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POLICY PAPER

DEMOCRACY AND AI

**How Technological Progress
Can Strengthen Democratic Structures**

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ANALYSIS

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Executive Summary

This publication outlines examples that illustrate the use of AI to promote democracy.

These examples demonstrate that the common tendency in public discourse and political science research to focus on threat scenarios can certainly be questioned, just as much as an overemphasis on benefits. Instead of being guided by one of the two narrative poles—an overly pessimistic or an uncritically optimistic perspective—this paper advocates for a third way. According to this approach, AI's potential to strengthen democracy should be realistically assessed without overlooking possible risks.

To show how such an “enlightened” engagement can succeed, after outlining the current discourse lines, an attempt was made to clarify the term “Artificial Intelligence,” to explain the underlying technologies according to their purposes, and to highlight the essential aspects of democracy relevant to AI use.

When searching for the real opportunities of AI systems for democracy, it seems logical to consider worldwide examples of AI applications in light of these democratic principles and their associated sub-aspects.

- **Protection of Fundamental Rights:** How can AI help protect freedoms and support minorities?
- **Rule of Law:** How can AI contribute to monitoring compliance with laws and making the implementation of legal procedures more transparent?
- **Separation of Powers:** What potential do AI applications offer for legislative, executive, and judicial powers?
- **Popular Sovereignty:** How can AI support political will formation, democratic participation, and engagement?
- **Democratic Education and Political Learning:** What opportunities does AI offer for conveying political education and strengthening democratic discourse culture?

Therefore, this paper presents approximately 30 worldwide examples of successful AI use to promote various aspects of democracy. At the same time, the corresponding challenges that need to be addressed are highlighted. From the examination of international examples, the following theses can be derived:

- **AI systems can promote all aspects of democracy in a similar way.**
- **The use of AI systems for democracy requires the functioning of democratic structures.**
- **Focus not only on generative AI: significant advantages can also come from processing and identifying AI systems.**
- **AI systems that promote democracy must be particularly comprehensible and transparent.**
- **AI systems facilitate participation but do not enable it.**
- **AI systems can make large amounts of data usable—for both citizens and the state.**
- **AI must be considered in the context of existing digitalization processes.**
- **Not everything that AI systems can do is desired in a democracy**

Finally, the paper addresses the special importance of the human image of a self-determined being as the starting and fixed point of the current engagement with AI.

Introduction

At a time when opinions on digital and technological development seem to bounce back and forth between the hope of the future and fantasies of extinction, it's difficult to take a discursive look at topics that are relevant to everyday life. Terms such as "generative" or "hallucinating" "artificial intelligence" ("AI" for short) have conquered the everyday lives of many people, and their vagueness and supposedly human references often seem dangerous and risky: for individuals, groups, societies – or even supposedly vulnerable forms of government such as liberal democracy. It is easy to lose sight of the opportunities and potential AI systems could have for participatory, modern and stable democracies – some of which have already proven this in recent years.

The aim of this paper is to make a balanced and application-oriented contribution to highlighting the opportunities and limitations that AI systems can have in promoting democratic systems.

In a first step (Part I), the existing discourse is presented and scrutinised: what is the current discourse on AI and democracy? Which narratives dominate the discussion and for what reasons? Is it even clear which technologies are categorised under the term "artificial intelligence"? How can AI systems be operationalised according to their functions and purposes?

The basis created in this way is the starting point for all further considerations. Along the individual characteristics of democracy and democratic structures, international examples are listed and described in which AI systems are already used to promote democratic aspects (Part II). The existing critical voices are included in the analysis in order to obtain answers or new points of discourse on the following questions at the end of the section: what specific opportunities do individual technological solutions offer for certain aspects of democracy? Which specific AI technologies and functions are particularly suitable for promoting democratic structures? What overarching requirements must be met in order to use AI to promote democracy? And which aspects and features of democracies are particularly suitable for AI-supported processes or processing steps?

At the end of the review, in addition to a brief summary of previous results, the importance of non-technological prerequisites for the use of AI to promote democracy will be discussed in particular. The focus will be on the role of the human image of a self-determined being of freedom as the starting and fixed point of the current debate on AI.

I. AI and Democracy – Introduction and Questions

1. Current AI Discourse

With the triumphant advance of generative AI models, which began just over a year ago, the debate about artificial intelligence (AI) has finally reached a broad public. Everyone is talking about “artificial intelligence”. According to a representative Forsa survey by the TÜV Association, more than one in four people had already heard of the ChatGPT text generation programme in May 2023, and 43% of 16 to 35-year-olds had already used the online application.¹ The situation is hardly any different with the image production tool “Midjourney”.

However, with the mass use of AI-based applications and programmes, discussions about the benefits and risks also left the circles of experts who had previously been entrusted with them and reached more and more groups of the population. The popularisation of new types of AI applications has therefore been accompanied by an increase in media coverage of supposed and real risks. In particular, the potentially negative consequences of artificial intelligence for democracy and society took centre stage: in the first quarter of 2023, for example, the public AI debate was dominated by manipulated images such as the Pope in a white down jacket or a supposedly arrested Donald Trump.² The dangers of emotionalising, biased AI-generated images for political campaigns were also discussed.³ Concerns about the negative effects of AI culminated at the end of March 2023 in an open letter signed by more than 1,000 people – including tech billionaire Elon Musk and Apple co-founder Steve Wozniak – from the organisation “Future for Life”.⁴ It called for the temporary cessation of AI development until such time as its risks to humanity have become calculable.

Political and civil society discourse has also focussed on the risks of using AI in recent years. The “Ethics Guidelines” of the European Commission’s expert group from 2019⁵ already focuses on the challenges of a trustworthy AI approach, without addressing the technology’s opportunities to the same extent or in similar detail. The report by the Data Ethics Commission also focuses on the dangers of manipulation and radicalisation in its discussion of the effects of algorithmic systems on democracy.⁶ And although the AI Inquiry Com-

mission emphasised the special role of AI in expanding the range of services offered by the state⁷ and mentioned the social benefits of AI in several places⁸, its recommendations for⁹ action were primarily aimed at minimising identified risks for media diversity, for example. The recently published statement of the German Ethics Council “Humans and Machines – Challenges of Artificial Intelligence” is no¹⁰ exception and its title already reflects this focus.

In her essay “Democracy and Artificial Intelligence”, political scientist Prof. Dr Jeanette Hofmann also notes a tendency in academia to view AI as a threat to democracy and its institutions.¹¹ According to Hoffmann, the tense relationship between democracy and algorithmic systems assumed by many research disciplines is based not least on the different decision-making processes: the discursive, deliberative process of democratic traditions on the one hand and the “claim to absoluteness” of the supposedly objective mathematical processes of algorithms on the other. The scientist emphasises that, in addition to the “competitive view”, other types of interaction between democracy and algorithmic systems must also be taken into account. At the same time, however, she identifies a “lack of real counter-proposals to the general discourse on artificial intelligence”, in which it is not clear “how one would imagine the development and use of machine learning for the benefit of everyone beyond manipulating recommendation algorithms and decision automation.”¹²

The generally prevailing concern about democratic achievements and values is certainly not unjustified in view of the opportunities made available to all sections of the population to influence democratic opinion-forming and decision-making processes through manipulated images (deep fakes) or personalised communication of political messages (microtargeting). On the contrary, the early engagement of political and civil society players in particular with the potential risks of AI use and the development of corresponding ethical guidelines is evidence of the welcome pronounced ethical awareness of our society.

Nevertheless, the overemphasis on risks in public discourse raises the question of the extent to which we are doing justice to the potential of AI technology for our society if we

¹ TÜV Association, 2023.

² For example: Klaus, 2023.

³ Exemplary: Demling, 2023; Or: Haupt, 2023

⁴ Future of Life Institute, 2023.

⁵ Unabhängige Hochrangige Expertengruppe für Künstliche Intelligenz (HEG-KI) der Europäischen Kommission [European Commission High-Level Independent Expert Group on Artificial Intelligence (HEG-AI)], 2019.

⁶ Datenethikkommission der Bundesregierung [Data Ethics Commission of the Federal Government], 2019, p. 46, 164, 207 f.

⁷ German Bundestag, 2020, p. 42.

⁸ E.g.: *ibid.*, p. 91 f.

⁹ *Ibid.* 40 f.

¹⁰ German Ethics Council, 2023.

¹¹ Hofmann, 2022.

¹² *Ibid.*

view it predominantly from a sceptical perspective. After all, according to the 2022/2023 Digital Index of the D21 initiative, 56% of citizens believe that digitalisation has an overall positive effect on democracy.¹³ The glass can therefore also be seen as “half full”.

So, why is the focus of the discussion on the influence of AI technology still predominantly on the negative aspects? What could an alternative view of the relationship between AI and democracy look like?

2. AI Narratives between "Pandora" and "Hermes"

Digital ethicist and narrative researcher Prof. Dr Petra Grimm identifies two types of narratives in digitalisation debates that predominantly shape public discourse – the Pandora and Hermes narratives.¹⁴

Pandora's pessimistic narrative¹⁵ tells us that digitalisation is a threat. It is primarily based on negative consequences and forecasts, such as the loss of jobs, manipulation of the public or the erosion of the democratic system. The views on the topic of "AI and democracy" described in the previous subchapter do indeed seem to take on "Pandora" traits in many places. The problem with the Pandora narrative is both the fears awakened by technological developments and a possible resignation to technological progress. The above-mentioned open letter from the organisation "Future for Life" could be an example of this.

The counterpart to the Pandora narrative is the Hermes¹⁶ narrative, which views progress primarily as a value in itself. In this light, digitalisation often appears as an end in itself. According to Grimm, the Hermes narrative upholds economic values such as competitiveness, efficiency, effectiveness and quantification.¹⁷ What seems to be special about this narrative, however, is above all an uncritical and positive basic attitude in the sense of "solutionism"¹⁸, which sees digital tools as the ultimate solution to all possible social challenges.

The problem with the Hermes narrative is not only the frequently observed tendency to dismiss critical objections as “concerns” or as a “brake on progress”, but also an exaggerated belief in the effectiveness of digital tools. A well-known example is the overemphasis on social media as a supposed instrument of democratisation in the course of the so-called

“Arab Spring” in the early 2010s, without considering its negative aspects as a gateway for state surveillance from the outset.¹⁹ We similarly encountered such a belief during discussions on democracy, as seen towards the late 2000s during the discourse surrounding “Liquid Democracy”.²⁰ In the public sphere at that time, the conviction was often expressed that applications like “LiquidFeedback” would necessarily lead to increased democratic participation and generally counteract political disenchantment – a promise that, in retrospect, could hardly be fulfilled because the approach itself often failed due to citizens' lack of interest.²¹

Pandora and Hermes narratives are usually in a competitive relationship: the criticism of concerns of a Pandora narrative can quickly become a Hermes narrative that shows the technology as lacking an alternative and the risk considerations as exaggerated. And vice versa – a criticism of the frivolous faith in technology of a Hermes narrative can quickly turn into a Pandora narrative with a strong overemphasis on the concerns, which pushes the potentials of the technology into the background. This also applies to the AI debates, in which this technology is alternately presented either as a good with no alternative or as a threat to humanity.

But are there only these alternatives?

Petra Grimm argues for a Prometheus narrative²², that differentiates technological progress in line with the goal of improving human life.²³ In terms of the relationship between AI and democracy, this would mean a balanced, objective and fact-based consideration of both its potential and its risks. Jeanette Hoffmann likewise comes to the conclusion that when considering the importance of algorithmic systems for democracy, they should not be seen as opponents but as co-players and that a realistic picture of both the possibilities and limitations of machine learning must be drawn.²⁴

At this juncture, this paper aims to commence and consider AI as a co-player. The following therefore focuses on a realistic view of the potential of AI to strengthen democracy, without idealising artificial intelligence as the “ultimate solution” for promoting democracy or ignoring the risks of using AI. It is intended as an impetus for a balanced, solution-orientated social and political discourse on the opportunities offered by AI technology for strengthening individual and political freedom.

¹³ Initiative D21 e. V., 2022.

¹⁴ Grimm, 2018, pp. 23-31.

¹⁵ Note: Pandora – Goddess of Greek mythology, from whose box evil and suffering descend upon humanity.

¹⁶ Note: Hermes – In Greek mythology, god of merchants, traders (and thieves), and symbol of prosperity.

¹⁷ Grimm, 2018, p. 26.

¹⁸ For the problem of so-called “solutionism”, see: Chiusi et al., 2021, p. 11.

¹⁹ Cf.: Transfeld & Werenfels, 2016.

²⁰ In 2007, for example, the then political director of the Pirate Party presented Liquid Democracy as an alternative to existing parliaments: Mühlbauer, 2007.

²¹ Cf. Wikipedia entry on the use of Liquid Democracy in Germany: Wikipedia, 2023.

²² Note: Prometheus – In Greek mythology, God of the family of the Titans, who gave fire to men, for which he was cruelly punished by Zeus.

²³ Grimm, 2018, p. 28.

²⁴ Hofmann, 2022, with reference to: Koster, 2022.

3. Artificial Intelligence – What Is It?

First, however, the paper must clarify what it means by the term AI technology or “artificial intelligence”. After all, the general public’s understanding is likely to continue to be characterised above all by generative AI applications suitable for the masses and humanoid robot figures from pop culture, but not by everyday tools that have been in use for decades.²⁵

This is also due to the term “artificial intelligence” itself. By emphasising the supposedly technically achieved “intelligence”, which “learns” and “uses neural networks”, it is following a well-practised tradition of humanising machines and technology.²⁶ Such anthropomorphic attributions are intended to make technology more understandable and tangible.²⁷ However, the lack of clarity accepted at the same time can also lead to misunderstandings and fuel undifferentiated discourse (such as the “takeover of power by AI”).

This effect is additionally fuelled for artificial intelligence. Firstly, because the human property of “intelligence” applied to technology and machines is not clearly defined.²⁸ Secondly, as already explained, “artificial intelligence” has recently been applied simultaneously in very different discussion forums to disparate areas of application.

European legislators are similarly having a hard time defining artificial intelligence. In its European AI regulation, for example, the European Parliament emphasises above all the autonomy of an AI system required at a certain level,²⁹ while the Council of the European Union also wants to emphasise the need for machine learning.³⁰ It is no coincidence that the European Union is orientating itself on the efforts to find a clear description previously proposed by the OECD.³¹ In contrast, the Council of Europe attempts perhaps the broadest and narrowest definition at the same time in its AI Convention: AI systems are algorithmic systems that use statistical and mathematical techniques to either produce texts, sounds, images or other content or to support or supplement human decisions.³²

Despite all the differences, the attempts at definition reveal some similarities. “Artificial intelligence” describes a technical or machine-based system – a piece of software. Like other software, it is based on specific technical rules – so-called algorithms – to achieve certain goals or fulfil certain tasks. Artificial intelligence can therefore also be described as a special algorithmic system.³³ The “special feature” lies in the nature of the algorithms: instead of them being completely predetermined by a human and programmed as a solution path, the AI system independently develops and exercises the appropriate solution depending on the task and objective. The basis of AI algorithms is therefore always machine learning.³⁴

Depending on the amount of training data and computing capacity provided, AI systems can use these self-developed solution algorithms to solve increasingly complex tasks, which can now range from recognising and processing to generating images, text and sound. So-called self-learning AI systems improve their algorithms even beyond the development and training phase.

Depending on the specific use and training data used, different AI technologies and AI systems are created, such as computer vision, sound recognition, natural language processing (NLP) or intelligent process automation for processing different types of data such as images, sounds, texts, numbers, term categories and various variable characteristics such as “gender” or “occupation”.

Despite these differences, the possible uses of AI systems can be categorised in simple terms as follows:

²⁵ Cf. Gesellschaft für Informatik [Society for Computer Science], 2019; Initiative D21 e. V., 2020, p. 20.

²⁶ Zeman & Tschopp, 2021.

²⁷ NRD, 2023b.

²⁸ In the opinion of the German Ethics Council, a very detailed and differentiated examination of the concept of intelligence in the AI context is made: German Ethics Council, 2023, p. 116 ff.

²⁹ European Parliament, 2023, Art. 3 No. 1.

³⁰ Council of the European Union, 2022, Art. 3 No. 1.

³¹ OECD, 2019.

³² CAI, 2023, Art. 3.

³³ Algorithm, see: ZVKI, 2022.

³⁴ Fraunhofer Institute for Cognitive Systems ICS, 2023.

TYPES OF USE	PROCESS	IDENTIFY	GENERATE	RECOMMEND
Description	valuation of certain data and processes with regard to certain criteria or characteristics in order to validate, assign and classify information.	AI extracts information from different data formats with different content. Specific objects, features or even abstract data patterns can be identified.	AI recognises text, language or images and includes contexts, produces content itself, for example in the form of text summaries or edited content.	AI provides information in the form of key figures, predictions, optimisation suggestions or simulations that can be used to support decision-making.
Form	Filtering and sorting information Content validation and classification	Pattern recognition Anomaly detection	Text generation Image generation Language generation	Predictions Recommendation systems Process optimisation
Known examples from (future) everyday life	Automated sorting of job applications Classification of a BAföG [Germany's Federal Training Assistance Act] application by content and type	Personalised spam filter Evaluation of an X-ray image Fraud detection in financial transactions	Text completion in online searches Image generation programme for invitation cards Interactive chatbot in online retail	Forecasts on purchasing behaviour Traffic optimisation in urban planning Optimisation of the supply chain

Source: Own presentation iRights.Lab

This list is not intended to be exhaustive. The areas of use of AI systems can and will be expanded to include many more in the foreseeable future. In practice, different AI applications can also be intertwined within a digital product and used for several purposes at the same time (e.g. in search engines). At the same time, some examples and applications show that AI systems have been used by many people every day for several years – sometimes actively, sometimes passively.

The above explanations should therefore help to approach the opportunities of AI for democracy in a balanced way. The categories outlined can be used to delineate and develop the purposes of AI systems for the various aspects of democracy. At the same time, the supposedly very different technologies are based on a common understanding of artificial intelligence as **algorithmic systems based on machine learning**.

II. AI Potential for Democracy

1. How Can a Balanced View Be Achieved – and What Is Democracy?

This is now also the starting point for a balanced approach to AI, which sees AI as a “co-player” in the design of democratic systems. “From a political science point of view, machine learning expands the space of what is politically available and decidable”³⁵ – as political scientist Jeanette Hofmann, quoted above, notes. On the one hand, this gives political and administrative decision-makers more options for action and new instruments for strategic management. On the other hand, there are many opportunities for citizens to obtain political information and participate.

Based on the categorisation described above, AI can also be used in areas relevant to democracy: as a source of new knowledge, e.g. on population development; as support for strategic decisions, e.g. on infrastructure projects; as an aid in identifying errors, e.g. in tax revenues; or as a forecast for future developments, e.g. on climate change. Artificial intelligence can help decision-makers to better understand and analyse complex situations and anticipate future developments. Hofmann’s statement must be understood in dynamic terms: this is because the application areas of machine learning are expanding even further with the increasing availability of ever larger amounts of data.

However, like any technology, artificial intelligence also has a certain two-faced nature: just as it can be used to promote freedom, it can also be used to suppress politically undesirable opinions or for government-favourable scoring of the population. A balanced consideration of the AI potentials for democracy must therefore deal with special aspects of democracy as political freedom.

As the “rule of the people”, a democracy must be legitimised by its citizens in votes, elections and other forms of participation. Thus, popular sovereignty as freedom for political engagement and control – partly through free and independent media – characterises democratic systems around the world. This is why, in addition to the principle of the separation of powers already set out by Aristotle and later by Montesquieu, “democracy” also includes the protection of fundamental rights as a guarantee of fundamental human and civil rights and the rule of law as a guarantee of state action within the framework of applicable laws. Last but not least, knowledge of democracy itself and basic political education are pillars of a democratic society.

When looking for the real opportunities of AI systems for democracy, it therefore seems obvious to look at global examples of AI application with regard to these democratic principles with the associated partial aspects:

- Protection of fundamental rights: How can AI be used to protect civil liberties and support minorities?
- Rule of law: How can AI help to monitor compliance with the law and the implementation of constitutional procedures on the one hand and make them more transparent on the other?
- Separation of powers: What potential do AI applications offer for legislative, executive and judicial powers?
- Popular sovereignty: How can AI support political decision-making as well as democratic participation and participation?
- Democracy education: What opportunities does AI offer for teaching political education and for strengthening the culture of democratic discourse?

In the following, the aforementioned aspects of democracy will be analysed on the basis of global examples to determine which remedies AI systems are already providing in individual subject areas using machine learning, how the challenges can be taken into account and which democratic characteristics are particularly predestined to be strengthened by the use of AI.

2. Democracy and AI – A Balanced Individual View

1. Protection of Fundamental and Human Rights

In Europe, democracies are regarded as the form of government with the best chances of ensuring that fundamental and human rights are fully realised: this is evident, for example, in the European Convention on Human Rights, but also in the Charter of Fundamental Rights of the European Union.³⁶ And the United Nations Charter of Human Rights also seems to want to establish an inseparable link between fundamental and human rights and democracy.³⁷

³⁵ Hofman, 2022.

³⁶ Cf. preamble to the ECHR and preamble to the EU Charter of Fundamental Rights.

³⁷ Universal Declaration of Human Rights, Art. 21.

Above all, however, there seems to be a social consensus that democracies cannot exist in the long term without the realisation of fundamental and human rights.³⁸ After all, a modern democracy, which understands the rule of the people as the rule of all citizens, presupposes an image of humanity that is supported by aspects protected by human rights such as free will and an equal opinion. As part of everyday human life, AI systems can often be many things at once when it comes to exercising fundamental rights: a focal point, a tool - and also an obstacle.

1.1 Individual Fundamental Rights

In their civil-liberal origins, fundamental rights were above all a legal guarantee of individual freedoms against collective or sovereign encroachment. Fundamental rights place the individual at the centre of government action.³⁹ They are defensive rights that are intended to protect against unjustified interference with protected physical, social or intellectual and informational freedoms, but also claims to benefits from the state community: they include, for example, participation in cultural life, the demand for social security and fair working conditions⁴⁰ or a clean environment and peace.⁴¹ Part of the fundamental rights is also the right to equality by the state, regardless of one's own gender, sexual orientation, faith, language, homeland or origin or any disabilities.

AI systems can support people in exercising their fundamental rights and the associated freedoms in a variety of ways: They can help to actively protect people's lives, health or privacy, but can also help people to exercise fundamental rights and freedoms such as education, opinion, art, professional practice or freedom of information (see also 5.1 "Political Education and Information Transfer" below).

iPrognosis – Life and physical integrity, together with human dignity, are at the heart of the international catalogues of fundamental rights. This also includes people's mental and physical health.⁴² The **iPrognosis** application, which has been in use since 2017 and was developed in Europe, is intended to protect human health by detecting Parkinson's disease at an early stage. The application is installed on the user's smartphone – no further interaction with the application is required. **iPrognosis** instead analyses the daily scope of potential patients with their smartphone and compares this measurement data with a database of Parkinson's findings. The AI systems used for this purpose analyse, for

example, voice control or typing speed, and recognise typical Parkinson's patterns at an early stage.⁴³ In this way, therapy can be started at an early stage to significantly alleviate and slow down the effects of the disease.

ICT education service – Education is also a human right expressly recognised by the German Basic Law. The South Korean AI tool **ICT education service** supports teachers and learners in creating individualised learning plans and learning content in online lessons.⁴⁴ Data from the learning process is linked to other data from the computer-aided and networked school material in order to identify individual strengths and weaknesses and to adapt learning content.⁴⁵

Slavery from Space – The Universal Declaration of Human Rights expressly states what would already be incompatible with human dignity under the Basic Law: no one shall be held in slavery or servitude. Nevertheless, the International Labour Organization, for example, estimates that over 50 million people worldwide live in modern slavery.⁴⁶ Initiatives such as the German Supply Chain Act⁴⁷ are intended to oblige companies to implement the ban on slavery more effectively.⁴⁸ The AI-based tool **Slavery from Space** can help with this.⁴⁹ The software analyses high-resolution satellite data with other data sets and points out special features or inconsistencies: such anomalies can be, for example, unregistered woodland clearance or the speed at which cotton plantations are cleared.⁵⁰ The application has been in the test and development stage since 2017, but has already been used to identify brickworks where there were high indications of slavery and forced labour based on the estimates made comprehensible by the AI system.⁵¹



The more frequently AI systems are used as a tool to realise freedoms, the more problematic discriminatory or other tendencies in the algorithms and training data of the AI system can become. Where human rights violations can be made visible by analysing satellite data, human privacy and freedom can also be spied on by states and companies – and shaped and controlled in an authoritarian manner. Test runs of so-called *social scorings* in China, in which certain human behaviour can have advantages or disadvantages in connection with state benefits, are reversing the relationship between citizens and the state at the expense of freedom and fundamental rights.⁵² Something similar can happen if, for example, AI-supported learning applications are not designed for the free development of the individual personality, but to state-led conditioning and guidance.

³⁸ Geuther & Metzner, 2013, p. 13.

³⁹ Cf. Jarass 2023a, recital. 2 et seq. with further references and Jarass 2023b, recital. 2 et seq.

⁴⁰ Institute for Human Rights, 1966.

⁴¹ DGVN, 2022; Organization of African Unity, 1981.

⁴² Hilpert, Schüller-Ruhl & Meyer, 2022a.

⁴³ Stadtschnitzer, 2020.

⁴⁴ ETNews, 2019.

⁴⁵ Ibid.

⁴⁶ International Labour Organization (ILO), 2022.

⁴⁷ Federal Ministry for Economic Cooperation and Development (BMZ), 2023.

⁴⁸ Siems, 2021; Frankfurter Allgemeine Zeitung, 2021.

⁴⁹ Reintjes, 2019.

⁵⁰ Ibid.

⁵¹ Boyd, 2017; University of Nottingham, n.d.

⁵² Botsman, 2017; Fanta, 2021.

The use of AI systems can also perpetuate existing discrimination. In the medical field in particular, the use of AI tools shows how one-sided and biased the data and training information provided by AI systems has been to date: skin tumours are less easily detected in people with darker skin tones, care needs are not recognised due to people's poorer financial means, depression in men and liver disease in women are diagnosed less frequently.⁵³

Questions also arise regarding the handling of sensitive personal data within the AI system and beyond – such as the learning progress of underage students or the health data of patients. What happens to this personal data during and after processing by the AI system?

AI systems of any kind are tools of their users and can therefore both encourage the exercise of fundamental rights and contribute to massive violations of fundamental rights. An AI-supported learning application can be used for the free development of personality, but also for efficient indoctrination and propaganda. Disease detection systems can protect an individual's health, but in conjunction with other data they can also lead to unfavourable considerations to the detriment of the individual by insurance companies or in the case of state benefits. In order for AI systems to be used in line with democratic principles, it is therefore important to fulfil social requirements outside of the actual technology, such as the effective protection of fundamental rights, the moderation of state encroachment on the life of the individual and effective control of state decisions.

1.2 Participation and Protection of Minorities

From the right to family life and the protection of cultural or religious groups to the right to self-determination of peoples: at the latest with the so-called third generation of human rights,⁵⁴ it has also become clear in Europe that fundamental rights can also be group-related.⁵⁵

This applies to the rights of minorities in a way that is particularly relevant to democracies. Protection against discrimination and the active promotion of language and culture are the

guarantee that the threat of a “dictatorship of the majority” at the expense of religious, cultural, sexual or other minorities is prevented, especially in democracies.⁵⁶ On the other hand, people with disabilities also have special protection and performance rights vis-à-vis society. Regardless of their special needs and requirements, they are entitled to equal treatment, support and participation in social life.⁵⁷

As with individual rights, AI systems can help strengthen minority rights and enable participation for all groups in society.

Kommunale Gebärdensprach-Avatar [Municipal sign language avatar] – Creating comprehensive accessibility is a prerequisite for self-determination and equal participation of people with disabilities. AI systems can help to break down analogue barriers. This also applies to the obstacles that deaf people have to overcome in virtual and analogue form.⁵⁸ For this reason, around forty counties, districts, cities and municipalities from different German federal states are currently jointly developing an AI system for sign language interpretation.⁵⁹ The **Kommunale Gebärdensprach-Avatar** [municipal sign language avatar] is intended to translate previously inaccessible municipal content in as many areas of public service as possible quickly and in a user-oriented manner, thus making it accessible. In this way, the municipalities and districts want to better fulfil their obligations to achieve digital accessibility, which have often not been fully met to date.⁶⁰

Hua Ki'i – The **Hua Ki'i** mobile phone application aims to make indigenous languages and dialects more tangible in the context that shapes them.⁶¹ The application combines GPS localisation and AI-based image and speech recognition. When a user photographs an object or landscape, the AI system recognises it, gives the corresponding name or designation of the place or object in indigenous language or dialect and presents its backgrounds and contexts **Hua Ki'i** uses AI systems developed in English and links them to systems for translation into indigenous languages and dialects. During the design and development phase, it became clear that various basic requirements had to be met for the system to be used successfully.⁶² A concrete example: dictionaries and grammars of the respective indigenous languages must be available – a circumstance that is only partially fulfilled. The starting point for **Hua Ki'i** could therefore “only” be the Hawaiian language and the Cheyenne language.⁶³

⁵³ Czeschik, 2023.

⁵⁴ Cf. for example: Stuby, 1998.

⁵⁵ humanrights.ch, 2021.

⁵⁶ Cf. Jeske, 2023.

⁵⁷ Federal Government Commissioner for Matters relating to Persons with Disabilities, 2021.

⁵⁸ Holzer, 2023.

⁵⁹ Kommunaler Gebärdensprach-Avatar-Baukasten [Municipal Sign Language Avatar Builder], n.d.

⁶⁰ Cf. KGSt, n.d.

⁶¹ Cf. Jensen-DesJardins, 2021; Hua Ki'i Mobile App, n.d.; Lewis et al., 2020, p. 110 et seq.

⁶² Lewis et al., 2020, p. 20 et seq; *ibid.*, p. 102 et seq.

⁶³ *Ibid.*, p. 114.



Digital technologies are always seen as an opportunity to achieve holistic participation.⁶⁴ However, experience shows that technological development alone cannot remove social barriers. This is because

AI applications are a reflection of analogue society: discriminatory behaviour and decision-making are man-made, real, and therefore formative in every respect for the use, but also the development of AI systems.⁶⁵ So far, statistical probabilities and AI systems designed to recognise patterns have therefore generally not shown any special safeguards in favour of minorities. In other words, AI systems have so far not been designed to detect alleged exceptions and to incorporate them appropriately into data processing.

Therefore, “bias in, bias out” refers to the particular importance of fair, non-discriminatory and diverse training data. The fact that AI systems must respect the human right to non-discrimination should also become the basis of European AI legislation.⁶⁶ But above all, it is important that people who work with AI systems are aware of the shortcomings and discrimination risks of these applications and learn how to deal with them.⁶⁷ The special needs of minorities must be taken into account on a daily basis and considered from the outset when developing digital products. Discussions about so-called overlay tools show that supposedly simple solutions often do not offer the promised added value.⁶⁸

This is again shown by the examples presented: if AI systems are to function specifically for a non-majority, a corresponding quantity and quality of training and processing data is also required here. These are often not available and would first have to be collected at a high cost for new AI developments. Economic considerations combined with the fundamental functioning of AI systems therefore restrict the use of AI systems in favour of minorities and other social groups outside of mainstream society.

Innovative projects demonstrate the opportunities offered by AI systems in the field of minority protection. If existing disadvantages of AI development can be offset for by subsidies such as the German funding guideline for the public interest-

oriented innovation network Civic Coding⁶⁹ and the provision of more minority-related data, generative AI systems in particular also offer creative and promising new opportunities.

2. Rule of Law

The *rule of law* describes the “power of law” and the associated binding of state rule to rules and guidelines.⁷⁰ Compliance is monitored by independent courts, so the rule of law and separation of powers are closely linked.⁷¹ Even in monarchies or oligarchies, individual elements of the rule of law may be provided for, such as the primacy and reservation of the law, the enforcement of legal requirements, the restriction of official competences or judicial protection.⁷² However, these and other elements are always a basic prerequisite for the functioning of democracies.⁷³

2.1 Control Mechanisms

At the centre of the democratic rule of law is compliance with democratically legitimised law. This is how the rule of the people is realised in individual cases. On the one hand, this concerns public bodies whose access to finances, power and the state apparatus can lead to abuse. It also concerns private individuals who are obliged by legal requirements such as criminal law to comply with certain behaviours.⁷⁴

By processing and preparing large amounts of data, AI systems can help make the actions of state authorities or private individuals recognisable and comprehensible and in this way control them through investigative work, legal proceedings and public pressure.⁷⁵

Dozorro – Ukraine uses ProZorro, an open source-based, publicly accessible system in the area of public and private contracting and procurement.⁷⁶ Building on this, Transparency International Ukraine presented the **Dozorro** analysis tool in 2018. This self-learning system has been trained to recognise corruption-prone tenders and contract awards within ProZorro. The system is not limited to specific indicators: instead, the system measures awards susceptible to corruption using several variable and evolving algorithms.⁷⁷ The system is one of the few AI systems already in use for several years in the fight against corruption.⁷⁸

⁶⁴ Rehadat Statistik, n.d.; Metzler, Jansen & Kurtenacker, 2020, p. 25.

⁶⁵ Otto, 2023, p. 38 f.

⁶⁶ European commission, 2021.

⁶⁷ Otto, 2023, p. 30 et seq.

⁶⁸ BIK BITV-Test, 2022; Aktion Mensch, n.d.

⁶⁹ Cf. Civic Innovation Platform, n.d.

⁷⁰ Cf. Landeszentrale für politische Bildung Baden-Württemberg [Baden-Württemberg State Centre for Political Education], n.d.

⁷¹ Cf. Jarass 2023c, recital. 40.

⁷² Zu den Elementen der Rechtsstaatlichkeit [On the elements of the rule of law]: Holterhus, 2022.

⁷³ Mahlmann, 2018.

⁷⁴ Holterhus, 2022.

⁷⁵ Ibid.

⁷⁶ ProZorro, n.d.

⁷⁷ Transparency International Ukraine, 2018.

⁷⁸ U4 Anti-Corruption Resource Centre, n.d.

KriminelleNetzwerke [Criminal Networks] – The German healthcare system suffers considerably from corruption and billing fraud: the annual losses are estimated at around 14 billion euros.⁷⁹ However, the investigations are resource-intensive and slow. A research project entitled **KriminelleNetzwerke** [Criminal Networks], which is scheduled to run until mid-2024, aims to provide investigating authorities and health insurance companies with supportive AI systems. These should be trained to detect anomalies in billing and payment histories.⁸⁰ The aim is to effectively collect evidence that will stand up in court and reduce the burden on the social security system.⁸¹

Machine Learning for Peace – The rule of law is understood as an inward-looking obligation of the state and its institutions. However, because the values of democracies are also jeopardised when authoritarianism and anti-liberalism gain strength in other parts of the world, the global existence of democratic systems is also in the interest of the rule of law. The cross-border AI system **Machine Learning for Peace** is intended to help recognise and highlight anti-democratic developments.⁸² For example, politically induced arrests or destabilizing protests are stored on a map and made available via a dashboard to show trends of democratic backsliding.. Machine learning and web scraping methods are also used to evaluate data and create development forecasts. In particular, the highest-circulation newspapers in each country and the reporting of international news agencies serve as the data basis. In addition, the system draws on historical data and uses statistical models and pattern recognition to compare probable developments with the current situation.⁸³ A recommendation for action is not made.⁸⁴



Supportive or automated fraud detection systems offer investigators great opportunities to uncover corruption and other crimes at the expense of the state. But even such AI systems can violate fundamental rights: in the Netherlands, the **software system risk indication** (SyRI)⁸⁵ for investigating social fraud had to be stopped due to human rights concerns. The risk profiles created and the specific use were racially discriminatory and violated various personal rights.⁸⁶ The investigations triggered by this unfounded AI-supported “initial suspicion” were in turn associated with major encroachments on fundamental rights, such as house searches and police questioning. Due

to the scaling effects of the AI system, around 20,000 people were affected by these interventions.⁸⁷ The so-called *Toeslagenaffaire* [childcare benefits scandal] led to substantial fines being paid by the Netherlands and to the political resignation of the entire government cabinet.⁸⁸

2.2 Transparent Government Processes

The fact that state decision-making and action processes are also becoming comprehensible and transparent for individual citizens is a more recent development in modern democracies and is closely related to the technical possibilities of digitalisation.⁸⁹ In addition to greater opportunities for cooperation and participation, transparency should also serve to ensure traceability and democratic participation and control. This is particularly important when, for example, the behaviour of directly elected members of parliament is not unlawful, but may be contrary to the interests of individual voters. Here, too, AI systems offer the opportunity to process existing data in a usable manner.

Vulekamali – South Africa's democracy too depends on the effective control of the various state powers. The online portal **Open Budget South Africa** or **Vulekamali** has been making a comprehensive data package accessible and transparent to citizens since 2018.⁹⁰ The project has generated worldwide attention and placed South Africa second in the International Open Budget Index in terms of transparency.⁹¹ Although the last funding phase produced various tools for using the published data,⁹² no AI-based applications have yet been officially used to evaluate the comprehensive data and make it usable. However, the online platform is designed precisely for such evaluations.⁹³

Rosie – The Brazilian application **Rosie** could be an example of just such an AI-based analysis of large amounts of data.⁹⁴ **Rosie** evaluates the expenses of Brazilian congressmen to be made public on the basis of further training data. Based on pattern recognition, the system identifies suspicious expenses as such and can serve as a helpful tool for journalists and citizens to monitor their members of parliament. The AI system publishes its results as “suspicious expenses”, for example on Twitter, and “asks” for verification.⁹⁵

⁷⁹ Fraunhofer Institute for Industrial Mathematics ITWM, n.d.

⁸⁰ Ibid.

⁸¹ BMBF, 2021a.

⁸² The Machine Learning for Peace Project, n.d.; Springman, 2023.

⁸³ cliff-annotator, 2020; Adiguzel et al., 2022.

⁸⁴ The Machine Learning for Peace Project, n.d.

⁸⁵ Schwendener, 2020.

⁸⁶ Parbel, 2020.

⁸⁷ Antidiskriminierungsstelle des Bundes [Federal Anti-Discrimination Agency] (ADS), 2023.

⁸⁸ Dachwitz, 2021; Gutschker, 2021.

⁸⁹ Cf. Schulzki-Haddouti, 2011; BMI, n.d.

⁹⁰ Vulekamali, n.d.

⁹¹ International Budget Partnership, 2021.

⁹² Wazimap, n.d.; Kearns, 2020.

⁹³ Vulekamali Datastore, n.d.

⁹⁴ Serenata, n.d.

⁹⁵ Rosie, 2017.



Processing and identifying AI systems can only work with the data that is made available to them – as the use cases presented clearly demonstrate. If AI systems are to be used to make government action traceable, this involves requirements for the collection, management and further processing of data in very large quantities. Therefore, the concept of “AI for democracy” cannot and must not be discussed independently of other digital policy requirements.

At the same time, this raises the question of the distinction between the private and the public sphere: what information from members of parliament or government representatives can be part of such data-driven surveillance without at the same time inappropriately violating the personal rights of the person in question? An appropriate balance of effectiveness and protection of fundamental rights can also be found for the monitoring of state representatives.

On the other hand, monitoring AI systems can also serve as a fig leaf: as long as the system is trusted to be error-free and no further checks and investigations are carried out, AI systems can only be used to suggest transparency.

If processed and usable data is available, it can be used for processing and identifying AI systems to recognise and rectify violations of the rule of law. However, they must be used in such a way that their functioning is understandable and comprehensible. Otherwise, the use of technology only threatens to simulate legitimate conditions.

3. Separation of Powers

At least since John Locke and Charles de Montesquieu, a distinction has been made between the legislative, executive and judicial functions of the state.⁹⁶ The assignment of these tasks to different organs of the state, which in turn interact through mutual entanglements and powers of control (checks and balances), should contribute to a stable and balanced distribution of power within the state apparatus.⁹⁷

Depending on how this distribution is structured in the respective state, the separation of powers helps to protect democratic systems from dictatorial independence of the government, enables stable state organisations despite polarising positions in parliament and empowers courts to review laws and ordinances.⁹⁸ In order to achieve the entan-

glement and moderation of state power through the division of state powers, it is necessary not only to safeguard the legislative, executive and judicial powers under constitutional law, but also to treat each other with respect and, above all, to ensure that all state bodies are adequately equipped and actually empowered. Only through the effective performance of the tasks of each state authority can the function of the separation of powers be achieved. AI systems can help with this.

3.1 Legislative

In a democracy that sees itself as the “free self-determination of all citizens”,⁹⁹ legislation must also be based on the people as the sovereign. In order to realise the rule of the people, elements of representative and direct democracy co-exist in most democratically constituted states. On the one hand, citizens can express their will in participation procedures or referendums and exert a direct influence on legislation. On the other hand, their interests and positions outside the individual votes are represented by members elected for a fixed term in parliaments and regional representations.¹⁰⁰

How AI systems can support the direct participation of citizens is described below.¹⁰¹ In the context of the comparison of the different powers of the state, the focus here instead is on parliaments and elected representatives.

Members of parliament work on bills in committees and vote on them in parliament. They appear in public and in front of the press and help shape the public discourse on political and social issues.¹⁰² They need information and professional support from their employees so that they can fulfil these tasks under great time pressure. This often requires text, audio and video information to be viewed, summarised and evaluated within a short space of time. Examples from around the world show how AI systems can contribute to the autonomous exercise of office and the strengthening of parliamentarianism.

Ulysses – Since 2018, the Brazilian House of Representatives has been using the AI-based application **Ulysses**. This gives members of parliament simplified access to the many documents held by the parliamentary administration. The self-learning system can classify and link documents, changes and annotations. At the same time, the system offers citizens the opportunity to give immediate feedback on the legislative proposal with anonymous comments.¹⁰³ These comments can also be recognised and evaluated by the system. Finally, the system can suggest personalised content to better support the work of individual members of parliament. The parliament is committed to further improving the system by applying it as widely as possible.¹⁰⁴

⁹⁶ Toyka-Seid & Schneider, 2023.

⁹⁷ German Bundestag, n.d.

⁹⁸ Cf. Jarass 2023c, recital. 33-36.

⁹⁹ BVerfG, judgment of 02.03.1977 - 2 BvE 1/76.

¹⁰⁰ O.W Gabriel, 2020.

¹⁰¹ See 4. Popular Sovereignty.

¹⁰² Cf. bpb, 2009; Pötzsich, 2009; Hilpert, Schüller-Ruhl & Meyer, 2022b.

¹⁰³ Chamber of Deputies of Brazil, n.d.

¹⁰⁴ Câmara dos Deputados, 2018.

Citibeats – The AI tool **Citibeats**, which works with the help of natural language processing and machine learning, collects and analyses large amounts of anonymised data published online from social and conventional media, forums, websites and blogs. This involves anonymized, localized data from social and conventional media, forums conventional media, forums, websites and blogs. This data is structured and clearly presented so that social trends, opinions and concerns within a defined region can be identified and recognised.¹⁰⁵ The commercial AI solution has already been used by various local and national government institutions (such as in Dublin, Navarra or Japan).

EP summariser und eTranslation – The European Parliament wants to achieve better legislation by better analysing information and thus more data-based decision-making. To this end, it provides members of parliament, their staff and Parliament's administrative staff with various AI systems, in particular for multilingual word processing.¹⁰⁶ With the **EP summariser** text documents from Parliament's large dataset are to be recognised as relevant and, in a second step, summarised correctly in terms of content. In this way, existing databases and information should be better used within the framework of the legislation. The European Commission's **eTranslation** translation service, which is based on technical neural networks, is also intended to enable texts to be translated into other EU languages in a reliable, data protection-compliant and linguistically adaptable manner.¹⁰⁷

HANS – Since 2020, the Riigikogu, the Estonian parliament, has been using the **HANS**. AI system, which is based on a large language model. **HANS** is a speech recognition assistance system designed to help prepare detailed meeting reports and plenary minutes.¹⁰⁸ The system records parliamentary debates and automatically transcribes them. The human-controlled text will then be published on the Parliament's website. The AI system is intended to contribute to more effective and precise logging. This should also make the work of journalists easier.¹⁰⁹



AI-supported applications can make the everyday lives of parliamentarians and their staff much easier. However, due to the central political importance of elected representatives, it is particularly important to keep an eye on the specific tasks for which AI applications are used and the extent to which human control can actually still take place. Concerns can arise where users do not understand how the system works.

This does not only appear problematic when members of parliament use AI systems to formulate draft regulations.¹¹⁰ How does the **Ulysses** AI tool described above determine which comments are displayed and how? Can **Citibeats** users understand how the system arrived at the displayed content? Is there not also a threat of distorted reproductions of opinions that are primarily disseminated digitally? Which parameters are used to determine which opinions should be heard? And: what political power do companies and IT professionals get when they design, develop and train these tools?

The examples underline that members of parliaments and parliaments can particularly benefit from AI systems for processing and identifying patterns and correlations. At the same time, tools that are used in the democratically particularly sensitive area of the legislature must be comprehensible in their functioning for users and verifiable for voters.

3.2 Exekutive

The executive describes all organs and authorities of the state that exercise, implement and, if necessary, enforce applicable law. At the head of the executive is the government, which is supported by a hierarchically structured administrative apparatus in the performance of a wide variety of state tasks: public services and social services, public security and order, governance of culture and economy all fall within the remit of the executive.¹¹¹ Their functioning is therefore the everyday prerequisite for the existence of a democratic and citizen-centred state.

Given the wealth of different administrative tasks, it is obvious that very different AI systems could be used to help the administration with its tasks. Examples from around the world illustrate this idea and show how people can be empowered to make use of administrative services.

Bürokratt – Bürokratt is a text and voice-based communication assistance system designed to enable citizens in Estonia to access information from the administration in a centralised manner and at the same time to facilitate administrative processes. The application, which is based on a self-learning and transparently developed algorithm,¹¹² has so far been used as a chatbot on websites of several institutions and is currently being tested for other communication channels such as email, telephone or text message. There are also plans to expand the programme to include sign language.¹¹³

¹⁰⁵ Mezzanotte, 2023.

¹⁰⁶ Moschopoulos, 2023.

¹⁰⁷ eTranslation, o. D.

¹⁰⁸ Kukemelk, 2020.

¹⁰⁹ e-Estonia, 2019.

¹¹⁰ Lima, 2023.

¹¹¹ Schubert & Klein, 2020.

¹¹² Sog. „Kratk“: Republic of Estonia Information System Authority (RIA), o. D.

¹¹³ Republic of Estonia Government Office, 2019.

F13 – In Germany, the federal state of Baden-Württemberg in particular has recognised the advantages of AI-supported text assistants: the **F13** application, which is aimed at administrative staff, is intended to reduce the text workload of state administration employees. The application is based on the Luminous language model from Aleph Alpha and enables the use of AI-supported text assistance in administration, which complies with the data protection requirements in Germany.¹¹⁴ Baden-Württemberg hopes to be able to improve official and external communication in this way.¹¹⁵ The project is currently in a test phase and is being used for summarising text documents, assisting with text searches and searching databases, as well as creating cabinet templates and other memos.¹¹⁶

Chest (Skrinja) – The Slovenian AI tool **Chest** was developed to support parliament's data-driven decision-making and to increase transparency and efficiency for better governance. Since 2020, the system has been used in the public payroll system and in public procurement.¹¹⁷ The data entered for this purpose is analysed and linked by the system. The AI system enables automatically generated reports, infographics and data evaluations, as well as interactive insights into real-time data. Depending on the data situation, however, prognostic analyses in the sense of “what if” scenarios can also support the decision-makers using them on an operational, tactical and strategic level. In addition, results and reports can also be made available to the public, which increases the transparency and reusability of the data.¹¹⁸

ZAC NRW – In the criminal investigation against the dissemination of child pornographic content on the Internet, enormous amounts of data have to be sifted through. On the one hand, investigators are exposed to great psychological stress and, on the other hand, have to distinguish between criminally relevant and irrelevant video, image and sound files.¹¹⁹ The investigation software of the Zentral- und Ansprechstelle Cybercrime [Central and Contact Centre for Cybercrime] in the German state of North Rhine-Westphalia (**ZAC NRW**) has been supporting preliminary investigations and data analysis since 2019.¹²⁰ In this way, the amount of data analysed is reduced and investigation procedures are accelerated. The actual determination and evaluation continues to be carried out by a human being.



The listed AI systems document the potentials for the executive branch associated with user-oriented software use. However, their use also poses great challenges.

For example, many countries – including Germany – have gained experience with expensive but quickly obsolete systems in recent decades. Similar reservations are already being voiced about complex systems such as **Bürokratt**.¹²¹ The use of new types of technology is therefore often associated with an increase in complaints, for which authorities are often not always prepared; this raises questions about the continuity of state service provision and effective complaint mechanisms.¹²²

At the same time, the use of AI systems in the executive branch is almost always associated with issues relevant to fundamental rights: if AI systems identify alleged patterns, generate texts or images or even support decision-making, they can have a discriminatory effect, make problematic judgements and evaluate data incorrectly. AI-based decisions or measures can lead to unlawful violations of fundamental rights in the administration of services, but above all in the administration of interventions. This is particularly problematic in connection with the effect of deskilling, i.e. the loss of skills or scope for judgement due to handing over the function to technology.¹²³ Such effects can arise from the loss of regular practice, as is discussed, for example, in connection with the human evaluation of X-ray images by medical specialists. However, a lack of transparency about the processing steps of the AI system can also lead to deskilling in the form of excessive trust in the supposedly perfect technology while at the same time distrusting one's own abilities (so-called automation bias).¹²⁴

Against this background, the use of AI systems for law enforcement and criminal prevention (predictive policing) is highly controversial worldwide.¹²⁵ In particular, the use of AI systems for biometric facial recognition to monitor areas and cities is at the centre of the discussion.¹²⁶ On the one hand, the new technologies promise to prevent,¹²⁷ combat¹²⁸ and prosecute criminal offences more effectively.¹²⁹ On the other hand, there is

¹¹⁴ Hahn, 2023.

¹¹⁵ Ebd.

¹¹⁶ Staatsministerium Baden-Württemberg, 2023.

¹¹⁷ GORA IT Solutions, 2020; GOV.SI Portal, o. D.

¹¹⁸ Miha & Pipan, 2021; OECD, 2021.

¹¹⁹ WELT, 2020.

¹²⁰ Vgl. Richter, 2019.

¹²¹ Republic of Estonia Government Office, 2019.

¹²² Henriques-Gomes, 2023; Rohde, 2017.

¹²³ Reinmann, 2023.

¹²⁴ Deutscher Ethikrat, 2023, S. 354.

¹²⁵ Köver, 2023.

¹²⁶ Meineck, 2023.

¹²⁷ Staffler & Jany, 2020, S. 171 m.w.N.

¹²⁸ Laaff, 2023.

¹²⁹ NDR, 2023a.

a threat of escalating encroachments on fundamental rights, which raise fundamental questions about the balance between freedom and security.¹³⁰ Democracies must weigh up the options in this regard: do they, their citizens, want an AI-supported police and prosecutor's office, and if so, to what extent?¹³¹

The use of AI systems therefore requires trustworthy development, traceability of the processing processes and ex-post transparency of the processing steps in order to be able to document the decision-making processes in the event of administrative disputes.

The use of AI systems in the executive branch encompasses all conceivable categories of AI development, as will be documented in other examples in this paper. AI systems in administration are used in situations relevant to fundamental rights and pose all the greater challenges the more complex the assistance provided. In all cases, there are special requirements for the documentation and explainability of the AI tool. At the same time, the use of AI systems to enforce criminal law or other requirements is also in conflict with basic democratic principles: the image of free, autonomous people is only partially compatible with surveillance that is becoming increasingly easier to implement from a technical perspective.

3.3 Judiciary

In a democratic constitutional state, it is the task of a politically independent jurisdiction that is not subject to changing majorities to settle disputes between private individuals or private individuals and the state by means of a binding decision. The judges entrusted with this task are independent, but may not exceed the limits of democratically prescribed law.¹³²

For the performance of their duties, judges primarily process text, but also image and video information. As an independent state authority, they often do not have access to the resources of the executive, which means that there are often personnel and financial challenges that can stand in the way of rapid dispute resolution. The examples below underline the opportunities associated with the use of AI in the justice system.

Codefy – With the introduction of the digital file, the first federal states laid the foundation for the use of AI-supported text recognition and structuring programmes. One of the AI

systems already being testing is **Codefy**.¹³³ The assistance system is designed to structure many different types of legal briefs and to automatically assign and analyse the parties' submissions. In mass proceedings in particular, the system would make things much easier for judges, who would be able to deal with the legal dispute more intensively on this basis.¹³⁴

FraUke – The Federal State of Hesse has been using the application "Frankfurter Urteils-Konfigurator Elektronisch" [Frankfurt Electronic Judgment Configurator] – **FraUke** for short – at Frankfurt am Main Local Court since 2022. The assistance program is currently in the test phase and is intended to support judges in reaching a verdict in the area of air passenger rights. This would ensure a high degree of comparability of cases with a low level of legal scrutiny. The data basis for the text-recognising, text-structuring and text-generating AI system is provided by the judgments of the Frankfurt judges themselves. The assistance system's judgement proposals should only be a support: the human judge must make the decision themselves. FraUke could, however, help to speed up the processing of the masses of cases that are centralised at the Frankfurt am Main district court due to Europe's fourth largest airport.¹³⁵



Even if the judiciary uses AI systems, it has to deal with discriminatory processing results. One example of this is the **COMPAS** AI system used in parts of the USA, which is designed to determine the likelihood of convicted prisoners reoffending. Due to erroneous, incomplete and biased data sets and insufficient transparency of the system, the AI systems were able to systematically demonstrate discriminatory processing results in favour of black people.¹³⁶

The use of AI systems in the justice system is therefore being discussed worldwide: for what purposes does AI seem suitable? How far can support systems go? This is because it is dominated – in line with the "Pandora narrative" – by the fear of the "robo-judge", i.e. the automated decision-making machine.¹³⁷ The supposed move from Estonia to use AI systems for autonomous dispute resolution has not only made the rounds in Germany.¹³⁸ But would such a "robo-judge" even be accepted by those seeking justice? Until now, there has been a consensus in Europe that the judicial decision settling the dispute must be made by a human being. However, assistance systems such as **FraUke** raise the question: are judges' decisions really still autonomous if they have been prepared by AI systems?¹³⁹ How much support is

¹³⁰ Europäisches Parlament, 2020.

¹³¹ Mit vergleichbaren Berichten aus China: Rudl, 2021; Newman, 2021.

¹³² Vgl. Kment 2023a Rn. 3 ff, Kment 2023b Rn. 1ff.

¹³³ Codefy, o. D.

¹³⁴ Justizministerium Baden-Württemberg, 2022.

¹³⁵ hessenschau, 2022.

¹³⁶ Angwin et al., 2016; Rätz, 2022; Holland, 2016.

¹³⁷ Kaufmann & Sehl, 2023.

¹³⁸ Herberger, 2021.

¹³⁹ See again for COMPAS: Schreiner, 2019.

permissible before the administration of justice is no longer entrusted to judges? And can statistical systems really ensure justice in individual cases?

These examples from Germany are representative of developments and discourses around the world. As great as the advantages of the judiciary could be when using processing, identifying and sometimes even generating AI in the area of text, sound and images, the reservations in the area of recommending AI systems are just as great. Similar to AI systems in the area of the legislature, applications in the area of the judiciary are in particular need of transparency and explanation so that judges can scrutinise their proposals and results and adopt them after careful consideration.

4. Popular Sovereignty

If democracy is to be the rule of the people and the freedom of each individual, then political decisions must be directly or indirectly linked to majorities in the population.¹⁴⁰ However, this does not only mean votes and elections: participation and involvement can also be realised in other forms, such as in opinion pieces, direct communication of information to decision-making bodies or an open dispute between voters and members of parliament on the town hall square. Against this background, democracy requires active citizens who are familiar with existing processes and have access to information and opportunities to exert influence. Trustworthy sources of information and intermediaries play a crucial role in this.

AI systems can support this in a variety of ways: be it by processing information, summarising content – or even in advising on electoral or voting behaviour.

4.1 Political Decision-making

As a sovereign, the voice of the citizens in a democracy has direct power. The decision-making process of the individual voters is characterised by information, opinions and experiences, by current developments and past experiences. In addition to the mere expression of opinions, the exchange of positions and statements plays a central role. Democracies rely on discussions and the exchange of views in order to enable reliable political decision-making.

Well-known and rather unknown use cases from all around the world illustrate the opportunities inherent in AI systems for this exchange process

Leo & Feedly – Pluralist democracies aim to incorporate as many different perspectives as possible into the opinion-forming process.¹⁴¹ At the same time, a person's different interests play a significant role in determining which topics they would like to find out more about in detail. Assistance systems such as **Feedly** can be used to create personalised information and press overviews from around the world. The tool, which is subject to a charge depending on the range of functions, uses stored RSS feeds from major news portals, newspapers and agencies. However, Twitter or Reddit histories can also be integrated.¹⁴² The information is displayed thematically in an application and can be prioritised by the users. This prioritisation is supported and further advanced by the **Leo** AI system: the software recognises patterns in the information provided by the person and the message selections made, and in this way, refines the most individually relevant information.¹⁴³

Panama Papers AI – Information conveyed by the media plays an important role in political decision-making in a democracy.¹⁴⁴ This also applies to information about grievances and political misconduct. This is precisely where AI-based analysis tools can help journalists in their research. For example, research into international tax evasion and money laundering as part of the Panama Papers required 2.6 terabytes of unstructured data to be analysed and correlated.¹⁴⁵ Much of the information led to illegal or questionable cash flows – but only after the gigantic amounts of data were harnessed through the use of complex algorithms. Self-learning AI systems were used to sort and analyse the data volumes and identify patterns and duplications in the figures and texts – a process that would have been almost impossible without the use of technology.¹⁴⁶



Every day, personalised search engines enable an almost incalculable number of people to find the information they need on political, economic or other issues. At the same time, the experience with AI-based feeds on social media over the past decade has already revealed the weaknesses and risks of such echo chambers,¹⁴⁷ which are associated in particular with a potential loss of trust in journalistic work as such.¹⁴⁸ In this sense, the poor “search results” of modern language models for state elections in Hesse also underline the fact that¹⁴⁹ AI technologies can only support the search for information if users have

¹⁴⁰ Cf. Evers, 1991..

¹⁴¹ Hasebrink, 2016.

¹⁴² Münch, 2022.

¹⁴³ Edwin, 2020.

¹⁴⁴ Deutschlandfunk Kultur, 2019.

¹⁴⁵ Grimberg, 2023.

¹⁴⁶ Ibid.

¹⁴⁷ Herrmann, 2021; Voss, 2022; Diez, 2022.

¹⁴⁸ Baeva, 2023.

¹⁴⁹ Eggers, 2023; AlgorithmWatch, 2023.

a sufficient understanding of how the system works. At the same time, the decisive criteria for a mediated result or a proposed prioritisation must therefore be comprehensible, verifiable and correctable. The fact that AI systems can also be used for targeted disinformation and the targeted dissemination of fake news was made clear in particular by the scandal surrounding Facebook (now Meta) and Cambridge Analytica, where personal data was used for targeted information to influence the US election campaign.¹⁵⁰

If AI systems are used to formulate targeted election information, disinformation or even decision-making recommendations for democratic elections, there are particularly high risks in the light of the above considerations. A high degree of transparency and traceability must therefore be required here in particular.

Processing and identifying AI systems are already widely used and can support citizens in their decision-making. At the same time, generating and deciding AI systems pose legal-political and democratic challenges. In order to be able to take advantage of the obvious advantages here, complex requirements must be placed on the AI system: transparency about the data involved, and traceability and explainability of the recommendation path.

4.2 Participation and Involvement

The involvement of citizens in state decisions is the essence of democratic structures. Just like digitalisation as such, AI tools can also help to facilitate participation.

Make.org – **Make.org** is a European mass consultation platform that is able to involve thousands of citizens in different languages on a simple question of general interest and publish the results online and virtually instantly.¹⁵¹ The platform has been in use since 2016.¹⁵² For example, more than 50,000 people took part in the survey “What ideas should France and Germany champion in Europe” conducted at the beginning of 2023. The platform uses various supporting AI systems to make the surveys carried out credible¹⁵³ – including a control system to recognise over-representation of stakeholders and avoid trolling. The AI system uses further data from the Internet for this purpose and compares it with the votes cast in the survey.¹⁵⁴

Converlens – The Australian consultation platform **Converlens** supports government employees in managing and conducting consultations and citizen surveys. It uses AI methods for natural language processing (NLP) and makes it easier for the authorities to open and close participation channels.¹⁵⁵ The commercial and also internationally available system has already been used at various levels, for example in the consultation on Australia's national electric vehicle strategy and on bringing indigenous voices into parliament.¹⁵⁶



The chance to overcome analogue obstacles with digital tools is real, but is conditioned by several external requirements and prerequisites.

Personalised search engines, news feeds and social media enable private individuals to exchange information worldwide and much more easily, but can also contribute to echo chambers and radicalised opinion formation.¹⁵⁷

On the other hand, digital participation depends on the social status of citizens. Aspects such as disposable income or assets, time available and educational background have an influence on social participation¹⁵⁸ and the use of digital services, as the inconsistent handling of pandemic-related digital teaching methods in Germany has shown.¹⁵⁹ This also applies in the digital space, even if current studies give hope.¹⁶⁰

Providers of digital participation opportunities also have a particular responsibility to respect and effectively implement democratic principles such as equality and non-discrimination.¹⁶¹ Therefore, integrated AI systems must be able to deal with distorted representations of information and opinions in order to avoid arriving at incorrect processing results based on incorrect or distorted data. Without appropriate precautions, AI systems can help spread disinformation and thereby legitimise it.

The processing and identifying AI systems, some of which are already in use, offer great opportunities for democratic societies to process existing information and make it understandable. The greater the availability, quality and transparency of data – for example, on the work of the legislature, executive or judiciary – the sooner citizens can develop their political opinions on the basis of information. Interestingly, it is ultimately

¹⁵⁰ Dachwitz & Rudl, 2018; Bump, 2018.

¹⁵¹ Alicia, 2019.

¹⁵² Ibid.

¹⁵³ JEF Europe, 2023; EU Startup News, 2023.

¹⁵⁴ Cf. UN.ESCAP, 2022.

¹⁵⁵ Workman, 2019.

¹⁵⁶ Converlens, n.d.

¹⁵⁷ Herrmann, 2021; Haim, 2020.

¹⁵⁸ Bödeker, 2014.

¹⁵⁹ Deutschlandfunk, 2020.

the same basic AI functions that also promise added value in connection with participation forums. The supporting effect of generating AI has an especially facilitating effect here, in order to accelerate functional communication with citizens – for example, about how the participation format works.

5. Democracy Education and Political Education

Democracy needs democrats: people who identify with, defend and actively demand democratic decision-making processes, the underlying understanding of society and the individual, and the liberal concept of humanity. Because this cannot be taken for granted, democracy education and political education are crucial for the sustainable existence of democracies. It takes place in schools, education, but also at work and everyday life, and is not least the responsibility of all citizens themselves.¹⁶²

5.1 Political Education and Provision of Information

Political education describes the continuous transfer of knowledge, information and skills to children, young people and adults to enable them to participate in political and social life.¹⁶³ In addition to understanding the processes of the state, this also includes the ability to independently obtain and classify information.¹⁶⁴

DeFaktS – Because disinformation produced more and more credibly in the digital age, often underpinned by images and sound documents that are difficult to identify as fakes, is being disseminated to more and more people at an ever faster rate, many established methods for obtaining information and political education are coming up against challenges.¹⁶⁵ The German project “Disinformationskampagnen beheben durch Offenlegung der Faktoren und Stilmittel” [Fighting disinformation campaigns by disclosing the drivers and stylistic traits] (**DeFaktS**) pursues a comprehensive, AI-based approach to researching and combating disinformation.¹⁶⁶ In a first step, training data is extracted in large quantities from suspicious social media and messenger groups in order to train a self-learning system on characteristic factors and stylistic devices of disinformation. On this basis, a user application is to be created with which online offers can be easily and comprehensibly checked and classified.¹⁶⁷ Similar tools are also being developed for the detection of manipulated videos (**FakeID**)¹⁶⁸ or manipulated images (**Hugging Face**)¹⁶⁹.

Democratic Technology – In all democratic systems, the legitimacy of elected representatives is an essential concern. This places formal requirements on the electoral process, but above all requires lived acceptance by citizens. The Canadian application “**Democratic Technology**” aims to enable secure, transparent and uncomplicated communication between members of parliament and voters. With the help of geolocation or by entering an address, verified users are shown the respective representatives, establishing an open channel of communication. The system should also be able to be used for political education. The resulting communication is also analysed and processed with the help of AI: it offers representatives a direct representation of the needs and wishes of the population, and voters an overview of the actual positions of the individual members of parliament. The application is currently in the test phase at local, regional and national level.¹⁷⁰



AI systems can help to obtain reliable information on political processes. At the same time, the more technology is used in interpersonal communication, the greater the dependence on its functioning. Without systems like **DeFaktS**, for example, it will become increasingly difficult to distinguish disinformation from facts. Questions surrounding the labelling obligation of AI-generated content are therefore dedicated to the question of whether human-perceptible watermarks should not also be mandatory.¹⁷¹

If systems such as **Democratic Technology** are based on a discriminatory or biased data set – and this is still likely given the current human and social reality – the system reproduces and reinforces certain views. But is the system really suitable for providing individual citizens with reliable information about their own members of parliament?¹⁷²

In order for AI systems to be effectively integrated into the political opinion-forming process, transparency, traceability and increased AI competence of users are needed.

¹⁶¹ Cf. Wenninger, n.d.

¹⁶² Cf. Landeszentrale für politische Bildung Nordrhein-Westfalen [State Centre for Civic Education North Rhine-Westphalia], n.d.

¹⁶³ Massing, 2021.

¹⁶⁴ Cf. Landeszentrale für politische Bildung Nordrhein-Westfalen [State Centre for Civic Education North Rhine-Westphalia], n.d.

¹⁶⁵ Demokratie leben!, 2022; CWU Libraries, 2017.

¹⁶⁶ FZI Research Center for Information Technology, n.d.

¹⁶⁷ BMBF, n.d.

¹⁶⁸ BMBF, 2021b.

¹⁶⁹ AI content detector, n.d.

¹⁷⁰ Kutlesa, 2022.

¹⁷¹ Baeva & Binder, 2023; Binder 2023.

¹⁷² Cf., for example, ChatGPT: Staiger & Puntschuh, 2023.

5.2 Democratic Culture of Discourse

Controversial but always substantive discussions are an essential part of liberal democracies. Many different skills are required to lead and pursue these: Recognising the importance of facts and the difference between opinion and political conviction. Accepting other opinions and understanding positions and arguments that are not one's own.¹⁷³ These skills must be practised and applied, for which democracies must open up extensive opportunities for participation and discussion. This is precisely what new technologies can inspire and motivate – including AI applications.

Pol.is – Democratic processes also take place outside parliament. This includes, on the one hand, active consultation processes on the part of the state. The globally available open source platform **Pol.is** has been actively used for this purpose for several years, especially in Taiwan.¹⁷⁴ The platform is a real-time system for collecting, analysing and understanding the opinions of large groups of people who can and should formulate them in their own words.¹⁷⁵ Unlike other social platforms, however, **Pol.is** does not focus on polarising, self-reinforcing and repetitive opinions. Instead, it emphasises concurring, different and at least consensual statements from the supposedly different poles.¹⁷⁶

KOSMO – Socially organised debates and discussions are also increasingly being held in hybrid or completely digital form. The open source assistant **KOSMO**, which is currently only available as a prototype, is intended to facilitate the management and moderation of online discussions. Moderators are provided with a dashboard that they can use to clearly visualise the discussion and communicate with the participants. An AI-based assistance system categorises the comments and posts according to whether they are constructive, aggressive or discourse-inhibiting using trained pattern and speech recognition. Any factual allegations to be verified will also be identified and labelled as such. The moderator has an overview of this categorisation using the dashboard and can select relevant contributions for the discussion. This is intended to promote the overall quality of the discussion and facilitate the active involvement of all relevant individual voices.¹⁷⁷



As early as the 2000s, new technologically opened discourse spaces in social media were described as a possibility for modern and rapid participation. So far, however, the digital transformation has been accompanied by a perceptible brutalisation of political discourse.¹⁷⁸ AI systems are not the cause of this development, but they can exacerbate this problem: generating systems can reproduce discriminatory or untrue claims, decisive systems formulate data-based but ethically or legally unacceptable recommendations. AI systems can also support or generate tendencies for certain voices to be heard more than others – there being any democratic legitimisation for this.

Legal requirements and security are needed to prevent this. At the same time, regulations are also limited in their effectiveness: AI systems can promote democratic discourses among democrats if they are used democratically. If these conditions are not met, legal requirements have little effect.

Here too, processing and identifying AI systems are proving that they can be helpful tools for a democratic society. In particular, AI systems can help to compensate for previous undesirable developments in digitalisation.

3. Conclusions – Central Theses from an Individual Analysis

The above consideration makes it clear that AI systems are already being used all over the world to support and promote important aspects and elements of democracy. In a larger overview, trends and commonalities can be identified that may also be important for the future use of AI systems.

The following overview contains the use cases listed in *Chapter II.2*, sorted by purpose. This shows once again that the proposed categories are not always clear-cut and that some AI systems can fulfil several purposes: the AI system **Chest**, for example, performs processing, identifying and recommending functions at the same time. Nevertheless, the following classification can help to visualise the opportunities for the use of AI to promote democracy in a balanced way and without undifferentiated hope or concern, depending on the intended application goal of the AI system.

¹⁷² Cf., for example, ChatGPT: Staiger & Puntschuh, 2023.

¹⁷³ Cf. bpb, 2023.

¹⁷⁴ Megill, 2017; Crowd Wisdom Project, n.d.; Maetzener, 2020.

¹⁷⁵ Pol.is, n.d.; Smith, 2017.

¹⁷⁶ Miller, 2019.

¹⁷⁷ KOSMO, n.d.

¹⁷⁸ Lafont, 2023.

TYPES OF USE	Characterisitcs	Use cases	
PROCESS	<ul style="list-style-type: none"> • Filtering and sorting information • Content validation and classification 	<ul style="list-style-type: none"> • iPrognosis (-> 1.1.) • Slavery from Space (-> 1.1.) • Ulysses (-> 1.1.) • ICT educational service (-> 1.1.) • Hua Ki'i (-> 1.2.) • Dozorro (-> 2.1.) • Kriminelle Netzwerke (-> 2.1.) • Vulekamali und Rosie (-> 2.2.) • Chest (-> 3.2.) 	<ul style="list-style-type: none"> • ZAC NRW (-> 3.2.) • Bürokratt (-> 3.2.) • F13 (-> 3.2.) • FraUke (-> 3.3.) • Panama-Papers-KI (-> 4.1.) • Leo und Feedly (-> 4.1.) • Make.org (-> 4.2.) • DeFakts (-> 5.1.) • KOSMO (-> 5.2.)
IDENTIFY	<ul style="list-style-type: none"> • Pattern recognition • Anomaly detection 	<ul style="list-style-type: none"> • iPrognosis (-> 1.1.) • Slavery from Space (-> 1.1.) • ICT educational service (-> 1.1.) • Kommunaler Gebärdensprach-Avatar (-> 1.2.) • Hua Ki'i (-> 1.2.) • Dozorro (-> 2.1.) • Machine Learning for Peace (-> 2.1.) • Kriminelle Netzwerke (-> 2.1.) • Vulekamali und Rosie (-> 2.2.) • Chest (-> 3.2.) 	<ul style="list-style-type: none"> • ZAC NRW (-> 3.2.) • Ulysses (-> 3.1.) • eTranslation (-> 3.1.) • HANS (-> 3.1.) • F13 (-> 3.2.) • Panama-Papers-KI (-> 4.1.) • Make.org (-> 4.2.) • Democratic Technology (-> 5.1.) • DeFakts (-> 5.1.) • Pol.is (-> 5.2.) • KOSMO (-> 5.2.)
GENERATE	<ul style="list-style-type: none"> • Text generation • Image generation • Language generation 	<ul style="list-style-type: none"> • Hua Ki'i (-> 1.2.) • Kommunaler Gebärdensprach-Avatar (-> 1.2.) • eTranslation (-> 3.1.) • EP summariser (-> 3.1.) • HANS (-> 3.1.) • Ulysses (-> 3.1.) 	<ul style="list-style-type: none"> • Bürokratt (-> 3.2.) • F13 (-> 3.2.) • Make.org (-> 4.1.) • Converlens (-> 4.2.) • Democratic Technology (-> 5.1.) • Pol.is. (-> 5.2.) • KOSMO (-> 5.2.)
RECOMMEND	<ul style="list-style-type: none"> • Predictions • Recommendation systems • Process optimisation 	<ul style="list-style-type: none"> • iPrognosis (-> 1.1.) • Machine Learning for Peace (-> 2.1.) 	<ul style="list-style-type: none"> • Chest (-> 3.2.) • ZAC NRW (-> 3.2.) • FraUke (-> 3.3.)

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The following theses can be derived from the above differentiated analysis of international examples with regard to the opportunities of artificial intelligence for the promotion of democracy:

Thesis 1 | AI systems can promote all aspects of democracy in a similar way

Taking into account the above classification and categorisation of AI application areas, no specific aspects of democracy can be identified that would be particularly suitable for the use of AI systems. Rather, AI systems can be used profitably and successfully in all areas of democracy.

Instead, it seems sensible to think of the application of AI systems from their intended use. Thus, processing and identifying AI systems in particular can offer clear advantages and opportunities in all areas and aspects of democracies examined.

Thesis 2 | The use of AI systems for democracy presupposes the functioning of democratic structures

In conjunction with the concerns and objections raised, this study has made it clear that the use of AI systems is neither pro- nor anti-democratic in itself. Instead, the technology offers opportunities for its users, be they democratic or autocratic. This became particularly clear in the context of AI systems used in connection with law enforcement measures (see 2.3: *Judiciary*). AI can therefore be a powerful tool – both in the hands of those who promote democratic processes and those who want to undermine them.

A secure pro-democratic use of AI systems therefore requires the stability and functioning of the democratic framework in the first place. It is therefore also dependent on conditions that the AI system itself cannot guarantee. AI therefore offers an opportunity for democracy, especially if there is the (political) will to promote social and individual freedoms, rule of law structures and a pluralistic social discourse.

Thesis 3 | Not focusing on generative AI: processing and identifying AI systems can also bring major benefits

The first thing that stands out is that at the time of this study (December 2023), generating and recommending AI systems are only being used tentatively – even though examples such as *iPrognosis*, *F13* and *eTranslation* are already clearly demonstrating the benefits of AI systems. At the same time, these systems are dependent on particularly large amounts of data and computing capacity, which could limit their global use to economically strong democracies in the future.

Against this background, it is important to scrutinise the existing media and political focus on these generative AI systems, at least with regard to their use in democratic fields of application. Of course, generative AI technology is still in its infancy. Its potential for promoting democracy can therefore only be determined to a limited extent on the basis of evidence at the present time.

Nevertheless, the abundance of examples from around the world at the present time makes it clear that even with less resource-intensive processing and identifying AI systems, there is great added value for citizens, their representatives, as well as public institutions, authorities and courts. Systems such as *Rosie*, *Dozorro* or *Pol.is* in particular show the different ways in which AI systems can be used to support democratic processes in a promising way.

It therefore stands to reason that processing and identifying AI systems in particular can currently offer great added value in the promotion of democracy worldwide.

Thesis 4 | Democracy-promoting AI systems must be comprehensible and transparent

The comparison and examination of the individual AI systems and aspects of democracy has also made it clear that AI systems that promote democracy – regardless of their specific area of application – must be comprehensible and transparent. Only comprehensible assistance systems are suitable to help responsible and self-determined citizens in their search for information, to support members of parliament or officials in their decision-making behaviour or to summarise and prepare data for meaningful further processing. The explanation of the AI system and the traceability of the individual AI result are absolutely necessary for critical decision-making in the sense of a functioning democracy.

Thesis 5 | AI systems facilitate participation, but do not enable it

AI systems are increasingly being used worldwide in participatory consultation processes: they allow quick and easy participation and are now also increasingly capable of controlling the comments and opinions submitted.

At the same time, other digital formats and digital tools have already proven that questions of democracy fatigue or lack of participation cannot (solely) be compensated by technical possibilities – such as AI tools. In addition, there is the real risk of digital dependence and discrimination against groups and voices that are not digitally represented or digitally marginalised (Cf. 4.2: *Participation and Involvement*; 1.2.: *AI and Protection of Minorities*).

The use of AI systems to promote democracy and democratic structures must therefore go hand in hand with additional measures that compensate for social and other differences and disadvantages and promote digital participation.

Thesis 6 | AI systems can make large amounts of data available – for citizens and the state alike

The particular appeal of identifying and processing AI systems lies in the utilisation of existing data and information.

On the one hand, this applies in favour of individual citizens if, for example, they receive better medical care (see 1.1: *Fundamental Rights*), tailored information about their own political representatives (see 5.1.: *Political Education and Provision of Information*) or a usable overview of the use of public funds (see 3.1: *Control Mechanisms*) on the basis of a broad database and the AI technology used on it.

On the other hand, this also applies to the state itself. Members of parliament can make better use of existing information (see 2.1: *Legislative*), administrations and courts can be better supported in their daily routine work and processing procedures can be accelerated overall (see 2.2: *Executive*; and 2.3: *Judiciary*).

It is noteworthy that these added values and opportunities exist without people necessarily being deprived of decision-making authority or the responsibility for decisions being shifted to AI systems. Assuming traceability and transparency (Cf. *previous Thesis*), AI-supported summaries and recognised patterns or information can be checked and validated by humans. The AI systems simply offer a dedicated processing of existing data and information. This data and information should meet certain quality requirements.

Thesis 7 | AI must be considered in the context of existing digitalisation processes

Incomplete or low-quality data sets harbour the risk of distorted or erroneous AI results. (Cf. 4.1: *Political Decision-making*; 3: *AI and the Rule of Law*).

The prerequisite for a profitable use of AI is therefore an appropriate and high-quality preparation and making data available. However, this data preparation and implementation in a functional IT infrastructure is not a “specific” AI task – even if the data for individual AI training processes does need to be prepared separately. Rather, the processing of the data already available in the administration, the provision of a functional IT infrastructure and the implementation of certain organisational framework conditions belong to the overarching prerequisites of any digitalisation projects. In detail, these include the following:

- Cataloguing of existing databases within an institution (an authority, a municipality, a specific department);
- Collection and processing of additional data from different departments, process flows and through the use of cyber-physical systems;

- Establishment of a data infrastructure for a structured storage and availability of data for different digitalisation projects (in the form of data platforms, data hubs, registers and suitable interfaces);
- Setting up data governance processes to regularly ensure data quality, data standards for data access management and to meet specific legal requirements for data storage and processing; and
- Organisational issues such as coordination, communication, cross-departmental cooperation, professional human resources, competence building, etc.

Meeting these requirements is the basis for the digitalisation of public administration as such – be it e-government processes, smart city applications, dashboards, digital twins, simple data analytics tools or complex AI applications.

Planning the implementation of AI systems must therefore always begin with the question of the maturity level of the implementation of existing digital and data strategies and which requirements for the implementation of AI technologies have already been met. What measures still need to be taken and what open (including legal) questions still need to be clarified before the level of digitalisation required for AI implementation is reached.

Thesis 8 | Not everything that AI systems could do is wanted in a democracy

AI systems can already be used as decision-making aids and assistance systems to justify decisions made. This means that AI systems can at least partially replace human behaviour in functional terms (Cf. 2.3: *Judiciary*). However, the question arises as to whether democratic systems really want to do without people in key positions. To what extent are AI-supported decision-making processes of humans actually still humanly autonomous, and how great is the – possibly unavoidable? – influence of an AI-supported recommendation on the actual decision-making behaviour of humans? These and similar questions are currently the subject of ethical, legal, political and general social discourse.

So far, it can be assumed that purely technical decision-making processes would not find acceptance in democratic societies. AI systems that are intended to replace human decisions would therefore currently not receive approval. However, it is obvious that even and especially in democratic societies, this state of discussion is constantly evolving and can also change in the future.

It is therefore open whether AI-powered recommendation systems will also be used more frequently in the coming years or decades – or whether the decision itself will be left to the system

III. Summary and outlook – a liberal view of humanity as the source code of artificial intelligence

The examples of AI applications that promote democracy outlined in this paper show that the tendency often observed in public discourse and political science research to focus on threat scenarios (*Cf. Chapter I.1*) should definitely be questioned. Instead of allowing AI discourses to be guided by one of the two prevailing narrative poles, i.e. an exaggeratedly pessimistic or uncritically optimistic perspective, this paper argues in favour of a third approach (*Chapter I.2*). The aim is to realistically assess the potential of AI to strengthen democracy without ignoring possible risks. In order to show how such a "Promethean" or "enlightenment" discussion can succeed, an attempt was first made to clarify the term "artificial intelligence" and to differentiate the technologies behind it according to their intended use (*Chapter I.3*). Based on this, Chapter II.2 presents around 30 global examples of the successful use of AI to promote various aspects of democracy and highlights the challenges that need to be considered in each case.

It was already clear from the theses derived from the international use case analysis (*Chapter II.3*) that the use of AI to promote democracy is particularly dependent on both the technological and organisational framework conditions of the state and the socio-political will to promote political and individual freedom (*see esp. Theses 6 and 8*). However, in order to emphasise the importance of non-technological prerequisites for the use of AI to promote democracy even more clearly and at the same time to point out one of the most important prerequisites for the use of AI to promote freedom, the importance of the liberal concept of man must once again be discussed in more detail.

People are guided in their actions by the images of themselves and of the world. In this context, the philosopher Markus Gabriel describes the human being as "the living being that exists essentially in the light of the conception of who or what it is".¹⁷⁹ Depending on whether the state constitution is characterized by the primacy of the collective, the primacy of a religion or the primacy of individual primacy of the individual's self-determination, the sovereign rules of coexistence, the conception of supposedly of supposedly "good" political goals and ultimately the degree and ultimately the degree of civil liberties.

Since modern times, the modern idea of the state has been based on the humanist concept of man as a free being, i.e. capable of self-design and thus of morality.¹⁸⁰ Since then, the idea of humans as a free community being has been the basis of every free constitution, such as the Grundgesetz [German Basic Law].¹⁸¹ From a philosophical point of view, the normative attribution of freedom as person's capacity for self-design or self-image¹⁸² is also a necessary normative assumption if people are to be granted the freedom to make autonomous decisions, to be capable of acting, to take responsibility for their actions and to be counted as sovereigns in a democratic constitutional state. This is because only humans are considered capable of understanding (sane), capable of acting, self-determined and free.¹⁸³

Views of the world and of humanity also shape our approach to the opportunities and challenges of digitalisation. It is therefore only logical that in its opinion on AI, the German Ethics Council first of all takes a detailed look at the different concepts of humanity that often underlie current debates on digitalisation. It begins by examining the transhumanist and functionalist conceptions of humanity, before moving on to the humanist conception of a "embodied reason"¹⁸⁴ and only then to the actual practical analysis of AI use and recommendations for action. Such an approach is consistent because one first has to reflect on one's own basic assumptions (both in relation to the technology itself and in relation to the human environment as its area of application) and thus set the course for a subsequent evaluation of possible options for action.

One example: when we discuss the use of AI in education, it is just as presumptuous to prematurely label the technology as a threat to the "dehumanisation of teaching" ("Pandora narrative") as it is to see it as the ultimate solution to previous educational policy shortcomings ("Hermes narrative"). It is much more important and more effective to ask: what do we actually mean by "education"? When is a person "educated"? What educational concepts do we base our understanding of education on (e.g. the "Humboldtian educational ideal" of holistic education and reflexivity or simply the acquisition of skills for the professional world)? Only then can certain partial aspects of the intended (identified) under-

¹⁷⁹ M. Gabriel, 2020, p. 233.

¹⁸⁰ Di Fabio, 1998, p. 61 f.

¹⁸¹ Horn, 2017, p. 4.

¹⁸² Cf. M. Gabriel, 2020, p. 31.

¹⁸³ Di Fabio, 2022, pp. 215-228, p. 223.

¹⁸⁴ German Ethics Council, 2023, pp. 145-161.

standing of education be examined more closely (just like the democracy aspects in Chapter II) and the question asked as to which existing AI applications could be helpful for which subtasks and which challenges require attention.

The starting point for any discussion of the potential of digitalisation is therefore always the question of our basic assumptions. Ultimately, this addresses the question raised by Kant as a central philosophical leitmotif – “what is man?”. It is therefore a question of which image of humanity, or the weighting of which aspects of humanity (e.g. sociality, economic rationality of purpose, striving for self-development, etc.) we assume when we deal with the use of certain AI technologies, e.g. for the promotion of education or democracy. From an understanding of what actually constitutes a human being, ethical standards for dealing with digital technologies can be derived, as well as criteria for dealing with opportunities and challenges.¹⁸⁵

With this in mind, the German Ethics Council also calls for the assessment of artificial intelligence to take the central aspects of the liberal concept of humanity, such as reason, responsibility and the ability to act, as a benchmark when assessing deployment scenarios for specific AI applications and to analyse the extent to which they expand or diminish human authorship when evaluating AI applications.¹⁸⁶ The normative, liberal view of humanity should function as a starting and fixed point for dealing with the digital transformation. **The human concept of a self-determined being of freedom must therefore also be understood as a kind of “source code” for AI systems.**

At the same time, it should be noted that questions about the use of AI (e.g. the extent to which AI is “creative”) repeatedly challenge us to take a close look at our own self-image as people and communities – and that is a good thing! Perhaps this latent invitation to reflect on our basic assumptions about being human, about the world, about society and about the role of technology is the greatest and most lasting positive effect of AI technology for an open and free society.

¹⁸⁵ Horn, 2017, p. 4.

¹⁸⁶ Cf. German Ethics Council, 2023, p. 17 f., 21 f.

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