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*Data Space, Interoperability and Artificial Intelligence in Justice**

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ABSTRACT This research paper analyses the application of Artificial Intelligence in Justice, focusing especially on the necessary interrelation between data, interoperability and AI. With this in mind, the article analyses the regulatory framework for data in the European Union and establishes the convenience of creating a Justice Data Space in which judicial data can be shared: judgments, orders, etc. Once this assumption has been established, the work analyses the principle of interoperability as a key element for the data contained in the Justice Data Space to be able to feed Artificial Intelligence systems, analysing the requirements and testing mechanisms contained in the new Regulation for an Interoperable Europe. Once the foundations regarding data quality and the interoperability infrastructure have been laid, the article analyses the objectives, requirements and prerequisites for the creation and implementation of Artificial Intelligence systems in Justice, which the new European Regulation classifies as high-risk systems. For this reason, it analyses the obligations relating to high-risk systems, with special interest in the impact assessment, which are mandatory requirements in order to be able to articulate AI systems such as jurimetrics or automated administrative actions. Finally, the work culminates with the proposal that the design and creation of Artificial Intelligence systems in Justice should be public and that it should allow the reuse and transfer of this technology in general throughout the judicial system of the European Union and its Member States.

KEYWORDS: Data - Justice Data Space - Data Public Administration – Interoperability - Artificial Intelligence – Justice - Impact assessment - Reuse and transfer technology

1. *General and conceptual approach to the study. AI in justice in the era of Data Public Administration*

1.1. *Data Public Administration*

We are now fully into the third decade of the 21st Century and a profound digital transformation of the Public Sector is clearly taking place, of which, of course, the Justice is no stranger. The current trend in our Society and in the European legal system is the application of Artificial-Intelligence techniques in all areas of the Public Sector, being also one of the elements to be taken into consideration in the field of e-Justice, which has even been one of the systems catalogued by the Artificial-Intelligence Regulation of the European Union 2024/1689 as high-risk AI systems, establishing reinforced requirements for its implementation, which we will analyse in this article. However, before proceeding with the application of AI in e-Justice, we must analyse in depth the prerequisites for its successful implementation. In my opinion, one of the fundamental changes that must be faced in Justice is the transformation of the document of the judicial file, being necessary to move from the concept of document to the concept of data. Of particular relevance at this point is the concept of "Data Public Administration", to which I have referred in a previous work,[1] and which is defined as the Public Administration "in which data are placed at the centre of administrative work, for which it will be necessary to adequately design the single archive of each Public Administration based on a fully interoperable document management that allows a better guarantee of people's rights thanks to advanced and automated techniques based on

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[1] R. Martínez Gutiérrez, *Reforma para una Administración de Datos*, in *Revista Catalana de Dret Públic*, n. 67, 2023, 67 ff.

data, such as access to the minimum data necessary for the processing of administrative procedures".

This should be the context in which AI should be implemented in justice, based on a data-driven document management of judicial files with a high degree of interoperability that allows the massive, automated, secure and anonymised processing of judicial decisions so that they can be the basis for the application of Artificial-Intelligence systems in Justice. In other words, in the databases or judicial-information systems of the EU Member States, data must be at the centre of administrative work, with an appropriate design of the judicial archive based on fully interoperable document management. Thanks to this transformation of document management, it will be possible to achieve a better guarantee of the rights of individuals and the use of advanced and automated electronic management techniques that have data at their core and allow the implementation of Artificial-Intelligence systems with an acceptable degree of operation and that can compete with the private legal AI systems already available to large legal-product companies and large professional firms.

1.2. *Data spaces. Towards a Justice Data Space in the EU*

1.2.1. *European Data Strategy*

The EU's European Data Strategy[2] is aligned with the above and begins by noting that data are at the heart of the digital transformation of society and that 'data-driven innovation will bring enormous benefits to citizens', before making a fundamental consideration that 'the EU can become a role model for a data-empowered society to make better decisions, both in business and in the public sector'. The EU's vision, given the importance of data in both the public and private sectors, is to regulate data spaces[3] through common European rules with the aim of ensuring that (1) data can flow across the EU and across sectors, (2) European standards and values, in particular the protection of personal data, are fully respected, (3) the rules for access to and use of data are fair, practical and clear, that there are clear and reliable data-governance mechanisms in place, and that there is an open but firm approach to international data flows, based on European values. However, the EU is also aware of the problems and difficulties in making the data economy work in Europe, expressly admitting that the adequacy of technological infrastructures and interoperability lies at the foundation of the system, stating in particular that: "The functioning of the European data space will depend on the EU's ability to invest in the next generation of technologies and infrastructures, as well as in digital skills such as data literacy. This, in turn, will increase Europe's technological sovereignty in terms of key enabling technologies and related infrastructures for the data economy. Infrastructures need to support the creation of European data repositories enabling data intelligence and machine learning, in compliance with data protection and competition law, thus contributing to the deployment of data-driven ecosystems. These repositories may be organised in a centralised or distributed manner. Data contributors would gain a return in the form of increased access to data from other contributors, analytical results from the data repository, services such as predictive maintenance or licensing fees". In the end, the EU bases the digital transformation in the era of Data Public Administration on two fundamental aspects: 1. the configuration of repositories, databases or archives; and, 2. interoperability. And, both issues are closely related to the development of Artificial Intelligence.[4]

Furthermore, one of the most important problems in creating an appropriate technological context in this area is also the availability and quality of data, and in this respect the Commission itself pointed out in the document that "the value of data lies in its use and re-use. Currently, there are not enough data available for innovative re-use, in particular in the case of the development of artificial intelligence". To this end, the EU is aware that it must directly promote data spaces, which we will analyse in the following

[2] Adopted by the European Commission (2020). Document COM (2020) 66 final.

[3] J. Valero Torrijos, *From Transparency and Reuse of Public-Sector Information to Data Spaces: The Evolution of EU Regulation,* in *European Review of Digital Administration & Law*, Vol. 3 – Iss. 2 - 2022, 36.

[4] In the same line, J. Miranzo Díaz, *Inteligencia Artificial y Derecho Administrativo*, Madrid, Tecnos, 2023, 162-163.

section.

1.2.2. *Data Spaces in the EU*

On 23 February 2022, the European Commission published a *Commission Staff Working Document on Common European Data Spaces* (SWD, 2022, 45 final). This document defines European Data Spaces as places that: "bring together relevant data infrastructures and governance frameworks to facilitate data sharing and Exchange". The basic objectives are 3: (1) To deploy data-exchange tools and services for data sharing, processing and exchange; (2) To include data-governance structures, compatible with relevant EU legislation, that determine, in a transparent and fair manner, data access and processing rights; and, (3) To improve the availability, quality and interoperability of data, both in specific contexts, in specific domains and across sectors. The EU's idea is to set up common and interoperable EU-wide Data Spaces in strategic sectors, and to proceed to their orderly articulation once the 9 Data Spaces are targeted in the European Data Strategy: industry (manufacturing), European Green Pact, mobility, health, financial data, energy, agriculture, public administrations and skills (education and training). For the purposes of this research article, the future Justice Data Space that we propose here should be inserted within the European Data Space for Public Administrations, although this would be a novel specific proposal in that only three areas (legal, public procurement and security and innovation) are contemplated within this data space, among which Justice is not expressly included, although in a broad sense it might fit within the so-called "legal" data space.

1.2.3. *Towards a Justice Data Space*

According to the Working Document, the EU intends to articulate an interoperable data-sharing model not only in each of the Data Spaces separately, but by integrating and combining data from all common Data Spaces. In this respect, the conclusions of the document state that "data spaces will enable data from across the EU to be made available and shared in a reliable and secure way", which "will enhance the development of new data-based products and services in the EU". In this context, and within the "legal" Public Administration Data Space, an interoperable judicial data-sharing model should be set up through the interconnection of judicial databases, repositories or archives, allowing for the collection of quality data for the proper functioning of Artificial-Intelligence systems for jurisdictional work. This circumstance is key to guaranteeing fundamental rights such as equality or effective judicial protection, as it cannot be considered equitable that large legal companies and large professional firms have AI systems to present their claims that judges and magistrates of the judiciary do not have, generating a situation of inequality not only between the parties to a judicial process but also between one of the parties and the judges who must issue a decision that is as fair as possible, for which they should have systems that guarantee the fundamental rights linked to Justice. The configuration of a Justice Data Space in the EU is an absolutely essential requirement in order to have a fair legal system.

1.3. *Interoperability as a link between data and AI systems*

The objective of interoperability is to guarantee the correct connection or connectivity of two pieces of equipment or tools that wish or need to communicate with each other, so that fluid communication is possible between different applications or electronic processing platforms, which is the necessary basis for enabling the new e-Justice model required by the current context of digital transformation. Article 3(f) of Decision 2004/387/EC of the European Parliament and of the Council of 21 April 2004 on the interoperable delivery of pan-European eGovernment services to public administrations, businesses and citizens (IDABC) defines interoperability as "the ability of information and communication technology (ICT) systems, and the business processes they support, to exchange data and to enable the sharing of information and knowledge". As it can be seen from this definition, interoperability refers to the idea of compatibility and connectivity, but it does not only refer to one area, level or dimension; rather, as it has been stated, it has a polyhedral character,[5] i.e., it is or should be materialised

[5] A. Cerrillo i Martínez, *Cooperación entre Administraciones Públicas para el impulso de la Administración Electrónica*, in E. Gamero Casado and J. Valero Torrijos (Eds.), *La Ley de Administración Electrónica. Comentario sistemático a la Ley 11/2007,*

through different dimensions[6] which we will analyse in section 3.1 of this article. The key to enabling powerful AI systems in the field of Justice is the interoperable connection between such systems and the Justice Data Space in the EU, containing judicial data from all repositories, databases and archives of the Member States of the European Union. As I stated in a recent study,[7] open data are the lifeblood of AI but they are useless without adequate interoperability, understood as the arteries and veins that feed the brains, understood as the AI systems.

1.4. *The concept of AI applied to Justice*

1.4.1. *Official and regulatory definitions*

In 2018, the European Union stated that the "term artificial intelligence (AI) applies to systems that manifest intelligent behaviour, as they are capable of analysing their environment and taking action - with a certain degree of autonomy - in order to achieve specific objectives".[8] Following this definition, in 2021, the European Union published Report - A9-0001/2021 containing the "European Parliament Resolution of 20 January on artificial intelligence: questions of interpretation and application of international law as far as the EU is concerned in the fields of civil and military uses, as well as State authority outside the field of criminal justice",[9] in which it has established a two-level concept of AI:

- "AI system" means any software-based system or system embedded in physical devices that exhibits behaviour simulating intelligence, inter alia, by collecting and processing data, analysing and interpreting its environment and taking action, with a certain degree of autonomy, to achieve specific objectives". This definition recognises that an AI system does not necessarily have to be fully autonomous or outside human supervision, being a notion that technically fits the concept of AI applied to the field of the Justice, categorised by the EU AI Regulation as a high-risk system[10] but which can be implemented as long as it allows human supervision of the decision proposals adopted by the AI system, and this reality seems appropriate for decisions where there is a degree or margin of discretion such as in Justice.

-And, as an evolution of the previous point, the Resolution also incorporates the definition of "autonomous" AI system: understood as "any AI system that operates by interpreting certain input data and using a set of predetermined instructions, without being limited to them, despite the fact that the behaviour of the system is limited and oriented to fulfil the objective assigned to it and other relevant design decisions taken by its developer". In this case, we must understand that human supervision of the algorithm that enables the decision based on the processing and treatment of data either does not occur or occurs at the time of programming the system (automated administrative activity),[11] and in this sense, its application in the field of Justice would only be possible in the so-called "automated judicial action", which is regulated in some legal systems such as the Spanish one, and which in strict terms would not be Artificial Intelligence in the sense of simulation of human intelligence.

Finally, the European Union in the Artificial-Intelligence Regulation adopted in 2024, has established in article 3 the following concept of AI: "a machine-based system that is designed to operate at different levels of autonomy and that can show adaptive capability after deployment, and that, for explicit or implicit goals, infers from the input information it receives how to generate output

de 22 de junio, de Acceso Electrónico de los Ciudadanos a los Servicios Públicos, 3rd Ed., Cizur Menor (Navarra), Aranzadi-Thomson Reuters, 2010, 762 ff.

[6] E. Gamero Casado, *Interoperabilidad y Administración electrónica: conéctense, por favor*, in *Revista de Administración Pública,* n. 179, 2009, 295 ff.

[7] R. Martínez Gutiérrez, *Datos abiertos, interoperabilidad y reutilización de tecnología para la inteligencia artificial del sector público,* in L. Cotino Hueso and J. Castellanos Claramunt (Eds.), *Algoritmos abiertos y que no discriminen en el sector público,* Valencia, Tirant Lo Blanch, 2023, 97 ff.

[8] Commission Communication COM (2018) 237 final "AI for Europe", 1.

[9] Available on the official website Europarl.europa.eu.

[10] J. C. Hernández Peña, *El marco jurídico de la Inteligencia Artificial. Principios, procedimientos y estructuras de gobernanza,* Cizur Menor (Navara), Thomson Reuters Aranzadi, 2022, 147.

[11] An interesting study of this question in Spain is found in E. Gamero Casado, *Las garantías del régimen jurídico del sector público y del procedimiento administrativo común frente a la actividad administrativa automatizada y la inteligencia artificial,* E. Gamero Casado (Ed.), *Inteligencia Artificial y Sector Público. Retos, límites y medios,* Valencia, Tirant Lo Blanch, 2023, 403-421.

results, such as predictions, content, recommendations or decisions, which can influence physical or virtual environments". In my opinion, the EU has sought the broadest possible concept of Artificial Intelligence that incorporates both systems that can demonstrate intelligence and are therefore generative and those in which actions are performed based on prior programming, which in the judicial field would be automated judicial-action systems. What must be absolutely clear is that this regulatory concept is also applicable to judicial AI systems, since the Regulation itself incorporates them as high-risk systems and expressly refers to them in Annex III, specifically in section 8 entitled "Justice and democratic processes", where in point (a) it identifies "AI systems intended to be used by or on behalf of a judicial authority to assist a judicial authority in the investigation and interpretation of facts and law, and in the application of the law to a particular set of facts, or to be used in a similar way in alternative dispute resolution". On this point, it seems that in some way the Community legislator aligns itself with the two-level definition or concept contained in the 2021 Resolution, although giving priority to systems in which there is no autonomy or automated judicial action, by expressly referring to those "intended to be used by a judicial authority (...) to *assist*" in the different actions that can be carried out in jurisdictional work.

1.4.2. *Doctrinal definitions*

Spanish scholarship has also analysed the concept of Artificial Intelligence, and in this sense, there are positions ranging from a stricter notion, linked to systems that emulate human intelligence, or those broader ones that also incorporate the so-called automated actions, which in my opinion is the line that the EU legislator has finally followed, as we have seen in the previous section. In general terms, "artificial intelligence refers to the ability of a machine to reason, understand and learn in terms analogous to a human being, being able to apply knowledge obtained from data and to make complex decisions relatively autonomously".[12] Among the authors who opt for a strict concept is Cerrillo i Martínez, who points out that "artificial intelligence seeks to emulate human intellectual faculties in machines so that they can perform human tasks. At the current stage of development of artificial intelligence, it can only perform specific tasks such as translating texts, driving vehicles without a driver or recognising images (this is what is known as limited artificial intelligence) and it is still a myth, for many unattainable, that computers can behave like a person with respect to a wide range of cognitive tasks (i.e. general artificial intelligence)".[13] In the same line, Barrio Andrés points out that "AI attempts to emulate some capabilities of humans that go beyond the processing of repetitive tasks (e.g., computation). It is usually the ability to recognise patterns that describe objects, situations or emotions, and to direct its actions towards some goal (which can be described as a desired pattern)".[14]

Among the positions that have aligned themselves with a more general concept, using within the same notion the notions of algorithms, big data, automation and artificial intelligence, are authors such as Cotino Hueso, who points out that AI "can consist simply of a computer program (e.g. voice assistants, image-analysis programs, search engines, facial and voice-recognition systems), but AI can also be embedded in hardware devices (for example advanced robots, autonomous cars, drones or internet-of-things applications)".[15] In this way, artificial intelligence is based on the use of data, which after processing by means of algorithms allow specific results to be obtained for the problems posed. In this line, Ponce Solé, citing the Resolution of Complaint 123/2016 of the Commission for the Guarantee of the right of access to public information of Catalonia, considers an algorithm, as "a calculation procedure that consists of complying with an ordered and finite set of instructions with specified data to

[12] J. Martín López, *Inteligencia artificial y comprobación tributaria: transparencia y no discriminación,* Cizur Menor (Navarra), Aranzadi, 25.

[13] A. Cerrillo i Martínez, *El impacto de la inteligencia artificial en el Derecho Administrativo ¿Nuevos conceptos para nuevas realidades técnicas?,* in *Revista General de Derecho Administrativo,* n. 50, 2019, 3.

[14] M. Barrio Andrés, *Inteligencia artificial: origen, concepto, mito y realidad,* in *El Cronista del Estado Social y Democrático de Derecho,* in *Inteligencia Artificial y Derecho,* n. 100, 2022, 19.

[15] L. Cotino Hueso, *Risks and impacts of Big Data, Artificial Intelligence and Robotics. Enfoques, modelos y principios de la respuesta del Derecho*, in *Revista General de Derecho Administrativo,* n. 50, 2019, 3.

arrive at the solution to the problem posed" or "a finite set of rules that, applied in an orderly manner, allow the systematic solution of a problem, which is used as a starting point in computer programming" (…), is still a type of information, usually expressed in mathematical or computer language (although algorithms can also be expressed in many other ways, including flowcharts, pseudocode and natural language itself)".[16] Consequently, it will be necessary to establish an adequate programming of algorithms so that data processing leads to results that can be satisfactory from the point of view of the broader concept of AI, while at the same time being acceptable to the recipients of the data in compliance with the principle of good administration.[17] It is also essential to control AI systems,[18] which is precisely one of the objectives of the EU Regulation on Artificial Intelligence with the idea of evaluating the systems in order to adjust them to the basic principles of law, especially in areas such as Justice where experiences in the application of AI have generated controversy,[19] which is why the new European regulation considers them to be high-risk systems, establishing particularly strict requirements for their implementation.[20] In section 4 of this paper we will analyse the essential elements for the articulation of AI systems in Justice.

2. *The necessary configuration of a Justice Data Space in the EU. Prerequisites, objectives and configuration parameters*

For the adequate creation of a Justice Data Space in the European Union, the absolutely necessary assumption is that all judicial databases of the different Member States should be designed in accordance with interoperability standards that allow data to be shared, and that at the same time, these databases should be configured in compliance with the principles of privacy from the design stage and minimisation of personal data.[21] This assumption is already being met, albeit with considerable difficulty, in areas such as public procurement, where interconnecting the databases of bidders in the Member States with the EU's e-CERTIS system has been promoted for some time by the specific Community regulations on this matter,[22] which is why one of the first Data Spaces promoted by the EU is precisely that of public procurement within the general Public Administrations.[23] Now, general European legislation on data, mainly the EU Data-Governance Act 2022/868 and the EU Data Regulation 2023/2854, has opted to promote

[16] J. Ponce Solé, *Inteligencia artificial, Derecho Administrativo y reserva de humanidad: algoritmos y procedimiento administrativo debido tecnológico*, in *Revista General de Derecho Administrativo,* n. 50, 2019, 7-8.

[17] A. G. Orofino, *Openness of Public Data and Transparency of Administrative Action,* in *European Review of Digital Administration & Law*, Vol. 3 – Iss. 2 - 2022, 53; E. Menéndez Sebastián, *From bureaucracy to artificial intelligence: the tension between effectiveness and guarantees,* Milan, Cedam - Wolters Kluwers, 2023, 14; and, J. Valero Torrijos, *The Legal Guarantees of Artificial Intelligence in Administrative Activity: Reflections and Contributions from the Viewpoint of Spanish Administrative Law and Good Administration Requirements*, in *European Review of Digital Administration & Law - Erdal*, Vol. 1, Iss. 1-2, June-December 2020, 60.

[18] An interesting study of this question is found in A. D. Berning Prieto, *La naturaleza jurídica de los algoritmos,* in E. Gamero Casado (Ed.), *Inteligencia Artificial y Sector Público. Retos, límites y medios,* Valencia, Tirant Lo Blanch, 2023, 104 ff.

[19] M. Sarasibar Iriarte, *La Cuarta Revolución Industrial: el Derecho Administrativo ante la inteligencia artificial*, in *Revista Vasca de Administración Pública,* n. 115, 2019, 380.

[20] J. C. Hernández Peña, *El marco jurídico de la Inteligencia Artificial. Principios, procedimientos y estructuras de gobernanza*, 147; and J. Martín López, *Inteligencia artificial y comprobación tributaria: transparencia y no discriminación,* 153.

[21] It is a basic principle to guarantee data quality, A. Mantelero, *Beyond Data. Human Rights, Ethical and Social Impact Assessment in AI*, Berlin, Springer, 2022, 151; A. Palma Ortigosa, *Decisiones automatizadas y protección de datos. Especial atención a los sistemas de inteligencia artificial,* Madrid, Dykinson, 2022, 167; and J. Valero Torrijos, *Las singularidades del tratamiento de datos de carácter personal en entornos de inteligencia artificial en el Sector Público,* in E. Gamero Casado (Ed.), *Inteligencia Artificial y Sector Público. Retos, límites y medios,* Valencia, Tirant Lo Blanch, 2023, 376.

[22] I refer to what has already been stated in R. Martínez Gutiérrez, *La interoperabilidad como factor clave y estructural en la internacionalización de la contratación pública*, in *Contratación administrativa práctica: revista de la contratación administrativa y de los contratistas*, n. 159, 2019, 12.

[23] One interesting work about application AI in procurement is provided by M. J. García Rodríguez, *Mejorar la contratación pública: Herramientas informáticas innovadoras asadas en datos e inteligencia artificial,* Sevilla, Instituto Andaluz de Administración Pública, 2023. On the Public Procurement Data Space I refer to R. Martínez Gutiérrez, *Datos abiertos, reutilización, Smart Cities y medición de la eficiencia en la contratación pública*, in *Boletín del Observatorio de Contratación Pública*, n. 6 (July), 2023.

Data Spaces in general in all sectors,[24] including the Justice sector.

In this respect, Considering 2 of the Data Governance Act states that "the Commission proposed to create common European data spaces in specific areas for data exchange and sharing", exemplifying that "as proposed in the European Data Strategy, such common European data spaces may cover areas such as health, mobility, industrial production, financial services, energy or agriculture, or a combination of these areas, for example energy and climate, as well as thematic areas such as the European Green Pact, European data spaces for public administration or skills". Although the Data Governance Act does not specifically mention a possible Justice Data Space, the Data Regulation does it in some way, in Considering 110 where it refers to "the coordination of national practices and policies" for the achievement of the objectives of the Regulation "in relation to technical standardisation to improve interoperability". Specifically, when referring to the implementation and enforcement of the Regulation, it states that "such exchange of information is aimed at *enhancing effective access to justice, as well as judicial enforcement and cooperation throughout the Union*". As it can be seen, the Regulation expressly refers to the area of Justice as one of the objectives in the field of Data Spaces.

Finally, and as we have already noted and will continue to do, EU data law is aware of the importance of interoperability and standardisation through technical guidelines for databases, repositories and archives to make Data Spaces a reality, and this is referred to in both the Data-Governance Act and the Data Regulation. First, Considering 27 of the Data-Governance Act states that Data Spaces are "interoperable frameworks of common, purpose-specific, sector-specific or cross-sectoral standards and practices for sharing or joint processing of data for, inter alia, the development of new products and services, scientific research or civil society initiatives". Interoperable frameworks are key, which is why, secondly, Considering 110 of the Data Regulation states that the European Data Innovation Board (which is paradoxically not regulated by this regulation but by the Governance Regulation in article 29) "should play an advisory role in the standardisation processes and in the adoption of common specifications by means of implementing acts, in the adoption of delegated acts to establish a mechanism for monitoring the switching costs imposed by data-processing-service providers and to further specify the essential requirements for the interoperability of data, data-exchange mechanisms and services, as well as common European data spaces. It should also advise and assist the Commission in the adoption of guidelines setting out interoperability specifications for the functioning of the common European data spaces". In the field of data, and this will also be the case in the future Justice Data Space, compliance with interoperability requirements will be the basis for success (and at the same time the difficulty because these requirements will have to be specifically designed) and therefore the different judicial databases of the EU Member States will have to comply with the necessary standards to ensure the automated interconnection of data, All this in compliance with the EU General Data-Protection Regulation, which is applied without prejudice to the provisions of the Data-Governance Act and the Data Regulation (as expressly stated in both regulations), so that the anonymisation of judicial personal data will have to be guaranteed thanks to the application of principles such as privacy by design and minimisation in the judicial databases, repositories and archives, and then projected to the Justice Data Space.

3. *Judicial interoperability in the EU*

3.1. *Multi-level configuration*

In order to achieve the objectives of this research work, we must take into account that the design of the databases, repositories and judicial archives of each Member State must comply with a multilevel interoperability configuration, which allows the development of a powerful Justice Data Space where the Judicial Artificial-Intelligence systems developed by the EU public sector (and also private companies) can be connected with quality data obtained directly from the best source: the judicial authorities. Precisely along these lines seems to be the definition of interoperability recently established by the EU Data Regulation in article 2 (40), which states

[24] J. Valero Torrijos, *From Transparency and Reuse of Public-Sector Information to Data Spaces: The Evolution of EU Regulation,* 39.

that interoperability is "the ability of two or more data spaces or communication networks, systems, connected products, applications, data processing services or constituents to exchange and use data for the purpose of performing their functions". As it can be seen, the key is the ability of systems to connect and understand each other, and for this to happen, common rules must necessarily be respected in a multi-level environment, as we will see below. In this respect, EU Regulation 2024/903 on Interoperable Europe devotes its 13th Considering to stating that justice is one of the key sectors that should benefit from the establishment of an interoperable Europe, stating that "interoperability facilitates the successful implementation of policies, in particular those closely related to the public sector, such as justice and home affairs, taxation and customs, transport, energy, health, agriculture and employment, as well as the regulation of business and industry". However, the regulation is also aware of the problems that may exist "if different or incompatible solutions are adopted at national or sectoral level" which will cause "new electronic barriers to emerge and hinder the proper functioning" of any system based on interoperability. The Regulation therefore states that its objective should be to "facilitate, encourage and implement cross-sectoral interoperability, thereby supporting the removal of barriers, incompatibilities and fragmentation of digital public services". The way to avoid all these problems is the multi-level configuration of the interoperability infrastructure as stated in Considering 27 of the Data-Governance Act where it states that "data-brokering services could include the bilateral or multilateral exchange of data or the creation of platforms or databases enabling the exchange or joint exploitation of data, as well as the establishment of a specific infrastructure for the interconnection of data subjects and data owners with data users".

This being said, the multi-level configuration of interoperability must be developed in three areas in particular:

(1) Organisational interoperability, understood as "that dimension of interoperability relating to the ability of entities and the processes through which they carry out their activities to collaborate in order to achieve mutually agreed accomplishments relating to the services they provide". This refers to the interoperability or compatibility of organisations, so that a given body or entity of an administration is compatible with its own parent organisation, but also with other administrations and with the administrated.[25] This dimension refers to inter-administrative collaboration and the need for public organisations to understand each other.

(2) Semantic-legal interoperability, understood as "that dimension of interoperability relating to the fact that the information exchanged, in the judicial field or of a judicial nature, can be automatically interpretable and reusable by applications that were not involved in its creation". This dimension refers to the need for the information created in the judicial field to have guidelines that make it automatically interpretable by the applications and platforms of the new common administrative procedure. In other words, the information must be prepared in such a way that it can be understood by applications other than the one that created it. In other words, the applications and platforms should use common languages that allow all the information exchanged electronically over the networks of the e-Justice systems to be interpreted and reused without difficulty, and in particular to connect the databases, repositories and archives of the Member States with the Justice Data Space and, in turn, with the Artificial-Intelligence systems that are developed.

(3) Technical interoperability, understood as "that dimension of interoperability relating to the relationship between information-technology systems and services, including aspects such as interfaces, interconnection, integration of data and services, presentation of information, accessibility and security, or others of a similar nature". This dimension refers directly to the technical or technological compatibility between the different applications, platforms, etc., to be used both by the Administration and by the administrated and/or companies in the field of e-Justice, so that all actors can have full connectivity. In order to achieve an adequate level of technical interoperability, it is advisable that the design and creation of applications and technological platforms be carried out in accordance with open standards,

[25] E. Gamero Casado, *Interoperabilidad y Administración electrónica: conéctense, por favor*, 296, and A. Cerrillo Martínez, *Cooperación entre Administraciones Públicas para el impulso de la Administración Electrónica*, 764.

as this will facilitate technological compatibility thanks to the homogeneous design of the applications.[26]

The determination of the different dimensions of interoperability generates a multilevel configuration that aims to achieve full compatibility of the information systems used in the development of the different e-Justice services, ensuring connectivity between the systems and technological platforms that participate in these processes so that the exchange of information, data and documents is possible, which must undoubtedly be considered an absolutely essential requirement for implementing Artificial-Intelligence systems in the judicial sphere.

3.2. *Establishment of binding rules*

Recent directly applicable EU public-sector data and interoperability legislation (EU Data-Governance, EU Data and Interoperable-Europe Acts) seems to have realised that successful interconnection of data requires the establishment of binding rules at Member-State, EU and even private level. In this respect, Considering 54 of the Data-Governance Act states that "the European Data Innovation Board should assist the Commission in coordinating national practices and strategies on the issues covered by this Regulation, and to promote the cross-sectoral use of data by subscribing to the principles of the European Interoperability Framework and the use of European and international standards and specifications, including through the European Multilateral Platform for ICT Standardisation, the basic vocabularies and modules of the Connecting Europe Facility, and should take into account standardisation work in specific sectors or domains". The standard further specifies that "technical standardisation work could include the identification of priorities for the development of standards, as well as the establishment and maintenance of a set of technical and legal standards for the transmission of data between two processing environments to organise data spaces, in particular by clarifying and distinguishing cross-sectoral standards and practices from sectoral ones". Moreover, the Governance Regulation is fully aligned with the Data Regulation on this need, so much so that the latter cites it emphatically in its Considering 103, stating that "standardisation and semantic interoperability should play a key role in providing technical solutions to ensure interoperability within common European data spaces", which is why it states that the "Regulation lays down certain essential requirements for interoperability" and that "participants in data spaces (...) should meet those requirements with respect to the elements under their control". The mandatory nature of compliance with interoperability standards can be observed, and although technical standardisation rules are initially preferred, the regulation also assumes the need that in the event of difficulties that these standards may present for the achievement of interoperability, due to their nature as non-mandatory standards, mandatory standards may be established by means of regulations or decisions implementing EU regulations. Finally, Considering 103 also determines that "common specifications may be adopted in different sectors, in accordance with Union or national law, on the basis of the specific needs of those sectors" and that "the Commission should be empowered to make mandatory the development of harmonised standards for the interoperability of data-processing services", which, as we have already stated, should be the way to enable projects linking national databases, repositories and archives, Data Spaces and Judicial Artificial-Intelligence systems, as a high level of interoperability is required to ensure the success of such projects.

3.3. *Requirements for automation of data exchange*

Logically, the exchange of data in the e-Justice ecosystem, in order to be truly operational, must be automatic, and for this to happen, a series of requirements must be met, which have basically been established article 33 of the Data Regulation, and articles 11 and 12 of the Interoperable Europe Act.

3.3.1. *Requirements of the Data Regulation. Interoperability*

The Data Regulation lays down in article 33. According to this provision, a number of essential requirements are laid down to

[26] E. Gamero Casado, *Interoperabilidad y Administración electrónica: conéctense, por favor*, 297, and A. Cerrillo Martínez, *Cooperación entre Administraciones Públicas para el impulso de la Administración Electrónica*, 763-764.

facilitate the interoperability of data, data-exchange mechanisms and services, and common European data spaces, both general and sectoral, in which case the requirements laid down by Union law for the specific areas should also be complied with. These requirements are as follows:

"(a) the content of the data set, restrictions on use, licences, data-collection methodology, and data quality and uncertainty shall be described to a sufficient extent, where appropriate, in a machine-readable format to enable the recipient to find, access and use the data;

(b) data structures, data formats, vocabularies, classification systems, taxonomies and code lists, where available, shall be described in a publicly accessible and consistent manner;

(c) the technical means for accessing data, such as application programming interfaces, as well as their conditions of use and quality of service, shall be described to a sufficient extent to allow automatic access to and transmission of data between the parties, including on a continuous basis, in bulk download or in real time, in a machine-readable format where technically feasible and where this does not impede the proper functioning of the connected product;

(d) where appropriate, provide the means to enable interoperability of tools to automate the execution of data-exchange agreements, such as smart contracts".

Importantly, in article 33.2 of the Data Regulation, the "Commission shall be empowered to adopt delegated acts (...) supplementing this Regulation by further specifying the essential requirements set out in paragraph 1" just reproduced above, "in respect to those requirements which by their nature cannot produce the desired effect unless they are further specified in binding legal acts of the Union and in order to adequately reflect technological and market developments", so that their character as fully mandatory requirements is reinforced. Furthermore, paragraph 3 of this article establishes a legal presumption that participants in data spaces will comply with the harmonised standards or parts of these standards and the essential requirements listed in the first paragraph of this article.

Finally, Article 33.5 et seq. focus on the possibilities for the adoption of implementing acts, specifications, requirements, as well as the control of harmonised standards. It lays down a number of conditions for the Commission to adopt common specifications covering some of the essential requirements referred to above by means of implementing acts.[27] Paragraphs 6 and 7 set out some conditions for draft implementing acts, with paragraph 8 specifically stating that the presumption referred to above shall, as it is normal, also extend to common specifications established by implementing acts. However, if the Commission adopts a harmonised standard with these same specifications and it is published in the Official Journal of the European Union after passing the evaluation process, this will lead to the repeal of the implementing acts, or parts thereof, which provide for the same essential requirements as those covered by the harmonised standards (paragraph 9). Furthermore, paragraph 11 also allows the Commission to adopt guidelines, taking into account the proposal of the European Data Innovation Board in accordance with Article 30(h) of the EU Data-Governance Act 2022/868, "establishing interoperability frameworks for common standards and practices for the operation of common European data spaces". Finally, it is worth noting that paragraph 10 of this article establishes a system of control of specifications in favour of Member States, stating that "where a Member State considers that a common specification does not fully meet the essential requirements set out (...), it

[27] Specifically, paragraph 5 states that: "The Commission may, by means of implementing acts, adopt common specifications covering some or all of the essential requirements set out in paragraph 1 where the following conditions are met:
(a) the Commission has requested, in accordance with Article 10(1) of Regulation (EU) No 1025/2012, one or more European standardisation organisations to draw up a harmonised standard which complies with the essential requirements referred to in paragraph 1 of this Article and:
(i) the application has not been accepted,
(ii) the harmonised standards in response to that request are not delivered within the deadline set in accordance with Article 10(1) of Regulation (EU) No 1025/2012, or
(iii) the harmonised standards do not comply with the request, and
(b) no reference to harmonised standards covering the relevant essential requirements set out in paragraph 1 of this Article has been published in the Official Journal of the European Union in accordance with Regulation (EU) No 1025/2012 and no draft standard is expected to be published within a reasonable period of time.
Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 46.2".

shall inform the Commission thereof by submitting a detailed explanation. The Commission shall assess that detailed explanation and may amend, if appropriate, the implementing act laying down the common specification in question". In short, and in particular in the system of data interconnection, interoperability and Artificial Intelligence in justice that we intend in this work, it seems reasonable to provide the Member States with control mechanisms with respect to the specifications, given that their participation in the system and their compliance with the requirements are crucial for the success of the project.

3.3.2. *Requirements of the Interoperable Europe Act. Establishment of interoperability regulatory sandboxes*

Interoperability is the key structural factor in the idea behind this research work, which aims to build a powerful and high-quality Artificial-Intelligence system to assist judicial action, thanks to the interconnection of the judicial databases of the Member States and the creation of a Justice Data Space. Therefore, the design of this system should meet the requirements for participation in the controlled interoperability sandboxs, as referred to in articles 11 and 12 of the Interoperable Europe Act. Article 11 of the Regulation refers to the "establishment of controlled interoperability sandboxes", stating that they "shall be managed under the responsibility of the participating Union entities or public-sector bodies". It will have to be analysed whether it would be appropriate to carry out, at each Member-State level and via the application of semantic interoperability in combination with the principle of privacy by design, a two-level data processing, consisting, on the one hand, of a level outside the initial data sharing and which would include the personal data contained in any court decision or judgment, and on the other hand, of these documents with the personal data already adequately anonymised. In the event that the integration is complete and the system processes personal data and anonymises them at the moment of sharing them with the Justice Data Space, we would be dealing with a case of "controlled interoperability sandbox spaces involving the processing of personal data by public-sector bodies", and in this case, these "shall be managed under the supervision of national data-protection authorities, as well as other relevant national, regional or local supervisory authorities", and in the case of "controlled interoperability, sandboxes beds involving the processing of personal data by Union entities shall be managed under the supervision of the European Data-Protection Supervisor".

In any case, and regardless of whether or not personal data are processed, article 11.2 of the Regulation states that "the establishment of a controlled interoperability sandbox site (...) shall aim to contribute to the following objectives:

a) encourage innovation and facilitate the development and deployment of innovative digital interoperability solutions for public services;

(b) facilitate cross-border cooperation between national, regional and local competent authorities and synergies in the provision of public services;

c) facilitate the development of an open European GovTech ecosystem including cooperation with SMEs, educational and research institutions and start-ups;

(d) improve authorities' understanding of the opportunities or barriers to cross-border interoperability of innovative interoperability solutions, including legal barriers;

(e) contribute to the development of Interoperable Europe solutions or their update;

(f) contribute to evidence-based normative learning;

(g) improve legal certainty and contribute to the sharing of best practices through cooperation with the authorities participating in the controlled interoperability sandbox, with a view to ensuring compliance with this Regulation and, where appropriate, with other Union and national law".

For the creation of a controlled sandbox, article 11.4 lays down how the procedure shall be developed, stating that "the Commission (...) shall authorise the creation of a controlled interoperability sandbox". It also states that "where appropriate, the request shall specify information such as the purpose of the processing of personal data, the actors involved and their functions, the categories of personal data concerned and their sources, as well as the envisaged retention period". However, in the case at hand, which would be a Justice Artificial-Intelligence system created by the public sector, "no authorisation shall be required" as the controlled interoperability sandbox shall be created for "interoperability

solutions supporting cross-border interoperability of trans-European digital public services by one or more Union entities, in particular with the participation of public sector bodies".

Article 12 of the Regulation refers to "participation in the controlled interoperability sandboxes" and, as in the previous case, states that "where the operation of the controlled interoperability sandboxes requires the processing of personal data (...) the participating public-sector bodies shall ensure that the national data-protection authorities and other national, regional or local authorities are involved in the operation of the controlled interoperability sandbox", and may also allow "the participation in the controlled interoperability sandbox of other GovTech actors, such as national or European standardisation organisations, notified bodies, research and experimentation laboratories, innovation centres and companies wishing to test innovative interoperability solutions, in particular SMEs and start-ups". This could be of interest in the case of establishing judicial AI solutions or systems, and with them the EU Justice Data Space, by the public sector, which should be the main purpose as we will point out below. Indeed, for the EU the implementation and operation of controlled interoperability sandboxes is such that article 12.10 states that "by 12 April 2025, the Commission shall adopt implementing acts laying down the detailed rules and conditions for the establishment and operation of the controlled interoperability sandboxes, including the eligibility criteria and the procedure for application, selection, participation and withdrawal from the controlled interoperability test bed, as well as the rights and obligations of participants". As it can be seen, the EU's commitment to this proposal is firm and therefore determines implementing acts for its proper development.

Participation in the controlled interoperability sandbox shall not exceed two years from its establishment, but may be extended for up to one additional year when necessary to achieve the objective of the treatment (paragraph 2). It is important to highlight the requirement of paragraph 3 of this article, which states that "participation in the controlled interoperability sandbox shall be based on a specific plan drawn up by the participants and shall take into account, where appropriate, the advice of other competent national authorities or the European Data-Protection Supervisor". The Regulation also determines the minimum content of the specific plan:

"(a) a description of the participants and their roles, the innovative interoperability solution in question and its intended purpose, as well as the related development, testing and validation process;

(b) the specific regulatory aspects relevant to, and guidance expected from, the authorities supervising the controlled interoperability sandbox;

(c) the specific modalities of collaboration between participants and authorities, as well as any other participants in the controlled interoperability sandbox;

(d) a Public Administration and monitoring mechanism to identify, prevent and mitigate risks;

e) the key milestones to be achieved by the participants for the interoperability solution to be considered ready for deployment;

(f) assessment and reporting requirements and possible monitoring;

(g) where processing of personal data is strictly necessary and proportionate, the grounds for such processing, an indication of the categories of personal data concerned, the purposes of the processing of the personal data, the controllers and processors and their tasks".

An important issue in the regulation of controlled sandboxes is that the Regulation expressly admits in article 12.6 that personal data may be processed in the controlled interoperability sandbox for purposes other than those for which they were originally collected in a lawful manner, provided the following conditions must be met:

"(a) the innovative interoperability solution shall be developed to safeguard public interests in the context of a high level of efficiency and quality of public administration and services;

(b) the data processed shall be limited to what is necessary for the functioning of the interoperability solution to be developed or tested in the controlled interoperability sandbox and the functioning cannot be effectively achieved by processing anonymised, synthetic or other non-personal data;

(c) there shall be effective monitoring mechanisms to detect the occurrence of any high risk to the rights and freedoms of data

subjects, as referred to in article 35.1 of Regulation (EU) 2016/679 and article 39 of Regulation (EU) 2018/1725, during the use of the controlled interoperability sandbox, as well as a response mechanism to promptly mitigate such risk and, where appropriate, to stop the processing;

(d) the personal data to be processed shall be located in a functionally separate, isolated and protected data-processing environment under the control of the participants and shall be accessible only to duly authorised persons;

(e) the personal data processed shall not be transmitted, transferred or otherwise accessed by parties other than participants in the controlled interoperability sandbox, unless such disclosure is in accordance with Regulation (EU) 2016/679 or, where applicable, Regulation (EU) 2018/1725 and all participants have given their consent to such disclosure;

(f) any processing of personal data shall not affect the exercise of the rights of data subjects under Union law on personal-data protection, in particular article 22 of Regulation (EU) 2016/679 and article 24 of Regulation (EU) 2018/1725;

(g) the personal data processed shall be protected by appropriate technical and organisational measures and deleted after the end of the participation in the controlled interoperability sandbox or when the retention period of the personal data has expired;

(h) the personal-data processing log files shall be kept for the duration of the participation in the controlled interoperability sandbox, unless otherwise provided for in Union or national law;

(i) a full and detailed description of the process and justification for the training, testing and validation of the interoperability solution, together with the results of the testing process, shall be kept and transmitted to the Committee as part of the technical documentation;

(j) a short summary of the interoperability solution to be developed in the controlled interoperability sandbox, together with its objectives and expected results, shall be published on the Interoperable Europe portal".

The e-Justice solution that we advocate in this paper fits perfectly with the conditions set out in this section, although, as it has been determined in several of the conditions, the control mechanisms of the General Data-Protection Regulation such as impact assessment and respect for the right of data subjects not to be subjected to automated processing[28] must be complied with.

Finally, it is important to note that there is liability for participants in controlled sandboxes and supervisory powers of the authorities (paragraphs 4 and 5). As we have already noted, Union or national law laying down the basis for the processing of personal data will also be applicable in this area (paragraph 7). Furthermore, in this line of control, paragraph 8 of this article states that "the participants shall submit to the Committee and to the Commission regular reports and a final report on the results of the controlled interoperability sandboxes, including good practices, lessons learned, security measures and recommendations on their operation, as well as, where appropriate, on the development of this Regulation and other Union law monitored in the framework of the controlled interoperability sandbox". This obligation will be followed by an opinion that the Committee will address to the Commission "on the results of the controlled interoperability sandbox, specifying, where appropriate, the actions needed to implement new interoperability solutions to promote cross-border interoperability of trans-European digital public services". Furthermore, and in line with the principle of transparency,[29] "the Commission shall ensure that information on the results of the controlled interoperability sandboxes is made available on the Interoperable Europe portal" (paragraph 9).

4. *Application of AI in Justice*

4.1. *Prerequisites*

As it has been noted throughout this research work, the prerequisite for the application of quality Artificial-Intelligence systems in Justice, developed specifically to assist judicial work by the public sector itself, is threefold: 1. That Member States articulate their judicial databases, repositories or archives with a design that allows privacy from the design and interoperability of data,

[28] A. Palma Ortigosa, *Decisiones automatizadas y protección de datos. Special attention to artificial intelligence systems,* 283.

[29] I. Martín Delgado, *La aplicación del principio de transparencia a la actividad administrativa algorítmica,* in E. Gamero Casado (ed.), *Inteligencia Artificial y Sector Público. Retos, límites y medios,* Valencia, Tirant Lo Blanch, 2023, 132 ff.

for the interconnection of judicial data from all EU Member States. 2. Creation of a Justice Data Space with anonymised data and allowing the automatic retrieval of information, meeting a high level of interoperability. And, 3. That Artificial Intelligence systems in Justice be designed so that they can use, collect and process the data of the Justice Data Space in an automated way. To this end, in previous pages, we have already given an account of the requirements with regard to the configuration of the judicial archives of the Member States and the creation of the Justice Data Space, as well as the identification of interoperability issues. Regarding the specific needs of Artificial-Intelligence systems in Justice, we will address their objectives and requirements in the following sections.

4.2. *Objectives*

It is clear that the use of Artificial Intelligence in the public sector is at a high point, mainly due to the approval of the EU Regulation 2024/1689. In the field of justice, we have been debating for some time whether or not it is advisable to use AI systems and, if so, under what conditions, with particular reference to whether they should be limited exclusively to systems to assist the work of judges and magistrates, or whether full automation would be possible in some specific cases. With regard to this debate, there is an EU document that in my opinion is enlightening in terms of the objectives and benefits that the use of AI in justice can have for society as a whole. This document is the "European Parliament Resolution of 20 January 2021 on artificial intelligence: questions of interpretation and application of international law as far as the EU is concerned in the fields of civil and military uses as well as State authority outside the field of criminal justice".[30] In particular, it is worth highlighting four of the document's approaches to AI in the field of justice:

(1) The document states that "the use of AI in the field of justice could improve the analysis and collection of data and the protection of victims, and that this possibility could be explored in research and development and be accompanied by impact assessments, in particular in relation to safeguards for effective judicial protection and against bias and discrimination, applying the precautionary principle; it recalls, however, that it cannot take the place of a human being in sentencing or decision-making". Two ideas seem clear at this point: the need to carry out impact assessments (which, as we shall see at the end, is a requirement of the new EU Regulation) and the precautionary principle, referred to in Spanish scholarship as the reserve of humanity[31] in the sense that AI cannot take the place of a human being when passing judgement or making decisions (which in some way is also glimpsed in the EU Regulation).

(2) Secondly, it "urges Member States to assess the risks related to AI-based technologies before automating activities related to the exercise of state authority, in particular in the field of justice; calls on Member States to consider the need for safeguards, such as supervision by qualified professionals and rules on professional ethics". Again, the idea of the IA impact-assessment technique underlies the above statement.

(3) Also "requests that the public be kept informed about the use of AI in the field of justice, and that such uses do not lead to discrimination arising from programming biases; stresses that the right of any person to have access to a public official must be respected, as well as the right of the responsible official to make the decision himself/herself and to deviate from the information received from AI when they deems it necessary in the light of the details of the case in question; stresses the right of the respondent to appeal the decision in accordance with national law, without in any case removing the ultimate responsibility from the judiciary". Logically, the rights of the addressees of AI-assisted decisions must be safeguarded as this is a particularly sensitive area and therefore there must be possibilities for appeal and accountability of the judiciary.

And, (4) "requests, therefore, that all such uses in the public and administrative domain constitute information in the public domain and that discrimination arising from programming biases be avoided". It reiterates

[30] Available at the official website europarl.europa.eu.

[31] J. Ponce Solé, *Seres humanos e Inteligencia Artificial: discrecionalidad artificial, reserva de humanidad y supervisión humana,* in E. Gamero Casado (Ed.), *Inteligencia Artificial y Sector Público. Retos, límites y medios,* Valencia, Tirant Lo Blanch, 2023, 196 ff.

the need to guarantee rights, avoid bias and enhance the right to information and knowledge about the functioning of the AI systems to be implemented.

The 2021 Resolution also sets the tone for how this area should be regulated in the Member States, starting from the idea or premise that "AI-based technologies and network systems should aim to provide legal certainty for citizens", and therefore "the rules on legal and jurisdictional conflicts should continue to apply, while taking into account the interest of citizens and the need to reduce the risk of forum shopping", Therefore, for the European Parliament, "AI cannot take the place of a human being in the judicial process when it comes to making judgments or final decisions of any kind, as such decisions must always be taken by a human being and must be strictly subject to verification and effective judicial protection by a human being". In this line, the document insists "that, when using evidence provided by AI-assisted technologies, judicial authorities are obliged to give reasons for their decisions". It therefore appears from the reading of this Resolution that the use of AI will be limited and, in any case, controlled and supervised by the person who has the jurisdictional power, i.e. judges and magistrates, as a sign of their discretionary power.[32] The EU Regulation on Artificial Intelligence, as we shall see in the following sections, seems to share the same position.

4.3. *Requirements. In particular, the impact assessment*

4.3.1. *General requirements and obligations*

The EU Regulation 2024/1689 on Artificial Intelligence has a somewhat simple architecture that focuses on (1) determining prohibited AI practices (among which it establishes some exceptions related to the field of justice), (2) high-risk AI systems, (3) general-purpose AI systems, which are less problematic and are not the ones that are intended to be implemented in projects based on the conclusions of research work such as this article.

Among prohibited AI systems are, according to article 5 of the Regulation, "real-time remote biometric identification systems in publicly accessible areas".[33] However, there are a number of exceptions that lift this prohibition and that are embedded in the possible use of these technologies in justice,[34] especially in criminal justice:[35] (1) targeted search for specific victims of kidnapping, trafficking in human beings or sexual exploitation of human beings, as well as the search for missing persons; (2) prevention of a specific, significant and imminent threat to the life or physical safety of natural persons or of a real and present or real and foreseeable threat of a terrorist attack; (3) location or identification of a person suspected of having committed a criminal offence in order to carry out a criminal investigation or prosecution or to enforce a criminal sanction. In this sense, and complying with these three exceptions, it would be possible to design AI systems based on biometric identification for use by law enforcement and judicial authorities, which in my opinion would be systems that should respect the requirements and design needs set, at least, for the high-risk AI systems referred to below.

High-risk AI systems are the bulk of the EU Regulation 2024/1689, as it can be seen quite easily since it devotes 43 articles to these systems, specifically articles 6 to 49. As we have already noted, the Regulation defines high-risk systems by reference, especially to Annex III, but also establishes those that are not high-risk. Among the high-risk systems in Annex III, paragraph 8 expressly includes "Justice and democratic processes". With respect to Justice it expressly identifies them in point (a) as "AI systems intended to be used

[32] E. Gamero Casado, *Las garantías del régimen jurídico del sector público y del procedimiento administrativo común frente a la actividad administrativa automatizada y la inteligencia artificial,* 430, and S. De la Sierra Morón, *Inteligencia artificial y justicia administrativa: una aproximación desde la teoría del control de la Administración Pública*, in *Revista General de Derecho Administrativo,* n. 53, 2020, 11-12.

[33] About this type of AI systems it is interesting see M. Razquin Lizarraga, *Notas sobre el Dictamen 11/2024 del CEPD sobre uso del reconocimiento facial en el flujo de pasajeros en aeropuertos a la luz del Reglamento de Inteligencia Artificial y del RGPD*, in *Derecho Digital e Innovación,* n. 20, 2024, 1-5.

[34] In this regard, see L. Cotino Hueso, *Sistemas de inteligencia artificial con reconocimiento facial y datos biométricos,* in *El Cronista del Estado Social y Democrático de Derecho,* in *Inteligencia Artificial y Derecho,* n. 100, 2022, 73.

[35] L. Martínez Garay and A. García Ortíz, *Paradojas de los algoritmos predictivos utilizados en el sistema de justicia penal,* in *El Cronista del Estado Social y Democrático de Derecho,* in *Inteligencia Artificial y Derecho,* n. 100, 2022, 171-173.

by or on behalf of a judicial authority to assist a judicial authority in the investigation and interpretation of facts and law, and in the application of the law to a particular set of facts, or to be used in a similar way in alternative dispute resolution". In high-risk systems it shall be required:

(1) Compliance with the requirements of article 8 and the establishment of a risk Public Administration system[36] (art. 9), issue that is undoubtedly very reminiscent of the techniques already consolidated for the protection of personal data by the EU General Regulation of 2016.

(2) Compliance with data and data-governance standards (quality, updating, avoiding bias,[37] anonymisation, limitations on special categories, etc.), and their relationship with the GDPR (art. 10).

(3) The technical documentation must be simple, clear, complete and comprehensible in accordance with Annex IV (art. 11). To this end, obligations on record keeping, transparency and communication of information to the obligated parties are determined.[38]

(4) Ensuring human oversight and monitoring of high-risk systems (art. 14).

(5) Design and development to achieve an adequate level of accuracy, robustness and cybersecurity and to function consistently in these respects throughout their life cycle (art. 15).

(6) Obligations of suppliers and deployers of high-risk AI systems and other parties: quality Public Administration, retention of documentation and registration, obligations of importers, distributors, deployers, fundamental-rights impact assessment (art. 16-27).

Finally about the general requirements it is interesting to consider in the design of general artificial intelligence systems the ISO/IEC technical standards relating to technical standardisation of AI, and in particular the following:

- ISO/IEC 22989:2022. AI concepts and terminology
- ISO/IEC/TR 23053:2022. Framework for AI systems that use Machine Learning
- ISO/IEC/TR 24027:2023. Biases in AI systems and AI-assisted decision-making
- ISO/IEC 23894:2023. Risk management guidelines
- ISO/IEC 42001:2023 Information technology – Artificial intelligence – Management system

In the development of judicial IA systems, it would be advisable to take into account the provisions of these technical standards for general systems.

4.3.2. *In particular, impact assessment*

As we have seen in one point of the previous section, providers and deployers are obliged to carry out a fundamental-rights impact assessment[39] for the implementation of high-risk AI systems such as judicial systems, which must be carried out prior to the implementation of the system.[40] The definitions in the EU Regulation include the definition of "deployers", which the regulation defines as: "a natural or legal person or public authority, body, office or agency using an AI system under its own authority, except where its use is in the context of a personal activity of a non-professional nature". According to this definition, public administrations and public-sector bodies using high-risk IA systems for the exercise of their powers[41] are obliged to carry out an impact assessment. It is important to note that according to article 27 of the EU Regulation an impact assessment requires:

"(a) a description of the deployer's processes in which the high-risk AI system will be used in line with its intended purpose;

[36] Risk Public Administration system is key to AI, see A. Mantelero, *Beyond Data. Human Rights, Ethical and Social Impact Assessment in AI*, 54.

[37] In line with S. Muñoz Machado, *Prólogo,* in *El Cronista del Estado Social y Democrático de Derecho* in *Inteligencia Artificial y Derecho,* n. 100, 2022, 11.

[38] In line with E. Menéndez Sebastián, *Los procedimientos subvencionales. De la burocracia a la IA: eficacia o garantía,* in *20 años de la Ley General de Subvenciones*, Madrid, INAP, 2023, 215; and A. Boix Palop, *Transparencia n la utilización de inteligencia artificial por parte de la Administración,* in *El Cronista del Estado Social y Democrático de Derecho,* in *Inteligencia Artificial y Derecho,* n. 100, 2022, 102.

[39] J. Valero Torrijos, *Las singularidades del tratamiento de datos de carácter personal en entornos de inteligencia artificial en el Sector Público,* 379-384.

[40] For a general review of AI impact assessment, see P. Simón Castellano, *Las evaluaciones de impacto algorítmico en los derechos fundamentales: hacia una efectiva minimización de sesgos,* in L. Cotino Hueso and J. Castellanos Claramunt (Eds.), *Algoritmos abiertos y que no discriminen en el sector público,* Valencia, Tirant Lo Blanch, 2023, 55.

[41] A question that is always problematic, see A. G. Orofino, *L'intelligenza artificiale al servizio delle funzioni amministrative: profili problematici e spunti di riflessione*, in *Giurisprudenza Italiana*, n. 7, 2020, 1738.

(b) a description of the period of time during which each high-risk AI system is intended to be used and the frequency with which it is intended to be used;

(c) the categories of natural persons and groups likely to be affected by its use in the specific context;

(d) the specific risks of harm likely to affect the categories of natural persons and groups identified in accordance with point (c) of this paragraph, taking into account the information provided by the supplier in accordance with article 13;

(e) a description of the implementation of human supervision measures, in accordance with the instructions for use;

(f) the measures to be taken in the event that such risks materialise, including internal governance arrangements and grievance mechanisms".[42]

This is an assessment model that clearly takes its inspiration from the data-protection impact assessment, and in a way it is logical that this should be the case, since the General Data-Protection Regulation articulated it with the aim of guaranteeing and protecting a fundamental right, that of data protection, and now what the IA Regulation does is to broaden its scope. Indeed, it has been rightly stated that "if a data-protection impact assessment is already carried out, it should be carried out in conjunction with the EIA on fundamental rights".[43] In order to carry out the impact assessment of Artificial-Intelligence systems both in general and in the field of justice, it is interesting to take into consideration the document Model Rules on Impact Assessment of Algorithmic Decision-Making Systems Used by Public Administration prepared by the European Law Institute in Vienna in 2022.[44]

Finally, the Regulation also determines a number of obligations mainly concerning notifying authorities and notified bodies. These procedures will be developed through cooperation between the notifying authorities of all the Member States, where the application for notification, the procedure, requirements, obligations, etc. have been defined (articles 28 to 39). Equivalence and documentary standardisation rules are also established for conformity assessment, determination of certificates and registration of IA systems (arts. 40 to 49). And to conclude, the regulation includes transparency obligations for providers and users of certain AI systems[45] (art. 50), which is also reminiscent of the general right to transparency and equal information on the protection of personal data. For example, it states that "those responsible for the deployment of an AI system that generates or manipulates images or audio or video content that constitutes ultra-falsification shall make public that such content or images have been artificially generated or manipulated", an issue that is already being observed in social media and other technologies. There are exceptions to these reporting obligations, which are again limited to those established for police work and/or prevention of criminal offences.

4.4. *Possible uses of AI in justice in the light of the EU Regulation 2024/1689. Judicial jurimetrics and basic automated proceedings*

Apart from other future possibilities for the use of AI in judicial work[46] there are two that would clearly fit in with current legislation and the current social context. Firstly, it would be a matter of developing procedural Public-Administration systems based on AI that support the electronic judicial file by integrating powerful case law search databases, both in the Member State and elsewhere, and with access to the Justice Data Space, in the manner of expert systems that can pre-select applicable case law, or even give the judge or magistrate the possibility of choosing between different options predetermined by the system, all of this to enhance the effectiveness and efficiency of

[42] On the right to lodge a complaint before a supervisory authority, see A. Palma Ortigosa, *Decisiones automatizadas y protección de datos. Especial atención a los sistemas de inteligencia artificial,* 321.

[43] P. Simón Castellano, *Las evaluaciones de impacto algorítmico en los derechos fundamentales: hacia una efectiva minimización de sesgos,* 35.

[44] Available in the web.

[45] For further eference on transparency obligations regarding high-risk AI systems I refer to L. Cotino Hueso, *Cuándo deben crear registros y dar transparencia a los algoritmos y sistemas de inteligencia artificial públicos,* in L. Cotino Hueso and J. Castellanos Claramunt, (Eds.), *Algoritmos abiertos y que no discriminen en el sector público,* Valencia, Tirant Lo Blanch, 2023, 157.

[46] See S. Barona Vilar, *La seductora algoritmización de la justicia. Hacia una justicia posthumanista (Justicia+),* in *El Cronista del Estado Social y Democrático de Derecho,* in *Inteligencia Artificial y Derecho,* n. 100, 2022, 45-46.

judicial work.[47] This would therefore involve the application of jurimetric techniques to judicial work through AI systems based on the application of big-data and open-data techniques[48] that should be expressly designed by judicial authorities (for example, in Spain, the General Council of the Judiciary), although collaboration of companies specialising in this field is possible, a possibility that has been highlighted in France by Gaudemet[49] when defining "predictive justice". Here we would be in an expert system of artificial intelligence that would allow a fuller exercise of jurisdictional work through the establishment of formulas for assistance or help, leaving the ultimate control in any case to the judicial authority.

And, secondly, exploring in the medium and long term the possibilities of applying artificial intelligence and judicial automation of decisions to complete electronically, in a more agile and efficient way, parts of a judicial process in which human action is not absolutely essential, or even abbreviated judicial procedures of a regulated nature that can be articulated completely and exclusively by electronic means, when the specific facts are relatively simple to ascertain. Or, for example, we could also consider the possibility of carrying out the enforcement of sentences, in certain types of proceedings, by means of automation/artificial-intelligence techniques. Or, as the AI Regulation itself states, for "alternative dispute resolution". It would certainly be possible in a good number of cases to parameterise and scale the applicable judicial solutions on the basis of the consolidated caselaw, in a sort of predictive justice based on artificial-intelligence techniques within a law that has already reached the age of algorithms.[50] The key here would again lie in the development of a system with sufficient guarantees and effective safeguards, by means of formulas that allow for the control of developments by the judicial authorities themselves and that make it possible to achieve an adequate level of resolution of jurisdictional procedures, in terms of agility, efficiency and legal security.

4.5. *Re-use of AI systems in justice at the EU level*

Finally, in the event that there is a judicial authority either in a Member State or in the European Union that manages to develop a Judicial Artificial-Intelligence system with the parameters that we have established in this research work, it should be imperative to reuse this technology in the whole EU Justice. The idea is simple (and finds legal basis for its requirement in some Member States such as Spain where it is expressly regulated in Law 40/2015, on the Legal Regime of the Public Sector)[51] that judicial authorities jointly or individually undertake a process of development of AI systems to be used in Justice, having previously complied with the adequacy of judicial databases to allow interoperability and the creation of a Justice Data Space. It would be interesting for this possibility to be determined in a specific EU AI Regulation for Justice, especially because it is an area that affects guarantees and fundamental rights of EU citizens and which must guarantee principles such as equality of access and the material application of justice in its application.

5. *Conclusions*

In this article we have analysed the requirements for the implementation of Artificial-Intelligence systems in Justice. The prerequisite for the success of this proposal would be that Member States articulate judicial databases, repositories or archives with a design that allows privacy by design and data interoperability, for the interconnection of judicial data from all EU Member States, the creation of a Justice Data Space in Europe with anonymised data allowing the automatic retrieval of information, complying with a high level of interoperability, and that Artificial-Intelligence systems in Justice be designed to be able to use, collect and process Justice Data Space data in an automated way. In order for a project of this magnitude to be developed in

[47] R. Cernada Badía, *De la digitalización a la Inteligencia Artificial: el porvenir de la justicia en la Unión Europea,* in L. Cotino Hueso and J. Castellanos Claramunt, J. (Eds.), *Algoritmos abiertos y que no discriminen en el sector público,* Valencia, Tirant Lo Blanch, 2023, 263.

[48] On the application of these techniques, see A. G. Orofino, *Openness of Public Data and Transparency of Administrative Action,* 51.

[49] Y. Gaudemet, *La justice à l'heure des algorithmes. À propos de la justice prédictive*, in *Revue du Droit Public,* n. 3, 2018, 654 and 655.

[50] Y. Gaudemet, *La justice à l'heure des algorithmes. À propos de la justice prédictive*, 651.

[51] J. Miranzo Díaz, *Inteligencia Artificial y Derecho Administrativo*, 257 ff.

accordance with the regulatory framework of the European Union, which in this case would be the DataGovernance Act, the Data Regulation, the General-Data Protection Regulation, the Interoperable Europe Act and the Artificial-Intelligence Regulation, all the requirements and obligations that we have referred to in depth throughout this work (risk assessment, impact assessment, privacy-based design, testing in interoperability sandboxes, information and transparency obligations, etc.) should be met. It is clear that this is a regulatory analysis of enormous complexity, but once carried out, it marks the path for the development of Artificial-Intelligence systems in Justice, which in my opinion is one of the most exciting legal challenges of 21st-century Europe. I hope that this research work will help lay the legal foundations for this exciting possibility.