limited to databases used by Canada in relation to the fight against terrorism and serious transnational crime." Although this CJEU statement in Opinion 1/15 relates predominantly to Canadian data cross referenced to EU PNR data, this is a clear statement regarding the necessity of upholding data quality; see generally on data quality concepts Lena-Sophie Deißler, Gewährleistung von Informationsqualität in europäischen Informationssystemen, Baden-Baden 2018.

[22] See e.g. European Agency for the Operational Management of Large Scale IT Systems in the Area of Freedom, Security and Justice., *Data Quality and Interoperability: Addressing the Capability Gaps through Standardisation : Eu LISA 12th Industry Roundtable, 3 5 November 2020, Tallinn (Online Event).* (Publications Office of the EU 2020) <https://data.europa.eu/doi/10.2857/497949> accessed 29 March 2021; European Union Agency for Fundamental Rights, *Data Quality and Artificial Intelligence – Mitigating Bias and Error to Protect Fundamental Rights* (Publications Office of the EU 2019) <https://fra.europa.eu/en/publication/2019/data-quality-and-artificial-intelligence-mitigating-bias-and-error-protect>. See also the EU efforts in standardising the data quality requirements, for instance, in the context of biometric data collection and storing in EU AFSJ systems. Commission Implementing Decision (EU) 2020/2165 of 9 December 2020 on laying down rules for the application of Regulation (EU) 2018/1861 of the European Parliament and of the Council as regards the minimum data quality standards and technical specifications for entering photographs and dactyloscopic data in the Schengen Information System (SIS) in the field of border checks and return, OJ L 431/61, Brussels, 21.12.2020 and Commission Implementing Decision (EU) 2021/31 of 13 January 2021 on laying down rules for the application of Regulation (EU) 2018/1862 as regards the minimum data quality standards and technical specifications for entering photographs and dactyloscopic data in the [SIS] in the field of police cooperation and judicial cooperation in criminal matters, *OJ* L 15/1, Brussels, 18.1.2021.

[23] European Commission, Proposal for a Regulation of the EP and the Council laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) of 21.4.2021, COM(2021) 206 final, 2021/0106 (COD).

In the context of the INDIGO research project, the task of studying the use of AI tools by the EU Administration has been undertaken mainly by the group from the Pompeu Fabra University in Barcelona. Regarding the EU, only limited information is available. Although there are detailed and interesting reports on national experiences coordinated by EU institutions,[24] no report seems to be published that addresses specifically the use of AI systems by EU institutions or agencies. This contrasts sharply with the situation in the United States, where there is a wealth of information on federal agencies. In fact, the most detailed report on the use of AI tools at the federal level has been commissioned and provided by one of its agencies, the Administrative Conference of the United States (ACUS)[25]. There is nothing similar at the EU Administration level.

Given the limited information available, the main source of information regarding the EU consists of semi-structured interviews carried out with various officials from the Commission and some European agencies. After contacting DG-Connect, the Directorate General of the European Commission responsible for drafting the AI Act Proposal, and after multiple requests to successive potential interlocutors in the Commission and different agencies, interviews were held between July and December 2021 with representatives of DG Agriculture (DG-Agri) and the agencies EFSA (European Food Safety Authority), EUIPO (European Union Intellectual Property Office) and eu-LISA.[26] These interviews were very informative and should be briefly summarised.

a) Case 1 (DG-Agri/ESA): the use of AI for satellite monitoring of European crops and compliance with CAP agricultural subsidy rules

The first use case concerns a pilot experiment in the field of the Common Agricultural Policy (CAP) aimed at satellite monitoring of European crops and compliance with agricultural subsidy rules. Currently, Member States are obliged to inspect five percent of subsidised crops on the ground in order to check compliance and prevent fraud. The new system uses machine learning algorithms to improve the recognition accuracy of

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[24] Of particular interest are those produced by the Commission's Joint Research Centre (JRC), which form part of the AI Watch series. Especially the reports by Misuraca, G.; van Noordt, C. (2020), Overview of the use and impact of AI in public services in the EU, EUR 30255 EN, Publications Office of the European Union, Luxembourg, doi:10.2760/039619, JRC120399; and Tangi L.; van Noordt C.; Combetto M.; Gattwinkel D.; Pignatelli F. (2022), AI Watch. European Landscape on the Use of Artificial Intelligence by the Public Sector, EUR 31088 EN, Publications Office of the European Union, Luxembourg, doi:10.2760/39336, JRC129301.

[25] Engstrom, David Freeman; Ho, Daniel E.; Sharkey, Catherine M.; Cuéllar, Mariano-Florentino (2020), Government by Algorithm: Artificial Intelligence in Federal Administrative Agencies, Administrative Conference of the United States.

[26] They are Doris Marquardt (DG-Agri, 30.07.2021), Ermanno Cavalli (EFSA, 14.10.2021), Rahul Bhartiya (EUIPO, 30.11.2021) and Aleksandrs Cepilovs (eu-LISA, 22.07.2021 and 14.12.2021), to whom we are very grateful for their excellent cooperation.

satellite images[27]. It aims, among other things, to monitor all European fields, including those that are more difficult to access, and to reduce and optimize the number of field inspections, to the benefit of national administrations and farmers themselves, for whom the system can also make it easier to obtain subsidies.

The system, driven by the European Space Agency (ESA) and guided by a steering committee composed of the three Commission Directorates-General involved in the CAP (DG-Agri, DG-Grow and DG-JRC), is being technologically developed by a public-private consortium led by a Belgian university.

The system does not take automated decisions, but merely issues alerts in cases of possible non-compliance. Such alerts are verified by humans through the review or zoom of images or, where appropriate, an on-site inspection, before a legal decision is taken to deny the requested subsidy or to reimburse the previously granted subsidy. Satellite monitoring can therefore form part of the complex procedures for the granting, control and revocation of CAP subsidies. It constitutes an additional means of proof of compliance or non-compliance with the rules and, as such, would form part of the information-gathering phase of the decision-making procedure provided for in Book III of the ReNEUAL Model Rules (Chapter 3, Art. III-10 et seq.). Such satellite monitoring has been admitted and regulated by a Commission Implementing Regulation of 2018,[28] which does not address the technology used and, in particular, the use of AI tools for the analysis of the images taken.[29]

b) *Case 2 (EFSA): the use of AI for the analysis of relevant scientific literature in food risk assessments*

The second use case concerns the automation, using machine learning algorithms, of part of the process of analysis of relevant scientific publications carried out by EFSA when performing risk assessments of certain substances or products. This comprehensive review of the scientific literature, known as a Systematic Review, is a fundamental part of the risk assessment performance that characterises EFSA and similar agencies such as the European Medicines Agency (EMA), the European Centre for Disease Prevention and Control (ECDC) and the European Chemicals Agency (ECHA). It consumes a large part of their resources, forcing the experts conducting them to sift through a huge and

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[27] Mainly ESA's Sentinel-1 and Sentinel-2 satellites.

[28] Commission Implementing Regulation (EU) 2018/746 of 18 May 2018 amending Implementing Regulation (EU) No 809/2014 as regards modification of single applications and payment claims and checks. See especially the new Art. 40a on checks by monitoring.

[29] For more information on this first use case, see the project's website (http://esa-sen4cap.org), as well as the Special Report 04/2020 of the European Court of Auditors, which evaluates it positively and recommends its promotion.

exponentially growing volume of publications. The process is slow, tedious and often obsolete by the time it is completed.

EFSA has been working on the partial automation of this process for several years now[30]. It already routinely uses automation of the initial phase of selection of relevant publications, which operates on the basis of an analysis of their title and abstract. This selection excludes papers considered irrelevant and normally reduces the number of papers to be studied from several thousands to a few hundreds. This is done using the DistillerSR software marketed by Evidence Partners, and allows one of the two experts usually required for the review to be replaced. In their final report, the experts indicate that they have used the tool.

EFSA would like to automate further stages of the review process, such as the extraction of relevant data from previously selected papers, and even the critical appraisal of these papers to determine their quality. Concerning the data extraction, it is collaborating with the US Environmental Protection Agency (EPA) to provide food safety data to train a machine learning programme (Fiddle) developed by Sciome with a grant from the EPA.[31]

The final scientific opinion on the risk assessment is always elaborated by a human expert, although an error in the automated screening of relevant publications may, of course, leave out important scientific papers and evidence that could not be considered in the preparation of that opinion.

c) *Case 3 (EUIPO): the use of AI in the trade mark and design registration procedure*

The European Intellectual Property Agency (EUIPO) annually registers around 135,000 trade marks and 100,000 designs, processing applications filed in 23 different languages, so it is not surprising that it has made a significant commitment to the introduction of AI tools aimed at facilitating the work of its employees and applicants.[32]

Among the various tools being introduced, two can be highlighted in relation to the registration procedure. The first is the possibility to search for similar images through the

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[30] See Jaspers, S.; De Troyer, E.; Aerts, M. (2018), Machine learning techniques for the automation of literature reviews and systematic reviews in EFSA, EFSA supporting publication 2018:EN-1427, doi:10.2903/sp.efsa.2018.EN-1427.

[31] See the EFSA Call for Proposals GP/EFSA/AMU/2020/03 - Support for Automating some specific steps of Systematic Review process using Artificial Intelligence (no longer available on the EFSA website), calling for a grant for the development of such training datasets.

[32] Between July 2020 and June 2025, EUIPO is developing a project to implement AI solutions in different areas of its activity with a budget of 2,860,000 euros and 24.5 full-time employees - see: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/contentPdfs/Strategic_Plan_2025/project_cards/SD3_Artificial_Intelligence_implementation_PC_en.pdf (last visited: 29 July 2022). On the use cases developed by its US counterpart, the US Patent and Trademark Office, see Freeman *et al.* (2020), pp. 46 ff.

eSearchPlus database, which is available on the EUIPO website for anyone who is considering registering a particular trade mark or design and wants to check whether the one they have in mind is already registered.

The second is a Goods and Services comparator that allows EUIPO officials to more easily resolve disputes that may arise when a third party opposes the trade mark sought to be registered. Applicants for a particular trade mark must indicate the goods and services it is intended to cover, and there are trade marks that can cover up to two thousand different goods and services. In case of opposition, officials must undertake a comparison of the goods and services covered by the respective trade marks, which is time-consuming and tedious, as well as complex in the many cases where there is no clear distinction between two goods or services. The implemented AI tool facilitates this comparison by suggesting to the official an answer to the pair of conflicting goods and services on the basis of the thousands of previous decisions issued by the EUIPO. The system even provides the reasons given in the previous decisions, in order to facilitate the drafting of the decision, which is in any case the responsibility of the official(s) of the respective Opposition Division[33]. Such decisions can be challenged by the interested parties before the EUIPO Boards of Appeal, which are also composed of one or three natural persons.[34]

It is remarkable that, contrary to the usual practice, EUIPO is developing these AI tools in-house, without acquiring them from third parties.

d) Case 4 (eu-LISA): The use of AI for biometric recognition of persons at the EU's borders

The fourth and final use case refers to eu-LISA, the European Union Agency for the Operational Management of Large-Scale IT Systems in the AFSJ. This European agency is responsible for the management of basic information systems for Member States' control of the Union's borders, such as the Schengen Information System (SIS II), the Visa Information System (VIS) and the asylum information system (Eurodac). It is also developing new information systems already regulated by EU law, such as the Entry/Exit System (EES), the European Travel Information and Authorisation System (ETIAS) and the European Criminal Records Information System - Third-Country Nationals (ECRIS-TCN), for their forthcoming entry into operation.

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[33] See EUIPO, New AI-based comparison of goods and services, 29 March 2022 (last visited: 29 July 2022).
[34] Regulation (EU) 2017/1001 of the European Parliament and of the Council of 14 June 2017 on the European Union trade mark, Arts. 66 ff and 159 ff.

AI is used in the first three systems and in the forthcoming EES for biometric identification and verification of persons at EU borders.[35] All of them employ biometric matching systems, which use advanced machine learning algorithms to match facial images and fingerprints taken at the borders with those stored in these information systems. Each system has its own biometric matching service,[36] but the companies developing the EES biometric system are also working on implementing a tool to enable simultaneous search and comparison of biometric data in all these information systems at the same time.[37] This is the shared biometric matching service (sBMS), foreseen and regulated in Art. 12 et seq. of the Regulations that allow interoperability between all these information systems.[38]

These biometric matching systems are not developed by eu-LISA, but by private contractors on the basis of the technical specifications set by eu-LISA, which also tests their proper functioning. The contract for the development of the EES and the sBMS was awarded for 302 million euros to a consortium of European companies.[39] As is well known, an essential aspect of any machine learning system is its training, which must be done with a large amount of quality data for the system's performance to be adequate. The establishment of this training datasets is very costly and is covered by the business secrecy of the contractors, which do not allow eu-LISA to access them. Eu-LISA is therefore unaware of the data used by its contractors to train the systems, and whether it suffers from the (mainly racial and gender) biases that have been frequently observed in the training of biometric recognition systems.[40]

In any case, the systems that eu-LISA makes available to Member States would be among the most advanced in the world and would have a very high performance, superior to that of the most experienced border official. Their accuracy would have increased tenfold since such systems began to be used by eu-LISA in 2014, and would be facilitated by the

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[35] On the use cases of facial recognition by the US federal border control agency, Customs and Border Protection (CBS), see Freeman *et al.* (2020), pp. 30 ff.

[36] Eu-LISA (2018), Shared Biometric Matching Service (sBMS) Feasibility Study - final report, doi:10.2857/84504, p. 5.

[37] Eu-LISA, Call for Tender - Framework contract for implementation and maintenance in working order of the biometrics part of the Entry Exit System and future Shared Biometrics Matching System, LISA/2019/RP/05 EES BMS and sBMS, Executive Summary, pp. 7-8.

[38] Regulation (EU) 2019/817 of the European Parliament and of the Council of 20 May 2019 on establishing a framework for interoperability between EU information systems in the field of borders and visa, and Regulation (EU) 2019/818 of the European Parliament and of the Council of 20 May 2019 on establishing a framework for interoperability between EU information systems in the field of police and judicial cooperation, asylum and migration.

[39] https://ted.europa.eu/udl?uri=TED:NOTICE:200083-2020:TEXT:EN:HTML (last visited: 29 July 2022).

[40] See eg the famous paper by Buolamwini, J.; Gebru, T. (2018), "Gender shades: Intersectional accuracy disparities in commercial gender classification", Conference on fairness, accountability and transparency, PMLR 77- 91, which led the first of the authors to testify before the US Congress on the impact of facial recognition technology on citizens' rights.

controlled environments in which they operate (airports with good cameras, where images are taken without movement, with adequate lighting, etc., as opposed to video surveillance cameras).

The existing EU law governing these biometric matching systems used at EU borders does not address the particularities arising from the fact that they are based on machine learning algorithms, or that they are developed by external contractors. It does establish, inter alia, the quality requirements to be met by the fingerprints and facial images used, the rate of false positives and negatives allowed and the regular (at least monthly) monitoring of the performance of the system to be carried out by eu-LISA.[41]

It is important to note that the other major information system currently being implemented by eu-LISA, ETIAS,[42] does not rely on machine learning algorithms. The Regulation governing it predefines in detail the aspects to be checked by the system when a third-country national applies for authorisation to travel to the territory of the Union.[43] The computerised system will automatically grant the authorisation to travel when these predefined checks produce a negative result. When the result is positive and a hit occurs (e.g., because the applicant uses a passport that is in the Interpol database of lost or stolen passports, or is on the ETIAS watchlist as a terrorist suspect, or fits into one of the specific risk indicators to be developed in accordance with Art. 33 of the Regulation), the system will inform Frontex to carry out the relevant verification and, if the positive result is confirmed, transmit the application to the competent Member State to decide the application manually (i.e., via a human) and in a reasoned manner. It is therefore a traditional algorithmic system, perfectly traceable, which is limited to checking that the conditions previously established by the legislator-programmer are met ("if-then" system), without establishing new rules based on correlations that can be extracted from large amounts of data, as is the case with machine learning algorithms.[44]

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[41] See, for the EES, the Annex of the Commission Implementing Decision (EU) 2019/329 of 25 February 2019 laying down the specifications for the quality, resolution and use of fingerprints and facial image for biometric verification and identification in the Entry/Exit System (EES).

[42] The European equivalent of the US Electronic System for Travel Authorization (ESTA). ETIAS will require non-EU citizens from visa-free countries to obtain authorization to travel to the territory of the Union for a maximum period of 90 days. It is expected to come into operation in May 2023.

[43] See Regulation (EU) 2018/1240 of the European Parliament and of the Council of 12 September 2018 establishing a European Travel Information and Authorisation System (ETIAS) and amending Regulations (EU) No 1077/2011, (EU) No 515/2014, (EU) 2016/399, (EU) 2016/1624 and (EU) 2017/2226, Arts. 20 ff.

[44] A detailed and critical analysis of the facial recognition and risk assessment algorithms employed by these eu-LISA-operated information systems can be found in Vavoula, Niovi (2021), "Artificial Intelligence (AI) at Schengen Borders: Automated Processing, Algorithmic Profiling and Facial Recognition in the Era of Techno-Solutionism", *European Journal of Migration and Law*, https://ssrn.com/abstract=3950389; and Derave, Charly; Genicot, Nathan; Hetmanska, Nina (2022), "The Risks of Trustworthy Artificial Intelligence: The Case of the European Travel Information and Authorisation System", *European Journal of Risk Regulation*, 1-37. doi:10.1017/err.2022.5.

It is objectionable that AI systems that are integrated into these eu-LISA-operated information systems before 36 months after the entry into force of the proposed AI Act are excluded from the Act,[45] despite being considered high-risk under its Annex III.[46]

II. Some observations resulting from the mapping and the technical considerations

Without prejudice to the more detailed analysis to be carried out in the coming months, some preliminary observations can be drawn from the case studies resulting also in considerations on the general legal framework of automated decision making use of AI tools in EU administrative law.

1. Initial observations flowing from the mapping exercise

The mapping exercise shows, first, the limited information available on existing AI use cases within the EU Administration. It is striking that not only is this information not available on the internet, but it is not even available to any centralised EU service. There is an informal network among certain European agencies ("AI Virtual Community") that exchanges experiences on AI use cases, but neither the Commission nor all agencies participate in it. It is questionable that the DG behind the important AI Act Proposal is unaware of the existing use cases at EU level and the problems they may raise. Having such information is essential to adequately assess the impact of the new proposal on the EU Administration itself, as well as to consider possible specific rules applicable to the use of AI systems by public authorities.

It is not surprising, therefore, that the AI Act Proposal practically ignores the specificities of the use of AI by the public sector, and focuses mainly on the private sector. The establishment by Art. 60 of the Proposal of a centralised database within the Commission with the existing use cases in both the public and private sector is a positive step to overcome the current lack of information, but in the case of public authorities it could be extended to all AI systems and not be limited only to those that deserve the (elusive) high-risk qualification. The possible objections of competence that could oppose a regulation by the European legislator of the use of AI by national administrations would not be applicable to the administration of the Union itself: the European legislator can regulate its own administration as it wishes (Art. 298 TFEU).

The mapping exercise also revealed that there is considerable interest and growing use of AI tools by the EU Administration itself. However, its use is still sporadic, and does not respond to a centralised and conscious policy of the Commission, but is the result of the

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[45] Art. 83 of the Proposal, in relation to its Art. 85(2) and Annex IX.
[46] Paragraphs 1 and 7 of Annex III of the Proposal.

individual initiatives of the different Directorates-General and agencies, sometimes in collaboration with their counterparts in other regions (as witnessed in the case of EFSA and its collaboration with the US EPA). AI is used both by the authorities that have their own decision-making powers (EUIPO, EFSA - as regards the issuing of scientific opinions) and those that provide information systems to the Member States for the corresponding decisions to be taken (DG-Agri/ESA, eu-LISA).

The mapping exercise also confirms the importance of outsourcing in this area, and the limited capacities of the EU Administration to develop its own AI systems. With the notable exception of EUIPO, the other authorities have to rely on public procurement (eu-LISA, for very significant amounts) or non-commercial external partners (DG-Agri/ESA, EFSA) to develop them.[47] As we have seen, this sometimes raises the problem of not being able to access the training data of machine learning systems, which are protected by business secrecy. The access rights for public supervisory authorities to training data of very large online platforms or search engines under Art. 31, 57 Digital Services Act[48] indicate that the legislator would be able to develop a more suitable access and accountability framework also concerning training data for AI tools used for administrative decision making.

The use cases examined also show the great potential that AI can have for improving certain administrative functions, increasing their quality and effectiveness and not only reducing their cost. For some tasks it is already unimaginable, even reprehensible, not to use AI. This is the case for machine translation of texts, in which the Commission is investing large amounts of resources, as confirmed by several interviewees. In the cases studied, AI makes it possible to significantly strengthen the control of agricultural subsidies and EU borders, as well as to speed up the food risk assessment process and to facilitate the consistency of decisions on the registration of trade marks.

2. Initial considerations concerning other legal principles

Procedural changes due to that integration of automated decision making technology into decision-making requires specific attention to substantive as well as procedural rights and principles. Criteria for accountability of automated decision making and means for the protection of individual rights in their use must differentiate between, on one hand, the

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[47] On the situation in US federal agencies see Freeman *et al.* (2020), pp. 88 ff.: more than half of the identified 157 AI use cases (53%) were developed in-house by agency technologists, and nearly as many came from external sources, with 33% coming from private commercial sources via the procurement process and 14% resulting from non-commercial collaborations, including agency-hosted competitions and government-academic partnerships.
[48] Regulation (EU) 2022/### of the European Parliament and of the Council on a Single Market for Digital Services (Digital Services Act), OJ 2022 L ###/##, see especially recital 64.

systemic questions of the design of the automated decision making procedures, and, on the other hand, questions of *individual* decision-making procedures.[49] This reflects the role of automated decision making systems to pre-define decision-making in a way similar to administrative rule making procedures.[50] Accordingly, the Court of Justice of the EU (CJEU) also requires that automated decision making technology and its working in real life must be subject to regular review.[51] This is a requirement of subsequent ongoing review. It finds that

> "…in order to ensure that, in practice, the pre-established models and criteria, the use that is made of them and the databases used are not discriminatory and are limited to that which is strictly necessary, the reliability and topicality of those pre-established models and criteria and databases used should, taking account of statistical data and results of international research, be covered by the joint review of the implementation …"[52]

Regarding individual rights involved in automated decision making using specific databases, one instance of anticipatory control is the requirement of conducting a Data Protection Impact Assessment (DPIA).[53] Such impact assessment will include questions of the definition of the human-machine interface in semi-automated decision making and will be necessary in the context of all automated decision making systems, which have a potential impact on decision making. The social impacts for the development of automated decision making technology is potentially considerable and thus merits a broad approach, making AI impact assessments much broader than those required for data protection purposes only. Accordingly, the idea of the "Algorithmic IAs" as something different to DPIAs only, for instance including human rights assessment in general, or assessment of wider procedural issues is highly relevant.[54] The European Law Institute has recently provided a set of model rules for such an assessment of impacts on (1.) fundamental or other individual rights or interests, (2.) democracy, societal and

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[49] Matthew Smith, Merel Noorman, Aaron Martin, Automating the Public Sector and Organizing Accountabilities, 26 Communications of the Association for Information Systems (2010) 1-16, 10.

[50] Karen Yeung, 'Why Worry about Decision-Making by Machine?' in Karen Yeung and Martin Lodge (eds), *Algorithmic Regulation* (1st ed, Oxford University Press 2019) 41.

[51] Judgement of the Court (Grand Chamber) of 6 October 2020: C-511-520/18 *La Quadrature du Net* ECLI:EU:C:2020:791, para 182 with reference to Opinion 1/15 (*EU-Canada PNR Agreement*) of 26 July 2017, ECLI:EU:C:2017:592, paras 173, 174.

[52] Opinion 1/15 (*EU-Canada PNR Agreement*) of 26 July 2017, EU:C:2017:592, para 174.

[53] Additionally, this is necessary for systems under Art. 27 of Directive (EU) 2016/680 on the prevention, investigation, detection or prosecution of criminal offences, OJ 2016 L 119/89. Under both Art. 35(7)a) GDPR and Art. 39(7)a) EDPR, a "systematic description of the envisaged processing operations and the purposes of the processing" is necessary.

[54] See Joint Research Centre., *AI Watch, Artificial Intelligence in Public Services: Overview of the Use and Impact of AI in Public Services in the EU.* (Publications Office 2020) section 3.3.3. <https://data.europa.eu/doi/10.2760/039619> accessed 14 May 2021.

environmental well-being and (3.) the administrative authority itself.[55] An important and distinctive aspect of the ELI concept is the combined focus not only on a comprehensive range of risks but also on measures to maximise benefits to be achieved by deploying the system with regard to public objectives as defined in the applicable law. In addition, the ELI Model Rules provide in case of high-risk algorithmic decision-making systems for independent expert audits and public participation. This reflects the sensitivity of public AI systems for a democratic society under the rule of law.

The CJEU has acknowledged that the use of automated decision making technology can de facto intensify limitations to the right to privacy and the protection of personal data.[56] Automated searching and processing of databases may lead to "particularly serious interference constituted by the automated analysis" of data.[57] The extent of such interference "depends on the pre-established models and criteria and on the databases on which that type of data processing is based."[58] Further, in case of automated decision making involving personal data, the GDPR and the EDPR oblige the data controller to provide the data subject with "meaningful information about the logic involved, as well as the significance and the envisaged consequences of" automated decision making - regardless of whether the data was provided by or collected from data subject or was brought to decision making from a pre-existing data base.[59] These requirements are information which must be provided regarding the 'system' of data processing. Such requirements must be reflected in the legal basis of an act allowing for automated decision making processing of an EU regulated data base.

Discussing automated decision making tools must also address the interface between human action and information technology. In real-life, automated decision making systems are generally but one tool among several to be relied on by a human decision-maker, who ultimately may bring their judgement to make the final decision themselves.[60] The integration of automated decision making into decision making procedures could in most cases be described as augmented decision making or as "quasi- or semi-automated

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[55] Model Rules on Impact Assessment of Algorithmic Decision-Making Systems Used by Public Administration. Report of the European Law Institute, 2022 (available at https://www.europeanlawinstitute.eu/projects-publications/completed-projects-old/ai-and-public-administration/), see especially Art. 6. One of the authors of this article, Jens-Peter Schneider, served as one of the ELI reporters.

[56] See also European Union Agency for Fundamental Rights (note 22).

[57] Judgement of the Court (Grand Chamber) of 6 October 2020: C-511-520/18 *La Quadrature du Net* ECLI:EU:C:2020:791, para 177.

[58] Opinion 1/15 (*EU-Canada PNR Agreement*) of 26 July 2017, EU:C:2017:592, para 172.

[59] Art. 13(2)(f), 14(2)(g) and 15 GDPR.

[60] Jennifer Cobbe, Administrative Law and the Machines of Government: Judicial Review of Automated Public-Sector Decision-Making (2019) 39 *Legal Studies* 636-638; Jean-Bernard Auby, *Le droit administratif face aux défis du numérique: AJDA (Actualité Juridique Droit Administratif)* 2018, 835.

decision-making".[61] This results in factual changes to conditions of decision making, which in turn have to be understood from a normative point of view.

The mapping exercise discussed above further reveals that the use of AI also poses risks, risks that go beyond the breach of the right to personal data protection. Given that automated decision making does not completely replace humans, who end up making the final decisions, it has been observed that there is no specific regulatory framework or even internal guidelines within each authority aimed at avoiding the occurrence of such risks, establishing, for example, the obligation to carry out an impact assessment before introducing a new AI system,[62] the conditions to be imposed on contractors commissioned to develop it, the tests to be carried out before it is put into operation or the measures to avoid excessive reliance by staff on the automated systems (automation bias).

The mapping exercise in turn confirms the importance of administrative procedural rules to avoid the risks mentioned above. Procedural guarantees inherent to the fundamental right to good administration, make it possible to significantly reduce such risks, at least where the use of AI tools results in the adoption of individual decisions that adversely affect those to whom they are addressed. Particularly relevant are such principles as the right to a hearing, the right of access to the file and the duty to state reasons, deriving from the case law of the Court of Justice and enshrined at the highest normative level in Art. 41 of the Charter of Fundamental Rights of the European Union, as well as the consultation of the public and other authorities provided for by the sectoral rules of secondary legislation.

The right to be heard makes it possible for example for farmers to point out and contest errors in the satellite monitoring system before a subsidy is refused or revoked. Also, the fact that EFSA's scientific opinions are often integrated into procedures where public consultation takes place allows for the detection of any omissions they may contain (such as previous relevant scientific papers that have not been considered in their risk assessment).

In other examples, the duty to state reasons obliges EUIPO staff to substantiate the reasons for their decision to register or not to register a given trade mark and makes it possible for the applicant or opponent to challenge it. Procedural guarantees, far from being seen as a hindrance of an analogue administration that has already been superseded,

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[61] Council of Europe, Algorithms and Human Rights: Study on the Human Rights Dimensions of Automated Data Processing Techniques and Possible Regulatory Implications' (The Committee of Experts on Internet Intermediaries (MSI-NET) 2018) 7. Simona Demková, The Decisional Value of Information in European Semi-Automated Decision Making, (2021) *Review of European Administrative Law*, 9.

[62] European Law Institute (2022), Model Rules on Impact Assessment of Algorithmic Decision-Making Systems Used by Public Administration.

are fundamental requirements of the new digital administration, and must be maintained and adapted where necessary.

In the debate about AI accountability, these administrative law requirements are often linked to notions of transparency, which has subsequently become an important topic in discussions of accountability of automated decision making systems.[63] One of the central challenges to transparency – as a notion of ensuring reasoning and compliance with the duty of care allowing for review of the legality and proportionality of decision making is *de facto* the recording of operations within a system. Information technology developments for securing information in the form of "tamper-evident record that provides non-repudiable evidence of all nodes' actions"[64] are becoming increasingly relevant. This would enhance traceability of data across its sources within multi-level information systems. It would also allow the review of its processing within an automated decision making system in a concrete process.[65] Accordingly, demands have been made that in order to "enable third parties to probe and review the behaviour of the algorithm" automated decision making "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."[66] Providing such data sheet to non-expert humans will however face obstacles by way of providing meaningful explanation in view of potentially formidable technical obstacles (depending on the complexity of an algorithm) as well as some questions of intellectual property rights and state and business secrets.[67] The Commission's draft AI Act is much less demanding concerning transparency requirements.[68] Art. 11(1) of the Commission's draft AI Act foresees for high-risk AI systems the obligation to maintain technical documentation "in such a way to demonstrate

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[63] E.g. Ida Koivisto, *The Anatomy of Transparency: The Concept and its Multifarious Implications*, EUI MWP Working Papers 2016/09.

[64] Aziz Z.Huq, Constitutional Rights in the Machine Learning State, SSRN.Com/abstract=3613282, 49; Deven R. Desai, Joshua A. Kroll, Trust but Verify: A Guide to Algorithms and the Law, 31 *Harvard Journal of Law and Technology* (2017), 1, 10-11. One currently increasingly wide-spread approach is based on distributed ledger technology often known as 'blockchain'.

[65] Herwig C.H. Hofmann, Morgane Tidghi, Rights and Remedies in Implementation of EU Policies by Multi-Jurisdictional Networks (2014) *European Public Law* 147-164.

[66] Aziz Z.Huq, Constitutional Rights in the Machine Learning State, SSRN.Com/abstract=3613282, 48.

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

[68] Art. 52 of the European Commission, Proposal for a Regulation of the EP and the Council laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) of 21.4.2021, COM(2021) 206 final, 2021/0106 (COD) 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.

that the high-risk AI system complies with the requirements of the law and to allow supervisory authorities to verify such compliance".[69]

A demand of traceability of data movements and data processing by automated decision making, which had been made in legal literature,[70] has found its way into Art. 12 of the Commission's draft AI Act albeit only for high-risk AI systems. The latter requires AI systems to contain record-keeping facilities to log and tracking operations conducted by AI systems. 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" (Art. 12(2)), and the logging capabilities must provide at least "recording of 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.

The Commission's draft AI Act also foresees that 'high-risk' AI systems must provide for appropriate "human-machine interface tools" so they can be subject to human oversight.[71] Such oversight by natural persons must be ensured through appropriate technical installations.[72] The individuals to whom human oversight is assigned must be enabled to "fully understand the capacities and limitations of the high-risk AI system and be able to duly monitor its operation so that signs of anomalies, dysfunctions and unexpected performance can be detected as soon as possible"[73] and must be trained to resist potential "automation bias".[74] The case law of the CJEU and the legislation on data protection have developed more far reaching human oversight requirements as discussed above. The reason for a relatively limited regulatory content on this in the Commission's

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[69] European Commission, Proposal for a Regulation of the EP and the Council laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) of 21.4.2021, COM(2021) 206 final, 2021/0106 (COD).

[70] See e.g. Herwig C.H. Hofmann, Morgane 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.

[71] Art. 14(1) of the European Commission's Proposal for a Regulation of the EP and the Council laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) of 21.4.2021, COM(2021) 206 final, 2021/0106 (COD).

[72] Art. 14(1) of the European Commission's Proposal for a Regulation of the EP and the Council laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) of 21.4.2021, COM(2021) 206 final, 2021/0106 (COD).

[73] Art. 14(4)(a) of the European Commission's Proposal for a Regulation of the EP and the Council laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) of 21.4.2021, COM(2021) 206 final, 2021/0106 (COD).

[74] Art. 14(4)(b) of the European Commission's Proposal for a Regulation of the EP and the Council laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) of 21.4.2021, COM(2021) 206 final, 2021/0106 (COD).

draft AI Act may be that such act is addressed at private and public uses of AI at the same time. This is a problematic notion since the use of AI in public decision-making should better be integrated into a general EU administrative procedures act and address specific effects of automated decision making on decision-making and rule-making procedures.

In view of these requirements, it is actually not surprising that a simpler automated system based on traditional conditional algorithms will often be preferable to an opaque machine learning system in order to grant compliance with the existing legal framework under EU law. This is the case, for example, with the ETIAS system of automated travel authorisation for non-EU citizens, which adequately combines administrative efficiency with guarantees for applicants and the necessary predetermination (by the legislator itself) of the reasons that may justify a negative decision.[75]

III. Digital Administration and the ReNEUAL Model Rules on EU Administrative Procedure

What lessons can we draw for EU rules on administrative procedure? The ReNEUAL Model Rules developed in 2014-2017 had established an outline of a general administrative procedure for the EU and the implementation of EU law. Do the developments we have discussed so far require or inspire a further development thereof? We discuss this from the point of view of information management (Book VI of the ReNEUAL Model Rules), decision making (Book III of the ReNEUAL Model Rules) and rule making (Book II of the ReNEUAL Model Rules).

1. Book VI and Book II – Administrative Information Management and Procedures

As mentioned earlier, the ReNEUAL Model Rules on EU Administrative Procedure already address important topics of digital administration. Namely Book VI on administrative information management provides a first draft for a comprehensive legal framework for inter-administrative data sharing by means of digital information systems including shared databases and early warning systems.[76] Important components of this framework are a clear architecture of functional responsibilities assigned to various actors like competent authorities (Art. VI-6), contact points (Art. VI-7), management authorities for IT systems (Art. VI-8) and verification authorities (Art. VI-14) with the support as well as under the control of a supervisory authority (Art. VI-30). This organisational framework is complemented with important substantive provisions on topics discussed in

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[75] Notwithstanding the risks of errors and discrimination pointed out by Vavoula (2021) and Derave et al. (2022), which make it advisable to carefully monitor its implementation.
[76] See the respective definitions or rules in Art. VI-2(3), (4), Art. VI-12 ReNEUAL Model Rules 2017.

parts I and II. These include safeguards for data quality (Art. VI-10, Art. VI-19), data sharing transparency including traceability by means of data tagging (Art. VI-9) and at least rules indirectly providing interoperability (Art. VI-5, Art. VI-8)[77]. These rules should be evaluated concerning new insights and legislative developments and amended in case of regulatory gaps or other deficits. Probably, quality standards in Art. VI-10 could be refined and interoperability should be explicitly mentioned as a standard requirement of information systems. In addition, the potential of these rules to provide safeguards against accountability gaps caused by wide-ranging contracting out of technical expertise for the design and management of digital information systems should be explored.

Book VI does not provide rules on impact assessments for digital information systems. However, Art. VI-3 requires the adoption of a basic act before an information management activity may be performed. Such a basic act might qualify as a legally binding non-legislative act of general application and thus fall according to Art. II-1 into the scope of Book II and its rules on impact assessments and public participation (Art. II-3 – Art. II-6). Nevertheless, the INDIGO project will discuss whether the impact of Book II could or even should be limited to focus primarily on the enactment or amendment of basic acts and not on the implementation or technical modification of (new) information and decision making systems legitimized by an existing basic act. This debate covers a crucial point as to whether software code underlying an automated decision making system could ever be regarded as a legal, normative text or whether it should merely be understood as a technical tool for implementation. Following the outcome of these considerations an explicit formulation might be added to Art. II-1 to clarify that it would cover also a procedural rule which would subsequently be encoded in software used for an automated decision making application. Also to be debated is whether in such case, Art. II-2 – Art. II-6 of the ReNEUAL Model Rules might require a certain threshold of 'relevance' to not overburden administrations with complex rule-making procedures for mundane small scale automation which either individually or in accumulation with other factors, does not amount to a significant change in procedure. One such possible threshold could be the relevance of the automated decision making in the context of fundamental rights including the protection of personal data and privacy or the possible limitation of property rights and the freedom to conduct a business, all protected as rights in the Charter of Fundamental Rights of the European Union.

Not covered by Book VI are information sharing arrangements among public authorities and private parties. Whether such rules should be integrated into a general codification of EU administrative procedure law is a matter of debate. It might be more appropriate to leave such arrangements to sector-specific law. Another question concerns rules on limits

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[77] See Book VI – Explanations, para 20, 31; see also Book V – Introduction, para 6.

for the use of private data as resources of automated decision making by public authorities, which is amongst others, a matter of assuring data quality for the administration as well as ensuring that the purpose of collection is not unduly changed by the data's subsequent use in public decision-making procedures. So far, however, the use of private data as resource of automated decision making falls outside of Book VI and is only implicitly covered by model rules about administrative decision making either in single cases (Book III) or concerning administrative rule-making (Book II). INDIGO will look into the matter further. The following part will focus on Book III as Book II contains only the already mentioned rules about impact assessments and public participation but no general rules about duties to investigate or to state reasons.

2. Book III – Single-Case Decision-Making

In the earlier parts of this paper we highlighted the relevance of automated decision making-tools for the investigation of the case in question by the public authority, for the effectiveness of hearings and the ability of authorities to state the reasons for their decision. Book III covers all of these fundamental topics of administrative procedural law. In the following we present a preliminary review to which extent the ReNEUAL Model Rules provide sufficient safeguards for the specific challenges for these respective procedural principles raised by the digitalisation of administrative procedure.

a) *Principle of investigation*

Art. III-10 lays down the principle of investigation:

> "When taking decisions, the public authority shall investigate the case carefully and impartially. It shall take into consideration the relevant factors, including those favourable to the parties, and give each of them its proper weight in the decision, whilst excluding any irrelevant element from consideration. The public authority shall use such evidence as, after due consideration, it deems necessary in order to ascertain the facts of the case."

These traditional requirements also apply under the condition that the authority decides the case in a fully or semi-automated procedure. The authority is accountable for the compliance with this duty notwithstanding that it might contracted-out the design of the automated decision making-tool or system. Art. III-10 provides at least to a limited extent specific rules for digitalised fact-finding as it refers in para 3 to rules of Book VI.[78] Art. VI-20 establishes a duty to consult and search shared databases as well as to use

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[78] Unfortunately, Art. III-10(3) entails an editorial error as it refers to Art. VI-21 and VI-22 instead of Art. VI-20 and VI-21.

information supplied by other authorities through such databases. Art. VI-21 provides a duty to independently assess information provided through information systems. These rules are mainly motivated to establish a framework to effectuate composite information management and to protect affected persons against blind trust of competent authorities in data supplied by other authorities.[79] However, they have potential to address also problems of either under-reliance or over-reliance similarly connected with automated decision-making. However, the INDIGO project will need to review the best options to adapt these rules or their background principles to the challenges of automated decision making.

Safeguards for human intervention in case of flawed fact-finding and fact-evaluation or other forms of dysfunctional performance of automated decision making systems are a standard demand for a new digital order. Art. III-10 does not entail an explicit safeguard like for instance § 24(1)3 German Administrative Procedure Act (Verwaltungsverfahrensgesetz) which provides:

> "If the authority uses automated equipment for the adoption of administrative acts, it shall take into account factual statements of the participants that are significant for the individual case and that would not be investigated in the automated procedure."[80]

However, this German provision is only a – useful – clarification of requirements which already follow implicitly from the general duty of careful investigation provided in § 24(1)1, (2) German APA.[81] Consequently, this safeguard can also be derived from Art. III-10 ReNEUAL Model Rules. But an explicit provision raises attention to the well-known problems of limits to flexible investigation connected with automated fact finding. Thus, an amendment of Art. III-10 along the lines of § 24(1)3 German APA seems attractive. Of course, the INDIGO project will examine other national APAs in order to identify additional useful provisions and amendments.

b) Right to be heard

The ReNEUAL Model Rules comprise in Art. III-23 – III-25 a set of rules which develop in detail the constitutional right to be heard as laid down in Art 41(2)(a) EU Charter of Fundamental Rights (CFR). A specific focus of the Model Rules has been the rules about hearing rights in composite procedures (Art. III-24). Art. III-25(3), (4) provides a

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[79] Book VI – Explanations, paras 69-70.
[80] Translation by the authors; for details of this specific safeguard J.-P. Schneider, in: Schoch/Schneider (eds.), Verwaltungsverfahrensgesetz – Großkommentar, München (Loseblatt), § 24 para. 50, 133-134.
[81] J.-P. Schneider, in: Schoch/Schneider (eds.), Verwaltungsverfahrensgesetz – Großkommentar, München (Loseblatt), § 24 para. 133.

framework for digitalised online consultations of the interested public.[82] The INDIGO project will review these rules taking into account national rules like the already mentioned § 24(1)3 German APA, which provides that factual statements by affected parties in a hearing will be effectively considered by the competent authority. Additional safeguards for fully or semi-automated hearings may concern problems of digital literacy and other challenges to digital equality.

c) Duty to state reasons

Art. III-29(1) of the ReNEUAL Model Rules stipulates:

> "The public authority shall state the reasons for its decisions in a clear, simple and understandable manner. The statement of reasons must be appropriate to the decision and must disclose in a clear and unequivocal fashion the reasoning followed by the public authority which adopted the decision in such a way as to enable the parties to ascertain the reasons for the decision and to enable the competent court to exercise its powers of review."

Art. 29(2) contains a specification of this duty in cases of composite procedures. For automated procedures such a specification is missing; instead, the general rule in para 1 is applicable. Useful for its application concerning automated decision making is its general language and the clear indication of the objectives of the duty to state reasons. Thereby, the Model Rules would support the application of the fundamental right laid down in Art. 41(2)(c) CFR. For example, it would be no problem according to this rule that the EUIPO AI system (see I.2.c)) even provides possible reasons used in similar cases in order to facilitate the drafting of the decision by the competent EUIPO official.

However, in order to provide more legal certainty with regard to the implementation of advanced automated decision making and the well-known black-box phenomena connected with AI technologies, more AI specific rules and safeguards seem appropriate. Nevertheless, at the recent stage of the development a certain margin of legal flexibility for regulatory learning is important. Otherwise, digital administration might already be blocked at an early stage by too much red-tape and Europe will demotivate homebased innovation. In the result, Europe might lose its digital sovereignty also with regard to technologies on which 21st century authorities increasingly depend on. A good way forward could be regulatory sandboxes providing on the one hand side a defined room for manoeuvre and on the other side a clear accountability structure with duties to monitor and revise wrongful or not acceptable results. Like with regard to the other discussed topics, the INDIGO project will investigate existing or discussed solutions in this matter

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[82] See also Book III – Explanations, para 92.

established in Member State or foreign law as the EU law seems not to contain such provisions.

3. Conclusion: ReNEUAL 1.0 as a promising point of departure for ReNEUAL 2.0

The critical review of Books II, III and VI of the ReNEUAL Model Rules concerning their suitability for today's or tomorrow's advanced automated decision making systems showed that the general framework of the Model Rules provides a solid and flexible basis for adapting EU administrative procedural law to the challenges connected with these new digital technologies. However, the review also revealed certain legal gaps or uncertainties concerning the appropriate application of the ReNEUAL principles to new types of digital administration. Consequently, the INDIGO project should and will explore the most promising ways to update the ReNEUAL Model Rules. In contrast to ReNEUAL 1.0 EU legislation seems to provide much less guidance with regard to best practices – despite the increasingly crowded field of legislative proposals and procedures in the field of data and AI law. Thus, national law and academic work needs to be explored even more carefully. To which extent specific procedural safeguards for AI based automated decision making beyond the already mentioned impact assessments (see II.2) are ripe for codification is another complex and important question. Our proposal is to develop ReNEUAL's specific set of rules and procedures for public decision-making, and not uncritically endorsing 'one size fits all' approaches for both public and private data use sometimes applied in EU legislative projects. The critical review of the ReNEUAL 1.0 rules also will take place against a broad debate on the use and regulation of AI and automated decision-making systems in society more broadly.