Legal SciComm

Legal Science Communication Conference Proceedings: Research and Practices

Proceedings of the II International Conference on Legal SciComm – Research and Practices (Legal SciComm 2024, November)

Editors:
Ana Gaudêncio
Fernando Borges
Joanna Osiejewicz
Marta Graça
Rui Dias

Coimbra, Portugal

1 2 9 0
INSTITVTO IVRIDICO
FACULDADE DE DIREITO
UNIVERSIDADE D
COIMBRA

fct

TITLE
Legal Science Communication Conference Proceedings: Research and Practices

EDITORS:

SCIENTIFIC COMMITTEE:
Ana Margarida Gaudêncio (University of Coimbra, Faculty of Law & UCILeR/Portugal)
Fernando Borges (UCILeR/Portugal)
Joanna Osiejewicz (University of Warsaw, Faculty of Applied Linguistics/Poland)
Marta Graça (UCILeR/Portugal)
Rui Dias (University of Coimbra, Faculty of Law & UCILeR/Portugal)

ORGANIZING COMMITTEE:
Marta Graça (UCILeR/Portugal)
Niedja de Andrade e Silva Forte dos Santos (UCILeR/Portugal)
Marcelly Fuzaro Gullo (UCILeR/Portugal)

COVER
Dalldesign

Instituto Jurídico
Faculdade de Direito da Universidade de Coimbra
geral@ij.uc.pt • www.uc.pt/fduc/ij
Colégio da Trindade • 3000-018 Coimbra

e-ISBN: 978-989-9075-98-6

DOI: 10.47907/LegalSciComm2024/Conference

November 2025

This book is the result of the 2nd Legal SciComm Conference, held on November 12, 2024, as part of the Legal SciComm exploratory project of the University of Coimbra Institute for Legal Research (UCILeR) (funded by FCT – Foundation for Science and Technology – Project UIDB/04643/ /2025; DOI: https://doi.org/10.54499/UID/04643/2025). The proceedings aim to make a significant contribution, in both theory and practice, to studies of scientific communication in the Social Sciences and Humanities (SSH), especially the communication of legal research to non-specialist audiences. The articles were peer-reviewed by two experts in accordance with the conference guidelines.

Legal Science Communication Conference Proceedings: Research and Practices

AUTHORS

Adriana Rodrigues de Menezes
Agnieszka Błaszczaka
Ana Isabel García Alfaraz
Antonio Lopo Martinez
Arthur Phillipe Milanez Santa Cecília
Conceição Carapinha
Cornelia Plag
Érica Valente Lopes
Magda Żelazowska-Sobczykb
Marek Słupczewski,
Maria Cristina Paganoni
Martyna Wilmanowicz-Słupczewska
Przemysław Kusik
Sílvia de Carvalho Homem
Stefania Racioppi
Susana Ferreira

1 2 9 0

INSTITVTO IVRIDICO
FACULDADE DE DIREITO
UNIVERSIDADE D
COIMBRA

Contents

Preface 9

Scientific papers

Multidimensional challenges in courtroom communication between professionals and laypeople 13
Conceição Carapinha, Cornelia Plag, Susana Ferreira

Eye-tracking in law and linguistics research – a pilot study. Plain language approach 31
Agnieszka Błaszczaka, Magda Żelazowska-Sobczykb

Language simplification as a method of achieving the tax authorities' goal in Poland 49
Martyna Wilmanowicz-Słupczewska

Reasoning *per analogiam* and appropriate application of other legal provisions as ways to simplify the law 57
Marek Słupczewski

The role of the jurist in the age of Legal Design 63
Stefania Racioppi

Artificial Intelligence in Tax Administration: Enhancing Compliance, Transparency, and Ethical Governance 83
Antonio Lopo Martinez

Keywords, concepts, issues. A citizen-centric analysis of the EU AI Act 101
Maria Cristina Paganoni

Cybersecurity for all: Training to prevent scams in rural areas 119
Ana Isabel García Alfaraz

Teaching Comparative Law to (Future) Legal Translators: An Outline Syllabus Proposal for a Standalone Comparative Law Course ... 139
Przemysław Kusik

Experience reports

Citizen Mobilisation and the Human Right to Water: Experience in Collecting Signatures for the European Citizens Initiative 161
Sílvia de Carvalho Homem

Governance for sustainability: applying Klaus Bosselmann's legal concepts in ensuring urban environmental protection through local capacity building 169
Érica Valente Lopes

The Contrassenso Column: the media as a tool for improving the understanding of legal matters 177
Arthur Phillipe Milanez Santa Cecília, Adriana Rodrigues de Menezes

Preface

As legal systems worldwide confront growing challenges of complexity, digitalisation, and public trust, questions of how legal knowledge is communicated have become increasingly central.

It is with great satisfaction that we present the proceedings of this II Legal SciComm Conference – Research and Practices, held at the University of Coimbra, Colégio da Trindade, on 12 November 2024. Organized by the University of Coimbra Institute for Legal Research (UCILeR), this event brought together scholars and practitioners to explore the connections between legal research and communication, with a particular focus on clarity, public engagement, and interdisciplinarity.

The conference attracted participants from several countries and diverse academic backgrounds, reinforcing its interdisciplinary character. The conference received 25 abstracts submissions, of which 21 were accepted for oral presentations. Additionally, 12 full papers (nine scientific papers and three practice-oriented experience reports) were selected for publication in these proceedings. These papers were reviewed by two experts – one from the field of Communication and Media Studies and the other from Law – as well as the editors. This dual-perspective evaluation ensured both scientific rigor and communicative relevance.

The contributions gathered in this volume reflect the increasing societal complexity, digital transformation, and growing demands for transparency and public engagement that shape contemporary legal systems. The selected papers address a broad spectrum of topics, from courtroom communication and plain language strategies to legal design, environmental governance, digital literacy, and civic engagement. From theoretical frameworks to empirical research and practical proposals, each contribution underscores the importance of rethinking how legal knowledge is created, shared, and understood by both experts and non-specialists.

We extend our deepest gratitude to all authors, reviewers, invited speakers, and participants for their invaluable contributions. We acknowledge with appreciation the dedication of the UCILeR Coordinating Board and staff, as well as all committees whose work made this conference and its proceedings possible.

We hope that these proceedings will not only document the outcomes of the conference but also foster continued collaboration among researchers, practitioners, and institutions committed to advancing field of legal research communication.

The Editors, November 2025

Keywords, concepts, issues
A citizen-centric analysis of the EU AI Act

Maria Cristina Paganoni[1]
Università degli Studi di Milano, Italy, ORCID 0000-0002-5828-8604

DOI: 10.47907/LegalSciComm2024/7

Abstract: This study offers a citizen-centric interpretation of the EU Artificial Intelligence Act (2024), the world's first comprehensive AI law to date. Much like the GDPR's regulation of big data in 2018, the AI Act underscores the European Union's commitment to regulating technological advancements and their associated risks. The document is not only complex in its drafting but also deals with socially and ethically sensitive issues. To demonstrate how explaining tech law to ordinary citizens in accessible language can be integrated with a critical perspective in support of democratic engagement, the analysis employs a corpus-assisted, critical discursive approach, enriched with interdisciplinary insights. It cross-references keywords and key phrases extracted through the software Sketch Engine with the legal definitions provided in the Act to address critical issues regarding the use of AI. It aims to outline the main concepts of the Act, discuss the impact of AI in societal contexts, and provide preliminary observations to encourage reflection and debate in academic and public spheres.

Keywords: AI Act; Critical discourse studies; Future of Life Institute; Legal communication; Technological innovation.

Basic ideas:

1. Communicating AI law helps to develop a critical perspective.
2. Concepts require contextualisation and exemplification.
3. A critical discussion should follow for ethical purposes.

[1] Corresponding author: mariacristina.paganoni@unimi.it

Introduction

The recent EU Artificial Intelligence Act [Regulation (EU) 2024/1689, 2024], or AI Act, demonstrates the European Union's commitment to regulating technological innovation and its potential risks, as was done for big data with the GDPR in 2018 (Paganoni, 2020; Francisco & Linnér, 2023). This extensive and intricate legal instrument, which is the world's first comprehensive AI law, includes 180 recitals, 113 articles across 13 chapters and 13 annexes. It will be fully applicable on 2 August 2026, twenty-four months after its entry into force, but will be implemented gradually according to a complete rollout timeline. In line with the characteristic taxonomy of EU acts, recitals form the preamble, explaining the motivations, context and objectives behind the Act. These are then followed by articles, grouped into chapters, which contain the main provisions.

Drafting began in April 2021 upon the European Commission's proposal. The start of the legislative process included revisions and approvals by the European Parliament and the Council of the European Union. As the first Regulation on artificial intelligence systems, the Act has been hailed as marking a shift in how it incorporates a legal framework to govern AI so that it is "trustworthy and ethically sound" [Regulation (EU) 2024/1689, Recital 27]. The Act also draws attention to the diverse range of stakeholders who have been working to keep pace with the rapid technological advancements in AI, including "civil society" (Recital 27), and portrays a governance of AI inspired by a collaborative logic (Cancela-Outeda, 2024).

The paper examines the evolving regulatory discourse surrounding AI from a linguistic and critical discursive perspective, trying to explain the legal provisions in accessible language and connect them to the social contexts to which they apply. In this sense, it addresses the overarching research question of how the Regulation articulates the "fundamental rights and freedoms" [Regulation (EU) 2024/1689, Recital 6] of ordinary citizens faced with AI technologies and responds to their need to make sense of legislative frameworks in their daily lives.

To reinforce this "citizen-centric approach to digital transformation" (Calzati & van Loenen, 2023, p. 1) whose core values are respect for fundamental rights, the principles of democracy and ethics, this analysis incorporates insights from the Future of Life Institute (FLI) website and publications. FLI is an independent non-profit organisation working to reduce large-scale, extreme risks from transformative technologies. It was founded in 2014 by Max Tegmark, a scientist engaged in AI and physics research, and Jaan Tallinn, a tech entrepreneur and AI safety advocate. Over time, FLI has published extensively on artificial intelligence, notably

in August 2021 and July 2023.[2] Moreover, in March 2023, it issued an open letter calling for a pause of at least six months on giant AI experiments, which was signed by more than 30,000 individuals, including pre-eminent AI experts and industry executives, and made headlines around the world (Future of Life Institute, 2023a). Finally, true to its mission, FLI uses plain language in its communications to make content accessible and understandable to a broad audience.

1. Methodology

New legal norms developed in response to profound transformations must align with fundamental rights, established judicial principles and the democratic values at the core of the European Union. At the same time, legal norms and procedures are inextricably linked to prevailing social imaginaries, political ideologies and discursive formations, rendering their interpretation contingent upon the socio-cultural semantics through which legal meaning is negotiated, as well as upon evolving linguistic frames (Cheng & Machin, 2024).

In light of this discursive complexity, explaining legal concepts in plain language becomes not merely a matter of clarity, but a democratic imperative. First, it helps individuals to understand their rights and responsibilities, make informed decisions and navigate the legal system more effectively. This ensures legal information is accessible to everyone, regardless of their background or education level. Second, in the fast-changing field of AI, this approach aids in grasping the crucial issue of "proper governance, including robust regulation and capable institutions that can steer this transformative technology away from extreme risks and towards the benefit of humanity" (Future of Life Institute, n.d.). Lastly, interpreting the law reveals the inherent dynamism of legal texts, mapping the present while considering future extensions that are not yet discernible.

The AI Act was approached through a Critical Discourse Studies (CDS) lens, supported by computational retrieval of keywords and subsequent keyword analysis (Cheng & Machin, 2024; Heritage & Taylor, 2024).

[2] In its 2021 position paper on AI, the Institute issued 10 recommendations on the EU AI Act, organised under three main goals: "1. Account for the full (and future) risks of AI; 2. Enhance protections of fundamental rights; 3. Boost AI innovation in Europe" (Future of Life Institute, 2021, p. 3). In the 2023 position paper on the AI Act Trilogue (i.e. addressing the European Commission, the European Parliament and the Council of the EU negotiating the final text of the Act), FLI stressed the need to regulate general-purpose AI, close loopholes for powerful providers, mandate third-party audits, establish an independent AI Office, and ensure ongoing oversight to safeguard society, democracy and innovation.

CDS highlights how language reflects, sustains or challenges power relations, ideologies and institutional interests in society. In the case of legal texts, a CDS perspective is well suited for uncovering the discursive strategies that render legal language either accessible or obscure, inclusive or exclusionary, to the general public. Thus, it aligns with a citizen-centric orientation that foregrounds the interpretive experience of non-specialist audiences, rather than institutional actors.

As summarised in the title, the analysis triangulates between the linguistic, cognitive and social dimensions (keywords, concepts and issues, respectively). The linguistic dimension focuses on the form and function of language, i.e., specific lexical choices, grammatical structures and textual organisation. The cognitive dimension explores how these linguistic patterns, including metaphor, influence mental representations, affecting how people interpret, understand and respond to discourse. Finally, the social dimension considers how discourse both emerges from and contributes to broader societal contexts – such as institutional practices, political ideologies and cultural norms – thereby reinforcing or challenging dominant power structures. This perspective complements that of the lawmaker and the legal practitioner who are primarily concerned with the design, technical accuracy and enforceability of legislation, although they also operate within and through language.

In particular, the intersection of CDS and EU regulatory discourse on AI allows for a critical examination of the linguistic framings used in the Act, which resonate with other societal discourses in politics, business and the news media, each producing its own narratives about AI. The critique that eclecticism in CDS diminishes the precision of specialised knowledge – in this case, both linguistics and law – is countered by noting that CDS facilitates a more nuanced and comprehensive analysis of complex social phenomena, ultimately enhancing the ability to address real-world issues (Wodak & Meyer, 2015; Unger, 2016).

Qualitative insights were preceded by the extraction of keywords and key phrases, using the corpus manager and text analysis software Sketch Engine (Lexical Computing CZ, 2021). The data retrieved – comprising 40 words and phrases – were subsequently cross-referenced with the 68 legal definitions provided in Article 3. The rationale behind this procedure was to identify the main points within the legal document which are most likely to be relevant. The discussion was further enriched with insights from legal research and critical policy studies (Almada & Petit, 2023; Bareis & Katzenbach, 2022; Ebers, 2024; Morozovaitė, 2023; Pham & Davies, 2024; van Hulst et al., 2024; Veale & Zuiderveen Borgesius, 2021), as well as reflections from computer science, philosophy and AI ethics (Floridi & Nobre, 2024; Gonzalez-Torres et al., 2023; Heyndels, 2023; Ienca, 2023; Richards, 2024).

2. Keywords and concepts

The list of the thirteen chapters with their titles (Table 1) provides the overview of the legally binding part of the document, following the recitals. The 68 terms defined in Article 3 are listed in Table 2.

Table 1

Chapters of the AI Act

Title	Content Description
Chapter I: General Provisions (art. 1-4)	Defines the AI Act's objectives, scope, and key terms to ensure AI systems are safe and transparent.
Chapter II: Prohibited AI Practices (art. 5)	Lists AI practices that are banned due to their potential harm to users and society.
Chapter III: Requirements for High-Risk AI Systems (art. 5-49)	Sets stringent requirements for high-risk AI systems, including rigorous assessments and transparency.
Chapter IV: Transparency Obligations for Providers and Deployers of Certain AI Systems (art. 50)	Mandates clear information about AI systems to ensure they are understandable and explainable.
Chapter V: General-Purpose AI Models (art. 51-56)	Establishes specific guidelines for the development and use of versatile, general-purpose AI models.
Chapter VI: Measures in Support of Innovation (art. 57-63)	Includes measures like regulatory sandboxes to support and encourage AI innovation within the EU.
Chapter VII: Governance (art. 64-70)	Outlines the roles and responsibilities of stakeholders in enforcing the AI Act.
Chapter VIII: EU Database for High-Risk AI Systems (art. 71)	Requires the creation of an EU-wide database for high-risk AI systems to enhance transparency.
Chapter IX: Post-Market Monitoring, Information Sharing and Market Surveillance (art. 72-94)	Ensures ongoing compliance of AI systems through monitoring and market surveillance.
Chapter X: Codes of Conduct and Guidelines (art. 95-96)	Encourages the development of voluntary codes of conduct and guidelines for best practices in AI governance.
Chapter XI: Delegation of Power and Committee Procedure (art. 97-98)	Allows the European Commission to adapt the Act to technological advancements through delegated acts.
Chapter XII: Penalties (art. 99-101)	Establishes penalties for non-compliance to ensure accountability and adherence to the Act's provisions.
Chapter XIII: Final Provisions (art. 102-113)	Contains amendments and provisions on the entry into force of the Act.

Note. From the AI Act (Regulation 2024/1689).

As with the GDPR, the Act is based on a risk-based approach "that tailors the choice and design of regulatory instruments based on the level of risk, according to the rule: 'the higher the risk, the stricter the rules'" (Ebers, 2024, p. 6). Risk levels (Article 6) are categorised into unacceptable, high, limited, and minimal "across a cascading scale" (Pham & Davies, 2024, p. 15). Prohibited practices are all those harmful AI applications which manipulate human behaviour to the detriment of users, exploit vulnerabilities of specific groups, or pose a clear threat to safety, livelihoods and rights (Chapter II). The prohibition of such practices underscores the EU's commitment to protecting citizens from the most dangerous applications. Regulatory measures and stringent obligations on providers (i.e., developers) of high-risk AI systems must ensure human oversight, transparency, and accountability throughout the "entire lifecycle" (Chapter III). Chapter IV introduces transparency requirements for both providers and deployers (i.e., users acting in a professional capacity), mandating that the latter receive clear and understandable information. Chapter V establishes rules for general-purpose AI models, including risk management, documentation, and compliance measures, ensuring responsible development and deployment across diverse applications and minimising potential harms. Chapter VI deals with testing and innovation. Chapter VII details the roles and responsibilities of various stakeholders, including national competent authorities, the European Commission and the European Artificial Intelligence Board. Chapter VIII mandates the creation of an EU-wide database for high-risk AI systems to enhance transparency and accountability. Post-market monitoring, as described in Chapter IX, ensures ongoing compliance through reporting and market surveillance. Voluntary codes of conduct and guidelines, highlighted in Chapter X, promote best practices in AI governance. Chapter XI grants the European Commission the power to adopt delegated acts to keep the AI Act adaptable to technological advancements. Chapter XII establishes penalties for non-compliance, ensuring accountability and adherence to the Act's provisions.

Table 2

Definitions – Article 3

1	**AI system**	35	**Biometric identification**
2	Risk	36	Biometric verification
3	Provider	37	Special categories of personal data
4	**Deployer**	38	Sensitive operational data
5	Authorised representative	39	Emotion recognition system
6	Importer	40	Biometric categorisation system
7	Distributor	41	Remote biometric identification system
8	Operator	42	Real-time remote biometric identification system
9	Placing on the market	43	Post-remote biometric identification system
10	Making available on the market	44	Publicly accessible space
11	Putting into service	45	Law enforcement authority
12	Intended purpose	46	Law enforcement
13	Reasonably foreseeable misuse	47	AI Office
14	Safety component	48	National competent authority
15	Instructions for use	49	Serious incident
16	Recall of an AI system	50	Personal data
17	Withdrawal of an AI system	51	Non-personal data
18	Performance of an AI system	52	Profiling
19	Notifying authority	53	Real-world testing plan
20	**Conformity assessment**	54	Sandbox plan
21	Conformity assessment body	55	AI **regulatory sandbox**
22	**Notified body**	56	AI literacy
23	Substantial modification	57	Testing in real-world conditions
24	CE marking	58	Subject (for the purpose of real-world testing)
25	Post-market monitoring system	59	Informed consent
26	**Market surveillance authority**	60	Deep fake
27	Harmonised standard	61	Widespread infringement
28	Common specification	62	Critical infrastructure
29	Training data	63	General-purpose AI model
30	Validation data	64	High-impact capabilities
31	Validation data set	65	**Systemic risk**
32	Testing data	66	**General-purpose AI** system
33	Input data	67	Floating-point operation
34	Biometric data	68	Downstream provider

Note. From the AI Act (Regulation 2024/1689, Article 3).

In the second step of the analysis, the terms defined in Article 3 are cross-referenced with keywords and key phrases extracted using the software Sketch Engine (Table 3). Keyword analysis is particularly valuable for identifying patterns of lexical salience that may reflect thematic priorities in text (Heritage & Taylor, 2024). In this case, nine items – highlighted in bold in Tables 2 and 3 – stand out as focal points of attention: *AI systems*, *general-purpose AI* (*GPAI)*, *deployer*, *market surveillance authority*, *notified body*, *conformity assessment*, *regulatory sandbox*, *systemic risk* and *biometric identification*. They will serve as signposts in the following discussion.

Table 3

Keywords

	Keywords	***Key Phrases***
1	**deployer**	**ai system**
2	general-purpose	high-risk ai system
3	high-risk	**general-purpose ai**
4	conformity	ai model
5	harmonisation	general-purpose ai model
6	ai	market surveillance
7	biometric	surveillance authority
8	harmonise	**market surveillance authority**
9	sandbox	**notified body**
10	post-market	**conformity assessment**
11	standardisation	natural person
12	EC	competent authority
13	placing	national competent authority
14	authorisation	union law
15	competent	**regulatory sandbox**
16	notify	**systemic risk**
17	authorise	european parliament
18	post-remote	union harmonisation
19	reasoned	real world condition
20	surveillance	**biometric identification**

Note. Data collected by author [15 December 2024].

An *AI system* is defined as

> a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. (Regulation 2024/1689, Article 3.1)

The language frames "a 'technology-neutral' definition of AI systems, buttressed by a so-called 'risk-based approach'" (Barichella, 2023, p. 5). In philosophical terms, technology neutrality holds that technology does not inherently possess ethical values or implications, as it is conceived and designed by human agents with whom intentionality and moral responsibility ultimately reside. However, the idea that AI is just a tool (hence the subject of passive clauses using verb phrases such as *is designed/placed/supervised/tested*) overlaps within the Act with the portrayal of AI in human-like terms as *autonomous* and *trustworthy*, as an entity exhibiting *adaptiveness* and being able to *learn* and *infer*. In fact, this "crosswiring of languages" (Floridi & Nobre, 2024), arising from conceptual borrowing between the anthropomorphic and the computational and permeating public discourse, frequently results in confusion and misrepresentation.

Technology neutrality implies, among other things, that providers who put AI on the market should identify and implement "risk mitigation measures for foreseeable misuse" (Recital 65). Besides, this same principle suggests that laws should not favour or discriminate against any specific technology, since "the moral values embodied by technological artifacts derive from human intentional action or from the culpable lack of awareness or sensitivity for social and economic inequalities" (Heyndels, 2023, p. 19). This results in a power struggle in which the "continued sway exercised by lobbying groups" (Barichella, 2023, p. 1) coexists with "trends of contentious points in the regulation" (Gonzalez-Torres et al., 2023, p. 3).

Nonetheless, within the Regulation, the beneficial effects of AI systems for "public interest(s)" (13 occurrences) are explicitly acknowledged, in the public administration, in education and for social inclusion.

> The deployment of AI systems in education is important to promote high-quality digital education and training and to allow all learners and teachers to acquire and share the necessary digital skills and competences, including media literacy, and critical thinking, to take an active part in the economy, society, and in democratic processes. (Regulation 2024/1689, Recital 56)

> Another area in which the use of AI systems deserves special consideration is the access to and enjoyment of certain essential private and public services and benefits necessary for people to fully participate in society or to improve one's standard of living. (Regulation 2024/1689, Recital 58)

A subcategory of AI systems is general-purpose AI addressed in Chapter V of the Regulation, usually referred to as 'generative AI' in news and public discourse. General-purpose AI is characterised by its ability to perform a

wide range of distinct tasks competently and includes models such as ChatGPT, Gemini and DALL·E. These systems are recognized as having the potential to significantly affect fundamental rights, safety and public interests if their use is altered "by malicious third parties" (Recital 76). As a result, they are subject to stricter regulatory controls. Examples include AI applications in healthcare or law enforcement. The deployment of manipulative or exploitative AI practices, as well as real-time remote biometric identification systems in public spaces, is explicitly prohibited.

While providers develop AI systems and place them on the market (*market* alone occurs 378 times in the text) whether for payment or free of charge, "'*deployer*' means a natural or legal person, public authority, agency or other body using an AI system under its authority except where the AI system is used in the course of a personal non-professional activity" (Regulation 2024/1689, Article 3.4). This definition distinguishes deployers from end-users by emphasising their professional or organisational use of AI systems. Deployers include entities such as employers – for instance, a company using AI for supply chain management or recruitment purposes.

Market surveillance authorities ensure AI systems comply with regulations through monitoring and enforcement. *Notified bodies* are independent organisations responsible for assessing the compliance of AI systems with regulatory standards. A *conformity assessment* is a process verifying AI systems meet required safety and legal standards.

A *regulatory sandbox* is a controlled environment for testing AI innovations before market release and also an interesting metaphor throughout the Act (with 74 occurrences). The metaphor, which belongs to the conceptual field of entertainment (Ye & Li, 2024, p. 367), derives from the concept of a child's sandbox, a play area where kids can build, destroy and experiment without causing any real-world damage. Sandboxes allow developers to test innovative solutions while ensuring compliance with regulatory standards. The metaphor discursively frames regulation as flexible, playful and non-threatening, which contrasts with more rigid or punitive connotations.

The Act contains 81 occurrences of *systemic risk*. Systemic risk defines the potential widespread impact of AI on society and safety. Examples of systemic risk include social scoring, manipulative AI, exploitation of vulnerabilities and some uses of biometric categorisation. These systemic risks are considered unacceptable and are prohibited under the Act to ensure the protection of individuals and society. Social scoring evaluates or classifies individuals based on their social behaviour, which can lead to discrimination and unfair treatment, thus violating human dignity. Manipulative AI uses subliminal or deceptive techniques to distort behaviour and impair informed decision-making, potentially causing significant harm. Vulnerabilities related

to age, disability, or socio-economic circumstances can be exploited in harmful ways. Biometric categorisation is prohibited when AI systems infer sensitive attributes such as race, political opinions or sexual orientation, which can lead to privacy violations and discrimination. Polygraphs, commonly known as lie detectors, measure physiological responses such as heart rate, blood pressure and skin conductivity to determine if a person is being truthful. These measurements are considered biometric data because they involve physical and physiological characteristics. While polygraphs themselves are not typically used for categorising individuals into specific groups, the data they collect could potentially be used in biometric categorisation systems. For example, if polygraph data were used to infer sensitive attributes like stress levels or emotional states (emotion recognition), it could fall under the scope of biometric categorisation and be subject to the provisions of the AI Act.

Finally, *biometric identification* (57 occurrences) is the automated recognition of individuals using unique physical characteristics and is prohibited unless it is strictly necessary for specific purposes such as the targeted search for victims of certain crimes, the prevention of threats to life or physical safety, or the identification of suspects in serious criminal investigations, as outlined in Article 5.

The AI Act acknowledges the risk of "function creep" (Zulehner, 2024, p. 9) where the use of AI systems subtly expands beyond their original purpose, particularly in the use of facial recognition technology, which raises several ethical issues (Paganoni, 2019; Rezende, 2020). It provides a minimum set of requirements that member states can expand to ensure greater protection of privacy and fundamental rights. The Act also allows for the quick amendment of annexes through delegated acts to adapt to rapid technological advancements (Zulehner, 2024).

3. Critical issues: digital manipulation, lack of transparency, societal impact

Following the illustration of keywords and main concepts derived from corpus extraction and the textual organisation of the Act, this section turns to the social dimension. While the complexity of the Act precludes an exhaustive analysis, several critical issues nonetheless emerge. In particular, four key concerns will be discussed: the limitations of the risk-based approach, lack of transparency, digital manipulation, and the scale of AI's societal impact.

First, the AI Act assumes that AI technologies are shaped by the freedom to conduct business. It states that its purpose is "to improve the functioning

of the internal market […] to promote the uptake of human centric and trustworthy artificial intelligence" (Regulation 2024/1689, Recital 2) in respect of fundamental human rights. That AI innovation is beneficial to the progress of the European Union is discursively framed from the beginning:

> This Regulation should be applied in accordance with the values of the Union enshrined as in the Charter, facilitating the protection of natural persons, undertakings, democracy, the rule of law and environmental protection, while boosting innovation and employment and making the Union a leader in the uptake of trustworthy AI. (Regulation 2024/1689, Recital 2)

This discursive frame explains why, in the attempt to find a balance between the protection of market and non-market values, the Act primarily focuses on regulating the risks of AI systems rather than questioning their necessity or social arrangements. Yet, its language often relies on general terms such as "significant risk", "reasonably foreseeable misuse", "potential intentional misuse", "reasonably foreseeable negative effects", "potential harm" and "adverse impact". Though typical of legal language, this vagueness can obscure accountability and create loopholes in enforcement, especially when applied across diverse technological contexts (Cordella & Gualdi, 2024). In a preliminary reflection on the draft of the Act, Veale and Zuiderveen Borgesius (2021) have discussed the challenges in enforcement, effectiveness and potential overreach of the regulation, hindering national laws and raising concerns about fundamental rights protection. Grady (2023) contends that "the AI Act is not, despite the intention of the European Commission, technology-neutral" and could "create significant overreach and potential harm to the EU's AI ecosystem" (p. 1). Ebers (2023) critiques several provisions, arguing that they do not follow a truly risk-based approach, leading to over-regulation in some areas and under-regulation in others.

Second, transparency remains problematic due to the "opacity and complexity of certain AI systems" (Regulation 2024/1689, Recital 72), as well as the difficulty of explaining their functioning. AI developers are required to provide clear information about how these systems operate, but the intricate nature of AI technology often hinders effective communication. The issue, commonly known through the 'black box' metaphor, underscores the opacity of complex algorithms, particularly deep learning models, where the decision-making process is not transparent or easily understood, even by experts (von Eschenbach, 2021). Although the phrase "trustworthy AI" occurs 17 times in the Act, issues such as bias and discrimination embedded in the data on which AI trains, as well as the potential for AI to deepen the digital divide, remain problematic and are referenced in the Act.

> Aside from the many beneficial uses of AI, it can also be misused and provide novel and powerful tools for manipulative, exploitative and social control practices. Such practices are particularly harmful and abusive and should be prohibited because they contradict Union values of respect for human dignity, freedom, equality, democracy and the rule of law and fundamental rights enshrined in the Charter. (Regulation 2024/1689, Recital 28)
>
> Models can give rise to harmful bias and discrimination with risks to individuals, communities or societies. (Regulation 2024/ /1689, Recital 110)

Again, the language of the AI Act reflects the underlying compromise between market freedom and rights protection, as it tends to prioritise innovation while minimising structural critique of AI's societal impact. This explains why the Act has been described as a legal medley of product safety and fundamental rights (Almada & Petit, 2023).

Third, the lack of transparency can lead to several issues, including manipulation. Article 5 specifically bans AI systems that use subliminal, manipulative or deceptive techniques to distort behaviour and impair informed decision-making, causing significant harm. Compared with manipulation through human–human interaction in the physical world, digital manipulation is distinctive in that its characteristics make it more likely to evade cognitive defences, potentially increasing its impact and violating "neurorights" related to "cognitive liberty" (Ienca, 2023, p. 833).

Fourth, the point is raised that the risk-based approach, while providing several benefits, primarily addresses risks to individuals and often neglects the broader societal consequences of AI. This makes the 'harm' requirement often problematic. Pointedly, FLI has recommended a stronger focus on systemic risk to "society as a whole […] to cover systemic risks to both individuals and society, including democracy and the rule of law" (Future of Life, 2023b, p. 11). Much like previous technological innovations, AI has the potential to cause harm on a societal scale even when its direct impact on individuals is limited. For instance, the use of AI to create false online content, deepfakes or spread disinformation could undermine public trust in science. Although this does not directly affect individuals, it poses a significant threat to society as a whole (Barichella, 2023, p. 8). Morozovaitė (2023) speaks of the need to tame 'hypernudging', a neologism which refers to the use of AI-driven techniques to subtly influence individuals' behaviour on a large scale (Richards, 2024). Porlezza's findings (2023) indicate that media and journalism are infrequently addressed in policy documents despite the significant role of media as stakeholders in public deliberation processes, raising doubts about the effectiveness of collaborative governance.

To sum up, the AI Act frames tech innovation as both an opportunity for economic growth and societal progress and a potential threat to fundamental rights and European values, "talking AI into being" (Bareis & Katzenbach, 2022) in the EU arena through the performative effect of legal and policy discourse. This dichotomy leads to a regulatory approach that categorises AI applications by their potential risks. The policy juggles a techno-solutionist perspective with the emphasis on the protection of fundamental rights, ethical considerations and societal values. It promotes the concept of "trustworthy AI" as legal, ethical, robust and human-centric (Pham & Davies, 2024). At the same time, it advances a vision of Europe as a global standard-setter in ethical AI governance, reinforcing its role as a moral authority in the international arena.

4. Conclusions

Based on the premises that "the language used around and about AI technologies both reflects and influences the current state of AI, its regulation and development" (Gonzalez-Torres et al., 2023, p. 4), this analysis has illustrated key concepts and issues of the AI Act from a linguistically-informed perspective complementing that of the lawmaker or legal practitioner. By adopting a corpus-assisted, critical discursive approach which triangulates between the linguistic, cognitive and social dimensions, it has provided insights into the broader implications of the AI Act for governance and public policy.

The structure of the Act was outlined through the list and titles of its chapters. The definitions in Article 3 were cross-referenced with keywords and key phrases, extracted using the software Sketch Engine. Subsequently, the discussion transitioned to a few selected concepts, explained in accessible language and supported by a few insights drawn from the Future of Life Institute to tilt the analysis toward the lived experiences and concerns of citizens in the face of transformative AI technologies. Finally, some provisional observations were presented to stimulate reflection and discussion about tech law in public debate.

As has been seen, the Act's purportedly technology-neutral discursive frame is in fact challenged by the categorisation of AI systems into a cascade of risk levels, from minimal to unacceptable. This taxonomy determines the regulatory measures and obligations imposed on AI providers and deployers. High-risk AI systems, in particular, are subject to stringent requirements, including rigorous assessments, transparency and human oversight. The Act also prohibits certain AI practices that pose significant risks to safety, fundamental rights and public interests, such as biometric categorisation

that deduces or infers sensitive attributes such as race, political opinions, or sexual orientation.

The Act's emphasis on a risk-based approach reflects a compromise among various societal needs, ranging from market interests to the protection of fundamental rights. Moreover, this approach has faced criticism for potentially leading to over-regulation in some areas and under-regulation in others. Building trust through transparency and accountability is crucial. However, issues such as bias, discrimination and the potential for AI to deepen the digital divide remain significant challenges. The Act's focus on product safety and fundamental rights aims to address these concerns, but further efforts are needed to ensure that AI systems are genuinely transparent and accountable.

Digital manipulation is another critical issue addressed by the AI Act. Article 5 specifically bans AI systems that use subliminal, manipulative or deceptive techniques to distort behaviour and impair informed decision-making. The broader societal impact of AI is also a significant concern. As the Future of Life Institute highlights, AI technologies have the potential to cause harm on a societal scale, even when their direct impact on individuals is limited. For instance, the use of AI to create false online content or spread disinformation can undermine public trust in science and pose a significant threat to society as a whole.

A citizen-centric approach to AI regulation is essential to ensure that AI technologies are developed and deployed in a manner that respects fundamental rights, sustainability, ethics and fairness as core values of the European Union. The most significant concern emerging from the analysis is that the emphasis on economic growth and market competitiveness may overshadow other important aspects of AI governance, overlooking the broader implications of widespread AI adoption and the need for more fundamental scrutiny of its role in society.

Explaining concepts in simple language activates the inherent dynamism of a legal text. This is particularly important in the case of an open and fast-changing field such as AI, where reflecting on the legal text helps individuals situate themselves more consciously in contexts that might otherwise seem beyond their reach. Ultimately, this understanding aids in grasping the key issues of AI governance in civil society.

To conclude, a CDS approach helps to understand the competing visions for the future of AI and the societal values at stake, starting from the very policy-making that better addresses the diverse needs and concerns of citizens.

References

Almada, M., & Petit, N. (2023). *The EU AI act: A medley of product safety and fundamental rights?* (RSC Working Paper 2023/59). European University Institute. https://hdl.handle.net/1814/75982

Bareis, J., & Katzenbach, C. (2022). Talking AI into being: The narratives and imaginaries of national AI strategies and their performative politics. *Science, Technology, & Human Values*, *47*(5), 855-881. https://doi.org/10.1177/01622439211030007

Barichella, A. (2023). *Regulating artificial intelligence at the EU level: Obstacles and prospects* (Policy Paper n. 294). Institut Jacques Delors. https://institutdelors.eu/en/publications/regulating-artificial-intelligence-at-the-eu-level-obstacles-and-prospects

Calzati, S., & van Loenen, B. (2023). Beyond federated data: A data commoning proposition for the EU's citizen-centric digital strategy. *AI & Society*, 1-13. https://doi.org/10.1007/s00146-023-01743-9

Cancela-Outeda, C. (2024). The EU's AI act: A framework for collaborative governance. *Internet of Things*, *27*, 101291. https://doi.org/10.1016/j.iot.2024.101291

Cheng, L., & Machin, D. (Eds.). (2024). *The law and Critical Discourse Studies*. Routledge.

Cordella, A., & Gualdi, F. (2024). Regulating generative AI: The limits of technology-neutral regulatory frameworks: insights from Italy's intervention on ChatGPT. *Government Information Quarterly*, *41*(4), 101982. https://doi.org/10.1016/j.giq.2024.101982

Ebers, M. (2024). *Truly risk-based regulation of Artificial Intelligence: How to implement the EU's AI Act* (EU Law Working Papers No. 101). Stanford-Vienna Transatlantic Technology Law Forum. https://law.stanford.edu/publications/no-101-truly-risk-based-regulation-of-artificial-intelligence-how-to-implement-the-eus-ai-act/

EU Artificial Intelligence Act. (2024, February 27). *High-level summary of the AI Act*. https://artificialintelligenceact.eu/high-level-summary

Floridi, L., & Nobre, A. C. (2024). Anthropomorphising machines and computerising minds: The crosswiring of languages between Artificial Intelligence and Brain & Cognitive Sciences. *Minds & Machines 34*(5), 1-9. https://doi.org/10.1007/s11023-024-09670-4

Francisco, M., & Linnér, B-O. (2023). AI and the governance of sustainable development: An idea analysis of the European Union, the United Nations, and the World Economic Forum. *Environmental Science & Policy*, *150*, 103590. https://doi.org/10.1016/j.envsci.2023.103590

Future of Life Institute. (n.d.). *Artificial intelligence*. https://futureoflife.org/cause-area/artificial-intelligence

Future of Life Institute. (2021). *FLI position paper on the EU AI Act*. https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12527-Artificial-intelligence-ethical-and-legal-requirements/F2665546_en

Future of Life Institute. (2023a). *Pause giant AI experiments: An open letter*. https://futureoflife.org/open-letter/pause-giant-ai-experiments

Future of Life Institute. (2023b). *FLI position paper: AI Act trilogue*. https://futureoflife.org/document/fli-ai-act-trilogues

Gonzalez-Torres, A. P., Kajava, K., & Sawhney, N. (2023). Emerging AI discourses and policies in the EU: Implications for evolving AI governance. In A. Pillay, E. Jembere, & A. J. Gerber (Eds.), *Artificial Intelligence research: SACAIR 2023* (Communications in Computer and Information Science, Vol. 1976, pp. 3-17). Springer. https://doi.org/10.1007/978-3-031-49002-6_1

Grady, P. (2023). *The AI Act should be technology-neutral* (pp.1-17). Center for Data Innovation. https://itif.org/publications

Heritage, F., & Taylor, C. (Eds.). (2024). *Analysing representation: A corpus and discourse textbook*. Routledge.

Heyndels, S. (2023). Technology and neutrality. *Philosophy and Technology*, *36*, Article 75. https://doi.org/10.1007/s13347-023-00672-1

Ienca, M. (2023). On artificial intelligence and manipulation. *Topoi*, *42,* 833-842. https://doi.org/10.1007/s11245-023-09940-3

Lexical Computing CZ s.r.o. (2021). *Sketch Engine*. https://www.sketchengine.eu

Morozovaitė, V. (2023). *Taming digital influence: Hypernudging and the role for European competition law* [Doctoral dissertation, Utrecht University] Utrecht University Repository. https://dspace.library.uu.nl/handle/1874/433679

Paganoni, M. C. (2019). Ethical concerns over facial recognition technology. *Anglistica AION: An Interdisciplinary Journal*, *23*(1), 83-92.

Paganoni, M. C. (2020). Legal and ethical issues in big data discourse. In G. Tessuto, V. K. Bhatia, R. Breeze, N. Brownlees, & M. Solly (Eds.), *The context and media of legal discourse* (Legal Discourse and Communication Series, pp. 100-115). Cambridge Scholars Publishing.

Pham, B. C., & Davies, S. R. (2024). What problems is the AI act solving? Technological solutionism, fundamental rights, and trustworthiness in European AI policy. *Critical Policy Studies*, 1-19. https://doi.org/10.1080/19460171.2024.2373786

Porlezza, C. (2023). Promoting responsible AI: A European perspective on the governance of artificial intelligence in media and journalism. *Communications, 48(3)*, 370-394. https://doi.org/10.1515/commun-2022-0091

Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act). (2024, June 13).

Official Journal of the European Union, L 1689, 1-187. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32024R1689&qid=1737539345421

Rezende, I. N. (2020). Facial recognition in police hands: Assessing the 'Clearview case' from a European perspective. *New Journal of European Criminal Law*, *11*(3), 375-389. https://doi.org/10.1177/2032284420948161

Richards, I. (2024). 'Hypernudging': A threat to moral autonomy?. *AI Ethics*, 1-11. https://doi.org/10.1007/s43681-024-00449-y

Tomaževič, N., Ravšelj, D., & Aristovnik, A. (Eds.) (2023). *Artificial Intelligence for human-centric society: The future is here*. European Liberal Forum EUPF.

Unger, J. W. (2016). The interdisciplinarity of Critical Discourse Studies research. *Palgrave Communications*, *2*, 15037. https://doi.org/10.1057/palcomms.2015.37

van Hulst, M., Metze, T., Dewulf, A., de Vries, J., van Bommel, S., & van Ostaijen, M. (2024). Discourse, framing and narrative: Three ways of doing critical, interpretive policy analysis. *Critical Policy Studies*, 1-23. https://doi.org/10.1080/19460171.2024.2326936

Veale, M., & Zuiderveen Borgesius, F. (2021). Demystifying the Draft EU Artificial Intelligence Act – Analysing the good, the bad, and the unclear elements of the proposed approach. *Computer Law Review International*, *22*(4), 97-112. https://doi.org/10.9785/cri-2021-220402

von Eschenbach, W.J. (2021). Transparency and the black box problem: Why we do not trust AI. *Philosophy and Technology 34*(4), 1607-1622. https://doi.org/10.1007/s13347-021-00477-0

Wodak, R., & Meyer, M. (2015). Introduction: Critical Discourse Studies – History, agenda, theory and methodology. In R. Wodak & M. Meyer, M. (Eds.), *Methods of Critical Discourse Studies* (3rd ed., pp. 1-22). Sage.

Ye, Z., & Li, J. (2024). Artificial Intelligence through the lens of metaphor: Analyzing the EU AIA. *International Journal of Digital Law and Governance*, *1*(2), 361-381. https://doi.org/10.1515/ijdlg-2024-0016

Zulehner, B. (2024). *EU Artificial Intelligence Act: Regulating the use of facial recognition technologies in publicly accessible spaces* (Stanford-Vienna European Union Law Working Paper No. 91). http://ttlf.stanford.edu

Legal Science Communication Conference Proceedings: Research and Practices
e-ISBN 978-989-9075-98-6
DOI: 10.47907/LegalSciComm2024/Conference
Editors: Ana Margarida Gaudêncio, Fernando Borges, Joanna Osiejewicz, Marta Graça, Rui Dias