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# **Towards Civil Strategization of AI in Germany**

An investigation of the involvement of civil society in the making of the  
German National Artificial Intelligence Strategy

## ABSTRACT

The involvement of civil society has been identified as key in ensuring ethical and equitable approaches towards the governance of AI by a variety of state and non-state actors. Civil society carries the potential to hold organisations and institutions accountable, to advocate for marginalised voices to be heard, to spearhead ethically sound applications of AI, and to mediate between a variety of different perspectives. Despite proclaimed ambitions and visible potentials, civil society actors face great challenges in actively engaging in the governance of AI. Based upon a survey of the involvement of civil society actors in the making of the German National Artificial Intelligence Strategy this discussion paper identifies and contextualises key challenges that hinder civil society's fruitful participation in the governance of AI in Germany. These hurdles include existing structural challenges commonly faced by civil society actors, such as a notorious lack of financial and human resources, as well as broader questions of governance, such as interministerial competition, and a lack foresight in the design of participatory processes. Additional challenges related to technology governance, such as a lack of expertise not only in civil society but also among ministries and industry, are amplified within the rapidly evolving field of AI. Leveraging the potential of civil society's involvement requires reevaluation of the relationship between civil society, state, and economic actors.

## KEYWORDS

artificial intelligence, civil society, governance, digitalization, political participation, ethics

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## LICENCE

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## 1 INTRODUCTION

In July 2021, the World Economic Forum identified the involvement of civil society actors as key in ensuring ethical and equitable approaches towards Artificial Intelligence (AI) in benefit of the common good. On November 30, 2021, a group of 119 civil society organisations under the leadership of the European Digital Rights (EDRi) association, released a collective statement calling upon the European Union to put consideration for fundamental rights at the forefront of the European Artificial Intelligence Act (EAIA) (EDRi, 2021). German civil society actors such as the watchdog organisation AlgorithmWatch (AW) spearheaded this initiative. Beyond the European level, established civil society organisations, such as the Bertelsmann Stiftung (Bertelsmann Foundation), independent non-profit think tanks, such as the Stiftung Neue Verantwortung (SNV) or the iRights.Lab, as well as cultural and educational actors, such as the KI & Wir convention, critically address questions of AI and its impact on society. Released on November 15, 2018, the German National Artificial Intelligence Strategy (NAIS) specifically refers to the involvement of civil society actors as key for the development and deployment of AI for the common good (Bundesregierung, 2018c).

Despite the ambitions aimed at the ethical development and implementation of AI through the involvement of civil society, researchers at the SNV find that “European civil society organisations that study and address the social, political and ethical challenges of AI are not sufficiently consulted and struggle to have an impact on the policy debate (Beining et al., 2020: pp. 1).” Civil society actors generally face great challenges in asserting their future imaginaries against dominant visions put forward by corporate and governmental actors when it comes to AI (Mager & Katzenbach, 2021). While both the potentials and the challenges of civil society participation in the governance of AI have been identified as central questions, focused investigations of the participation of civil society actors in the making of AI policy remain understudied. Taking the involvement of civil society in the making of the NAIS as a case study, this discussion paper identifies and contextualises key challenges that hinder civil society’s fruitful participation in AI policy-making processes in Germany.

The following paragraphs outline how existing hurdles specific to civil society participation, such as a notorious lack of financial and human resources, as well as broader questions of governance, such as interministerial competition, and a cross-sectoral lack of expertise, not only inhibit the active participation of civil society but critically question the overall design of governance processes. Additional challenges related to technology governance, such as a lack of technical knowledge not only in civil society but also among ministries and industry, are not necessarily new but amplified within the rapidly evolving field of AI. The paper sets out on a theoretical discussion of civil society within the specific context of digitalization and AI. Following, the methodological approach outlines the specific methods of actor and topic mapping, and expert interviews that provided the analytical backbone of this study. The three core sections of this paper investigate the role of civil society in relation to digitalization and AI in Germany, the involvement of civil society in the making of the NAIS, the key challenges faced by civil society actors in this process, and an analysis of the impact of civil society on the final policy documents. The conclusion summarises the findings, contextualises them via broader questions of the relationship between civil society, the state and industry, and outlines questions for future research.

## 2 (DIGITAL) CIVIL SOCIETY AND AI

While research on the role of civil society in global, European, and German contexts is steadily expanding, it remains inherently difficult to clearly define what civil society is, where it is located, what its purposes are, and how it operates. In addition, the rapid digitalization of societies underlines existing structural hurdles, as well as poses new challenges to civil society. As this study will show, questions of digitalization, emphasised by the emerging terminology of digital civil society, and AI are strongly interlinked in the specific case study of

Germany. As such the following paragraphs define a working definition of civil society, followed by recent work on digital civil society and its relation to AI.

## 2.1 Defining Civil Society

This discussion paper works with a layered conceptualization of civil society that combines an actor-centric perspective with a normative angle. The actor-centric perspective defines civil society as an area within society that is entangled with, yet separate, from the state, the economy, and the private (Klein, 2001). This definition is actor-centric as it refers to civil society as the totality of self-organised, formal and informal associations, communities, social movements, and unions that citizens voluntarily join to reach certain goals that are not primarily economically focused (Klein, 2020; Strachwitz et al., 2020). These actors fulfil a variety of functions, which encompass but are not limited to guardian or watchdog functions (e.g. consumer protection, impact assessment), topic lawyers or advocates (e.g. environmental organisations, independent think tanks), social services (e.g. welfare, education), intermediary (e.g. umbrella organisations, mediators), self-care (e.g. patient self-help), community-building (e.g. religion, music, tradition, sports clubs), and political participation (e.g. social movements). Actors are not limited to only one role but more often than not transcend several of these that also tend to shift overtime (Strachwitz et al., 2020).

The specific role of civil society, the way it is organised and acts, and its relationship to state, economic, and private actors depend on specific national and supranational contexts (VanDyck, 2017). As such, a normative angle to civil society is crucial. From a normative perspective, civil society refers to a habitual mode of social action based on shared norms and understandings of communication, discourse, and decision-making rooted in a sense of civility (Klein, 2020; Strachwitz et al., 2020). The latter sense of civility and the resulting understandings of civil society depend on cultural, economic, political, and social contexts. It is important not to presume that the features of what is commonly referred to as civil society in German and European discourses directly transfer to a study on civil society in non-European contexts. While an actor-centric definition of civil society hints towards a certain positionality of civil society in relationship to the state, the economy, and the private, it is essential to understand the normative context within any given case study.

## 2.2 Digital Civil Society

The transformative effects of digitalization confront civil society with a whole new set of challenges and opportunities. At the same time, digitalization should not be seen as a wholly new phenomenon but rather rooted in historical developments (Lentz, 2011). As such, digitalization has become an increasingly relevant topic for civil society towards a point, where a variety of researchers, institutions and organisations are referring to a digital civil society (Bernholz et al., 2013; Dobusch, 2014). The term digital civil society points towards different but adjacent themes of the impacts of digitalization on civil society. On one hand, it describes the broad range of challenges, opportunities, and transformations that digitalization confronts civil society with, which question existing understandings of civil society, its modes of organisation and action. On the other hand, digital civil society more narrowly describes a certain sub-sector within civil society that specifically focuses on questions of digitalization and its impact on society at large (Goethe-Institut & Superrr, 2020).

The impacts of digitalization on civil society are far-ranging. Digitalization is seen as transformative of democratic participation and decision-making. First and foremost, the internet provides a platform for a diverse range of views to be presented and discussed (Lentz, 2011). At the same time, there is an increasing mistrust in political discourse online (Frost, 2017). In terms of civil society engagement, a trend towards personalised and individualised forms of action are new phenomena brought up by digitalization. So-called “Clicktivism” points towards more pragmatic approaches towards social action (Cuéllar, 2017; Frost, 2017). Movements such as Black Lives Matter or #MeToo showed the potential of digital technologies to rally a large number of people in a

short amount of time. Especially younger generations are at the forefront of digital social action (BMFSFJ, 2020). Simultaneously, “Clicktivism” calls into question the meaning and impact of digital participation, as well as underlying tensions between individualised participation and collective civil society action (Baringhorst, 2017; Cuéllar, 2017). These developments challenge traditional civil society to a point that calls into question if these traditional actors are still relevant in the digital age (Baringhorst, 2017).

Non-profit organisations struggle with the adoption of digital technologies and the impact digitalization has on organisational cultures (Matuschek et al., 2020; Wolf, 2020). While organisations view digitalization as one of the biggest challenges, there is a lack of resources and expertise to tackle these challenges head-on (Bertenrath et al., 2018). Where digital technologies are employed in the non-profit sector these initiatives mostly focus on streamlining administrative processes. The application of digital technologies for reaching these organisations’ main goals of social action is low (Wolf, 2020).

While the challenges brought by digitalization to civil society are manifold, these also prove generative in transforming existing civil society and spawning new actors. These specialised actors address a wide-range of related topics such as digital accessibility, political participation, digital literacy and sovereignty, technological infrastructure, digital culture, disinformation, hate on the internet, algorithmic bias, and artificial intelligence (Goethe-Institut & Superr, 2020). As such, the focus of this paper on AI is representative of a specific understanding of digital civil society as spawning theme-specific actors.

### 2.3 Civil Society and AI

The involvement of civil society in the governance of AI has been identified as crucial by a wide-range of state and non-state actors. As mentioned in the opening statement, the WEF sees the involvement of civil society actors as key in ensuring ethical and equitable approaches towards AI in benefit of the common good. As watchdogs, civil society actors hold the power to move beyond mere principles for AI ethics towards holding organisations accountable. As advocates, civil society actors enable the participation of marginalised voices and communities to participate in the governance of AI. By making use of AI technologies, civil society actors can spearhead AI applications for the common good. As intermediaries, civil society actors can function as mediators between diverse sets of voices and perspectives (Sanchez, 2021). Civil society is in a unique position to bring up and address questions in the development and deployment of AI, putting topics on the agenda that economic and state actors might not be aware of. Especially in contexts that proclaim the ethical, human-centric, or for-the-common-good approaches towards AI (Beining et al., 2020).

Despite the identified potentials of the involvement of civil society in the ethical development and implementation of AI, actors struggle to make meaningful impact due to a lack of consultation and involvement in policy-making processes (Beining et al., 2020). Current debates are centred around the economic potential of AI and are driven by industry concerns (Bareis & Katzenbach, 2021; Beining et al., 2020). As such, civil society actors are confronted with great hurdles to assert their positions *vis-à-vis* corporate and governmental actors (Mager & Katzenbach, 2021).

To note at this point, most of the work on the involvement of civil society in the governance of AI originates within civil society itself with a major focus on calling for attention to civil society concerns. Policy documents ranging from the local to the supra- and international frequently pay lip service to the involvement of civil society. Aside from civil society voices calling to be heard, and policy documents paying lip service to civil society, scholarly work on this topic, especially in the German context, remains limited. As the following discussion shows, many of the challenges civil society actors face in contributing to the governance of AI relate to broader questions raised by digitalization and existing policy-making processes. Nevertheless, these trends are amplified by the rapid evolution of AI. While this paper focuses on Germany, the following discussion will prove especially useful in terms of future trans- and supranational investigations of civil society’s role in the

governance of AI.

### 3 ON METHODS

The methodological approach of this study advanced in three steps: 1) a mapping of civil society actors working on AI in Germany, 2) a topic mapping via the analysis of policy documents published by civil society actors *vis-à-vis* the NAIS, and 3) contextualization through a series of expert interviews with involved civil society actors.

The mapping of civil society set out to create an index of actors that address questions of the development and deployment of AI in Germany. These actors either participated directly in the making of the NAIS through online consultations or as invited experts, or indirectly addressed the making of AI policy through AI-related projects, research publications, or public commentary.<sup>1</sup> While civil society encompasses a wide-range of organisational forms and modes of action, the focus lies on actors that are formally organised and legally recognized. This index provided a first overview of the German civil society ecosystem that addresses questions of AI.

Building upon this index, the project followed with a basic mapping of relevant, AI-related topics that these civil society actors put attention towards. This step saw an investigation of relevant policy documents such as whitepapers, ethical guidelines, policy-recommendations, as well as press and marketing materials published by indexed civil society actors. These documents are regularly focused on certain controversies and key issues, “a stage in which virtually any (and all) policy actors might be involved in decrying problems and demanding government action” (Howlett & Cashore, 2020: pp. 17-18). This topic mapping provided the basis for a comparative analysis of the three federal policy documents of the NAIS, published in November 2018, the interim report to the NAIS, published in November 2019, and the Update to the NAIS, released in December 2020. The analysis focused on identifying thematic overlaps between civil society concerns and the NAIS.

Identifying thematic overlaps then provided guidance for a series of expert interviews with involved civil society actors. While a wide-range of civil society actors commented on the NAIS, these expert interviews focused upon a select group of organised civil society actors that participated directly in the making of the strategy. Participation took place via an online consultation process concluded by September 30, 2018,<sup>2</sup> and six expert consultations, which took place in September 2018,<sup>3</sup> in the making of the original NAIS. In addition, seven expert consultations took place in June 2020,<sup>4</sup> resulting in the Update to the NAIS. The semi-structured expert interviews were aimed at gaining a deeper understanding of how these consultations were organised, how they unfolded in the act, which themes were touched upon by whom, and their influence on shaping the policy documents of the NAIS and its Update. To this point, I interviewed three representatives of civil society that either participated themselves or gave feedback on their organisations participation in these consultations. A total of four civil society organisations were reached out to of which two declined the interview offer due to time and resource constraints.

The following four sections sequentially address the civil society ecosystem in Germany in relation to digitalization and AI, the formal involvement of civil society in the making of the NAIS, challenges faced by

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<sup>1</sup> For a list of civil society actors working on AI see Appendix.

<sup>2</sup> For the public list of participants see [https://www.ki-strategie-deutschland.de/home.html?file=files/downloads/KI-Strategie\\_Teilnehmer\\_Online-Konsultationen.pdf](https://www.ki-strategie-deutschland.de/home.html?file=files/downloads/KI-Strategie_Teilnehmer_Online-Konsultationen.pdf).

<sup>3</sup> For the public list of participants see [https://www.ki-strategie-deutschland.de/home.html?file=files/downloads/KI-Strategie\\_Teilnehmer\\_Fachforen.pdf](https://www.ki-strategie-deutschland.de/home.html?file=files/downloads/KI-Strategie_Teilnehmer_Fachforen.pdf).

<sup>4</sup> For the public list of participants see [https://www.ki-strategie-deutschland.de/home.html?file=files/downloads/Teilnehmer\\_Fachforen\\_2020.pdf](https://www.ki-strategie-deutschland.de/home.html?file=files/downloads/Teilnehmer_Fachforen_2020.pdf).

civil society throughout the consultative processes, and an assessment of civil society contributions to the NAIS.

## 4 CIVIL SOCIETY, DIGITALIZATION AND AI IN GERMANY

This section sets out on providing the normative context of the envisioned role of civil society in the German context. Following, recent developments in civil society sparked by digitalization, as well as an overview of actors working on AI-related topics outline the current state of the civil society and AI ecosystem in Germany.

### 4.1 Civil Society in Germany: A Normative Context

Civil society in Germany currently encompasses more than 800,000 organised movements, organisations, and institutions, as well as unorganised collective action groups. While there is great diversity in the size, functions, and goals of these actors, civil society in Germany is defined by shared normative, as well as legal features that differentiate it from the state and economic actors. These features encompass the independent and voluntary self-organisation of civil society; subjective understandings of goals of the common good; civil society's externality to state duties; civil society's not-for-profit character; and its dependency on donations of time, money, resources, and labour (Strachwitz et al., 2020). The role of civil society in Germany has undergone an evolution from social welfare origins to political participation and freedom movements in the 1960s, to engaging in transformative political processes in the 1980s. Since the 1990s, civil society in Germany has evolved towards encompassing an increasingly diverse range of goals, organisational forms, and modes of operation in the wake of globalisation and digitalization (Adloff, 2005; Dobusch, 2014; Strachwitz, 2020; Strachwitz et al., 2020).

Within the German context, the role of civil society and its relationship to the state was inherently defined through the work of the *Enquete-Kommission "Zukunft des bürgerschaftlichen Engagements"* (enquete commission on the future of civil engagement), which was initiated by the German *Bundestag* between 1999 and 2002. Throughout two and half years the commission, through a series of expert consultations and studies, sought to identify the environment, the themes, and the challenges of civil society at the time (Enquete-Kommission „Zukunft des Bürgerschaftlichen Engagements“, 2002). Civil society was envisioned to encompass non-state, non-economic activities that are oriented towards the common good (Adloff, 2005). The commission underlined an understanding of civil society as nested on equal footing to the state and the economy (Strachwitz et al., 2020). As such, the final report settled on an enabling relationship between the state and civil society, meaning the state acts as a guarantor for the space and participation of civil society. In contrast, an activating function would have seen a deeper involvement of the state in initiating civil society action. In support of an enabling relationship the commission argued that civil society is fundamentally self-activating. It neither requires nor does it need to accept any activation by the state (Strachwitz et al., 2020). The state is supposed to be a cooperative partner in generating the structures within civil society to act, including developing new forms for civil society to participate in policy-making processes from the federal to the local level (Adloff, 2005).

While 20 years have passed since the work of the commission, its impact, while at the time questioned for relevance, set out to guide the relationship between civil society and the state to this day (Strachwitz et al., 2020). Underlining the enabling relationship of state *vis-à-vis* civil society, which is specific to the normative context in Germany, is essential for the following investigation of the transformative impacts of digitalization and the case study on AI.

### 4.2 (Digital) Civil Society and AI in Germany

Questions of digitalization and AI are inherently entangled in the German context. While AI received attention as an independent topic, it is first and foremost addressed as a subtopic of overarching questions of digitalization. On a governmental level, this is reflected by the relationship of the *Digitalstrategie* (digital strategy) published

by the Federal Ministry of Education and Research (BMBWF) as an umbrella for a wide-range of questions on digitalization (BMBWF, 2019). Within the digital strategy AI is identified as one of several key technologies that will transform everything from health care to transportation. In similar fashion, the Federal Ministry for Economy and Climate Action (BMWK) lists AI as a subtopic of digitalization on its website.<sup>5</sup>

On a civil society level, prominent actors dealing with AI, such as the Stiftung Neue Verantwortung (SNV), the Bertelsmann Stiftung, the Tactical Tech collective, Digitale Gesellschaft e.V., the Chaos Computer Club, or the Gesellschaft für Informatik (German Informatics Society or GI), do so within a broader context of digitalization. These actors address a wide-range of adjacent topics such as digital accessibility, political participation, digital literacy and sovereignty, technological infrastructure, digital culture, disinformation, hate on the internet, algorithmic bias, and artificial intelligence (Goethe-Institut & Superrr, 2020). In 2021, a consortium of more than 80 German civil society organisations united under the banner of *Digitale Zivilgesellschaft* (digital civil society) to call for embracing digitalization in civil society, for digital sovereignty of society as a whole, for the involvement of civil society in the making of digital policy, and for environmentally sustainable digitalization (Lindinger & Kloiber, 2021). In addition, there have been calls for weighing civil society concerns equal to government and corporate concerns in digital policy, as well as the need for financial support of digital civil society. Civil society is at the forefront of drawing up alternative visions of digital futures and reshaping forms of political participation and digital volunteering (Biselli, 2021).

In terms of the involvement of civil society in the governance of AI in Germany, the majority of actors approach the topic under the umbrella of digitalization. Only few actors, such as the watchdog organisation AlgorithmWatch (AW), focus predominantly on questions of AI. Of interest is the diversity of organisational forms, methodological approaches, and focus topics represented by these actors ranging from watchdog functions, to independent policy think tanks, to cultural and educational organisations. AW for instance is at the forefront of monitoring automated decision-making systems (ADMS) through projects such as Unding.de, an online platform for citizens to dispute ADMS, or the Tracing the Tracers initiative, a continuous effort to inform the public about how ADMS are employed within the EU.<sup>6</sup> Since 2021, AW has been in an ongoing dispute with Meta,<sup>7</sup> which sought to shut down AW's independent monitoring of the Instagram platform (Lang, 2021). Independent think tanks, such as the SNV or the Bertelsmann Stiftung, address a broad range of AI-related issues such as technical standardisation, the application of AI in industry and government, AI as a foreign policy topic, data security and privacy, the development, implementation, and evaluation of AI ethics guidelines, and the evaluation of national AI strategies.<sup>8</sup> Topic lawyers, advocates, and intermediaries, such as the GI, apply their knowledge to practical questions, such as AI testing and auditing or technical AI literacy.<sup>9</sup> Educational- and cultural-oriented organisations, such as the KI & Wir (AI & We) convention, focus on opening the AI discourse up to broader society through public lecture series, workshops, and community-building efforts.<sup>10</sup>

The German civil society ecosystem with a focus on AI is strongly interwoven. It is common for civil society actors to collaborate on joint studies and the implementation of joint projects. Exemplary of these is for instance Algo.rules a joint project and study by the iRights.lab and the Bertelsmann Stiftung's Ethik der Algorithmen (ethics of algorithms) initiative, which outlines a set of standards for the ethical design of algorithmic systems (iRights.Lab & Bertelsmann Stiftung, 2019). Another example is the annual Automating Society Report published jointly by AW and the Bertelsmann Stiftung (Chiusi et al., 2020). Beyond the national level, German

<sup>5</sup> Formerly the Federal Ministry for Economy and Energy (BMWi). See <https://www.de.digital/>.

<sup>6</sup> See <https://algorithmwatch.org/en/projects/>.

<sup>7</sup> Formerly Facebook.

<sup>8</sup> See <https://www.bertelsmann-stiftung.de/de/unsere-projekte/ethik-der-algorithmen> and <https://www.stiftung-nv.de/de/projekt/kuenstliche-intelligenz-0> for more information on relevant projects.

<sup>9</sup> See <https://testing-ai.gi.de/> and <https://kicamp.org/> for more information.

<sup>10</sup> See <https://ki-convention.com/en/> for more information.

civil society actors are vocal on EU matters. Initiatives such as the above-mentioned EDRi call for the implementation of fundamental rights in the EAIA (see EDRi, 2021), the call for creating a European AI & Society ecosystem (see Beining et al., 2020), or the joint study of AW and the Bertelsmann Stiftung on the application of ADMS in the EU throughout the COVID-19 pandemic (see Chiusi et al., 2020), underline the central role German civil society actors play in broader European discourses.

Despite the interwoven character of the German civil society ecosystem, the nature, role and specific themes of actors does not represent a singular view. In contrast, actors present a diverse range of approaches and interests with collaborations emerging around specific joint topics of AI governance. A practical example of these diverse views is centred around terminology. While certain actors, especially with a policy focus, widely employ AI as the core term, others that are focused on the practical and technical implementation of algorithms rather employ the term algorithmic decision-making systems (ADMS). Nevertheless, certain actors, such as the Bertelsmann Stiftung with a history reaching as far back as 1977, take a leading role in agenda setting, as well as in activating civil society at large through initiating projects and providing directed funding. The initial launch of AW for instance was supported by the Bertelsmann Stiftung with the foundation continuing to provide a major part of AW's annual funding.<sup>11</sup>

In terms of funding, civil society actors are characterised by varying degrees of mixed funding sources. Public funding by a wide-range of government institutions ranging from local, to state, to federal and European level, presents a major source of financial resources across the board. These funding sources range from project-specific grants to structural and long-term funding of organisations at large. This points towards the envisioned enabling function of the government *vis-à-vis* civil society. Other sources include funding by industry-related foundations, such as the Robert Bosch Stiftung, inter-civil society funding, such as the mentioned Bertelsmann-Stiftung or the Stiftung Mercator (Mercator Foundation), or membership fees, in cases such as the GI.

To summarise, German civil society is active in addressing questions of digitalization and AI employing a wide-range of thematic interests and approaches. Civil society actors are vocal on both national and European levels initiating practical and technical projects, as well as publishing policy recommendations and frequently commenting on governance efforts. While the German civil society ecosystem is interwoven, this does not represent a singular civil society perspective. Nevertheless, certain actors crystallise as taking leading roles through agenda setting and intra-sectoral funding efforts. Civil society funding encompasses a wide-range of sources with public funds presenting a major contribution. This underlines the enabling function of the government envisioned by the Bundesregierung in the early 2000's. Based upon this broader overview of civil society's involvement in the governance of AI, the following section investigates the participation and impact of civil society in the making of the NAIS.

## 5 CIVIL SOCIETY AND THE STRATEGIZATION OF AI IN GERMANY

The NAIS was released on November 15, 2018, in a concerted effort by the leading ministries involved in its development. These ministries included the Federal Ministry for Education and Research (BMBF), the Federal Ministry for Economic Affairs and Energy (BMWi) and the Federal Ministry for Labour and Social Affairs (BMAS) (Bundesregierung, 2018c). While AI received attention from policymakers across the globe, with places such as Japan or Canada putting early attention on developing strategies, the importance of AI as a key technology occurred comparatively late in Germany. To note here is that AI received attention within different parts of the government and different ministries asynchronously, mostly independent from each other, and with a focus on different areas of technological development. It was only through the new coalition government formed

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<sup>11</sup> See <https://algorithmwatch.org/en/transparency/> for more information.

in 2018 that the topic was approached through broadened and concerted efforts in Germany (Gundlach, 2019).

In the development process of the strategy the leading ministries sent out a nationwide invitation to companies, organisations, and research institutions to contribute to the policy-making process through online consultations (Bundesregierung, 2018b, 2018c). A total of 91 participants contributed via the online consultations with the majority representing corporations, special interest groups of industry and labour, and research institutions. Participants categorised as independent civil society actors as per above definition made up less than ten percent. The composition of these civil society actors encompassed actors that are directly working on questions of digitalization and AI ranging from topic lawyers, to watchdogs, to intermediaries. In addition, a limited number of civil society organisations that do not specifically focus on digitalization and AI but rather on other areas such as environmental protection participated in the online consultations.

Following up on the online consultations, the three ministries organised expert consultations via a total of six working groups on the topics of health and care, research, transfer into economy, labour and labour market, production and industry 4.0, and mobility, logistics, and sustainability. Each group met once between September 12 and 21, 2018 (Bundesregierung, 2018a). In a joint effort the three organising ministries invited a total of 142 participants with a rather balanced representation of key players from the government, industry, and academia. The representation of civil society was less than in the online consultations with only one independent civil society actor participating in the expert consultations on labour and labour market.

In summary, the NAIS allocated three billion euros to the development of AI in Germany (Bundesregierung, 2018c). Under the umbrella term of "AI Made in Germany" the strategy identified three key threads that shall guide future developments. First, Germany and Europe shall become global leaders in AI to secure future economic competitiveness. Concrete measures to be taken within this first goal centred around the allocation of resources for capacity building in research. Additionally, initiatives such as the founding of national competence research centres and the encouragement of start-up businesses working in the field were aimed at fostering continued innovation. Second, the development of AI shall be taken responsibly and for the common good. It is to note here that the sub-points in this second question are almost exclusively focused on curbing the effects of automation on the labour market. In addition, the strategy calls for the development of up to 50 case studies implementing AI systems to address issues of environmental protection and climate change. While the strategy emphasises questions of labour and environmental protection, relevant topics of civil society actors that focus on digitalization and AI are largely absent. Further, the policy document omits a clear definition of the common good. Concluding, the strategy calls for an open dialogue within broader society and the active political participation of the public in order to ensure ethical, lawful, cultural, and institutional embedding of AI in society. Two areas the strategy mentions are privacy, which shall be addressed by involving data protection authorities and economic actors, as well as the continued development of the *Plattform Lernende Systeme* (platform learning systems) as a tool for exchange between government, economy, academia, and civil society.

On November 15, 2019, the German government released an interim report summarising a range of accomplishments related to the goals set out in the NAIS. Starting out with an overview of key statistics on the development of the AI landscape in Germany and Europe, the interim report evaluates progress made in the six topic areas originally identified through the expert consultations (Bundesregierung, 2019). The majority of this interim report is dedicated towards the progress made on capacity building in industry, on the support for academia, research, and entrepreneurship, on managing the effects on the labour market, on data sharing, and on international connections. Among accomplishments relevant to civil society concerns, the document lists initiatives aimed at increasing public exchange including the focus of the national Year of Science 2019 on Artificial Intelligence, and a restated commitment to the development of the *Plattform Lernende Systeme* as a key tool for conversations between government, economy, academia, and civil society. Further, the document references the initiation of a regular focus group on AI and labour in October 2018 by the BMAS, and a public

exchange on AI in the frame of the *Sozialpartnerempfang*, an annual forum for government leaders, industry experts, and civil society actors to exchange on the social partnership within the system of the social market economy. Lastly, the Federal Commissioner for Culture and Media initiated a special funding program for the performing arts to explore the application of AI in theatre and dance.

Forecasting future developments, the interim report outlined two initiatives by the BMAS that focused on measuring and engaging questions of AI and its impact on economy and society through a broader societal discourse. First, the establishment of the German AI observatory, an institution already outlined in the NAIS, shall proceed to explore questions and give policy advice on curbing societal and economic impacts of AI.<sup>12</sup> Second, the report outlined the model project on civic technology, a multifunctional funding platform to administer, support, and communicate a variety of projects around questions of data and the application of AI for the common good. The development of this platform aims at bringing discourse around AI into broader society and assisting in capacity-building in civil society. The platform later developed into the Civic Innovation Platform.<sup>13</sup> Concluding, the interim report points towards the development of the Update to the NAIS by November 2020.

In preparation for the Update to the NAIS the three organising ministries again called for another series of expert consultations. This second round of meetings saw a total of seven working groups in partial continuation of the original round of consultations (Bundesregierung, 2020a). The thematic groups on health and care, research, transfer into economy, and production and industry 4.0 remained, while the original group on mobility, logistics, and sustainability split into two working groups, one on AI in mobility and one on AI for the environment and climate protection. Finally, the original working group on labour & labour market transformed into the working group on the regulatory framework for the human-centred use of AI in labour and society. The seven working groups saw a total of 110 participants with the majority originating from the government, academia, and industry. Compared to the first series of consultations this round saw an increased participation of civil society actors especially within the working group on the regulatory framework for the human-centred use of AI in labour and society. This group, also being the largest of the seven working groups at 22 participants, saw the participation of topic lawyers, watchdogs, intermediary organisations, and critical media outlets working on AI and digitalization more broadly. In addition, the working group on AI for the environment and climate protection saw the participation of a large-sized international environmental protection organisation.

Following an increase in budget allocation towards AI from three to five billion euros in June 2020, the Update to the NAIS was subsequently released on December 20, 2020 (Bundesregierung, 2020b). In extension of the first strategy, the core thematic of the updated version continued to centre around the question of AI as a technology for economic growth and the need for Germany and Europe to take on a leadership role in this area. The strategy further states that the development of AI shall happen in a responsible manner and be oriented at the common good. This focus on the common good shall become known as a specific European way of approaching the technology. In contrast, to the first strategy, which was more focused on the national development of AI and only loosely mentioned human-centric AI as a factor, the updated version allocated greater importance to the latter. However, a clear definition of the common good still remains notably absent. The strategy further refers to the need for developing AI to fight pandemics, for sustainability, environmental and climate protection. In addition to purely economic measures, the document refers to the need for regulatory frameworks (norms, rules, laws etc.) and the importance of civil society in their development. The strategy mentions specifically the AI observatory and its project on developing indicators for the application of AI in labour and society, as well as the *Plattform Lernende Systeme* as key initiatives for exploring chances, challenges, and regulatory frameworks for AI.

<sup>12</sup> See <https://www.ki-observatorium.de/> for more information.

<sup>13</sup> See <https://www.civic-innovation.de/start> for more information.

To conclude, while civil society was barely involved in the making of the original NAIS, which focused mostly on economic factors, there has been an increased involvement of civil society actors in the second round of expert consultations. The resulting documents reflect an increased concern for topics relevant to civil society actors such as the development of AI for the common good, the need for regulatory frameworks to address questions in labour and society, and the sustainable development of AI and environmental protection. Nevertheless, clear definitions of the common good continue to remain absent in the policy documents. The following section focuses on the key procedural and thematic challenges that civil society actors faced in the making of the NAIS.

## 5.1 Challenges of Participatory Governance Processes

To begin with, the composition of the participating civil society actors in the making of the NAIS deserves closer attention. As previously outlined, the online consultations, as well as the first round of expert consultations only saw a limited participation of civil society. As such, the focus lies on the second round of expert hearings, which saw the working group on the regulatory framework for the human-centred use of AI in labour and society. The working group drew upon a wide-range of experts from different organisations with specific AI-related expertise. Involved organisations encompass actors that address questions of digitalization and its impact on society, independent think tanks that focus on policy recommendations, watchdog organisations critical of public applications of AI, and organisations focused on civic participation and equal representation. While each of these organisations focuses on specific thematic interests, and methodological approaches, actors generally share a common criticality towards the development and deployment of AI and its impacts on society. This shared criticality became especially visible throughout the expert consultations and might mask the heterogeneous character of civil society if investigated by itself.

The participation of civil society organisations, whose core thematic is neither AI nor digitalization more broadly, but who rather represent sectors that are impacted by the technology, was limited. The few actors that were involved focused on questions of environmental protection in the online consultations and second expert hearing, and consumer protection, only in the online consultation. While the topic lawyer's on AI were grouped together with each other in the working group on regulatory framework for the human-centred use of AI in labour and society, the environmental protection organisation was thematically grouped in the working group on AI for the environment and climate protection. Other working groups, such as the ones on health and care, or production and industry 4.0, notably lacked the involvement of civil society actors. While the composition of the expert hearings in several thematic working groups reflects the intersectoral relevance of AI, this was not reflected in terms of the involvement of civil society representatives in each of these working groups.

This relates to a major critique that was voiced by several interviewees, which was the lack of foresight in the preparation and implementation of these consultative processes. Especially questions of how to develop a technology policy strategy, as well as how to design participatory processes appeared troublesome, as one interviewee stated:

“The whole idea of strategies developed about four to five years ago. [...] It is about time to develop a sort of running system and clear means of participation. The process is certainly complex, but there is the possibility for better planning, and understanding which methods to apply. It was surprising to hear that each of the expert groups employed a different methodology.”

The invitation of participants was largely centred on a who-knows-who basis with limited concern for areas of expertise, lack thereof, or for inviting actors that are impacted most by AI. Overall, there appeared to be a sort of irritation on the side of the inviting ministries, which seemingly believed that the involvement of civil society in these processes was adequate.

Interministerial competition played another key factor in the organisation of the participatory process. Originally the consultative process was organised by the BMBF and the BMWi, both at the time ministries led by the conservative Christian Democratic Union (CDU). It was only after the BMAS, at the time under the leadership of the Social Democratic Party (SPD), was involved in the process that a concern for the involvement of civil society and a focus on human-centric AI emerged. Commenting on both participant selection and interministerial competition, one interviewee noted:

“I am questioning how and according to what criteria [participants] were selected. [...] It appeared to be on a who-knows-who basis. Who can get participants involved quickly, as the overall process was organised and structured badly. [...] The addition of the SPD-led ministry certainly helped in making participation to this extent possible. The other ministries appeared to show less concern for this.”

Interministerial competition further played a factor in the composition and the procedural organisation of the individual thematic working groups, which were implemented by different ministries or in collaboration of different constellations of ministries. In the second round of expert consultations, the working group on production & industry 4.0 was solely organised by the BMWi, whereas the working group on a regulatory framework for the human-centred use of AI in labour and society was organised jointly by the BMAS, the Federal Ministry of Justice (BMJ), and the Federal Ministry of the Interior (BMI). The selection of invited participants, modes of engagement within the working groups, as well as thematic focus areas appeared to be highly dependent on which ministry took the lead. The working group on a regulatory framework for the human-centred use of AI in labour and society was described as working through a fixed agenda during which each of the participants would put forward their specific concerns. There was no time for any discussion and overall lack of focus on problem-solving, as one interviewee stated:

“One has to say that the possibilities for interaction are relatively limited. There is a fixed agenda and when in doubt there is little room for real discussions with the amount of participants [present].”

The individual positions of the invited participants were described as fulfilling expectations. Economic and ministerial actors showed great concern for technological questions and the economic potential of AI. Participants representing more technical backgrounds, as well as civil society actors showed more critical consideration towards AI. Interestingly, while expertise on AI across the board is still lacking, leading to repetitive conversations even within the expert working groups, polarising and hardening positions appeared to be increasing compared to earlier discussions on the regulation of AI in Germany, as one interviewee noted.

To summarise, while the evolution of the NAIS saw an increased involvement and reference to civil society, it focused mainly on organisations that carry a specific expertise on AI. Other thematic areas, as represented in the composition of the expert consultations, only saw limited input by civil society. The interviewees were in agreement that the composition of the working group on regulatory framework for the human-centred use of AI in labour and society was adequate in terms of representing key civil society players focused on AI. This presented a welcome development from the first round of expert consultations. Nevertheless, there was a perceived lack of attention towards the intersectoral nature of AI beyond this working group. Interministerial competition seemed to play an important factor in the composition, forms of engagement, and thematic agendas across the working groups. While the expert consultations were lacking possibilities for critical engagement and discussion, polarising and hardening positions of key actors appeared to be increasing. Overall the interviewees showed dissatisfaction with the structure of the consultative process with one person calling upon the enabling function of the government to bring more foresight and consideration towards improving civic engagement.

## 5.2 Assessing the Impact of Civil Society on the Making of the NAIS

While civil society was increasingly involved in the making of the NAIS, without closer consultation of involved policy makers it proved difficult for both the analyst and participating civil society representatives to understand if and how civil society concerns made an impact. In terms of follow-up processes, apart from the distribution of meeting protocols there was neither a formal thematic follow-up nor any form of process evaluation in regards to the expert consultations. Similarly, the NAIS and its Update only foresee impact assessment based on quantifiable data. In addition, the drafting of the final policy document, as well as the allocation of resources took place behind the closed doors of interministerial negotiations. Two interviewees referred to this as the black boxing of the policy-making process, reflective of the technological black box of AI. Referring to the regulation of AI on German and European levels one interviewee specifically stated:

“AI regulation is a real black box, also for civil society. [...] The real political discussions regarding AI regulation take place behind closed doors.”

Comparing the NAIS with the policy recommendations and commentaries shared by participating civil society actors questions the impact of civil society concerns beyond superficial mentions of human-centric AI and the common good. Commenting on the impact of civil society concerns on the NAIS, interviewees remarked that the thematic positions put-forward by the BMAS, such as focus on questions of labour and the common good, appeared to have had limited yet increasing impact on the detailed content of the strategy. One interviewee for instance stated:

“I believe that the messages arrived. Nevertheless, with a specific focus on the AI strategy it appears that civil society voices were of less concern because the overall positioning of the BMAS was not thoroughly considered. I believe this was more related to the ministry than civil society. [...] Overall the focus lies on things such as the AI competence centres, which help to bring AI applications to corporations. It is less centred on how to use potentials for the common good or how to use regulatory tools that can aid corporations in implementing ethical and societal visions in the development of AI. [...] To summarise, civil society concerns are mainly found in the headlines of the AI strategy.”

Despite the emerging attention towards more critical questions, these thematics were first and foremost placed in the headlines of the documents. As one interviewee remarked this seemingly masked the lack of deeper concern and the lack of allocated resources for these questions. This discrepancy between the proclaimed goals in the headlines, and the actual detailed actions and allocation of resources was described as a particularly German approach towards policy-making. It further aligns with the main narrative of the strategy centering around AI Made in Germany and its concern for the economic potentials of AI in the frame of a sort of technological nationalism (Bareis & Katzenbach, 2021).

Another key concern that emerged at several points throughout the expert interviews was the question of the relevance of the NAIS and technology strategies more generally. For the interviewees the consultative processes and the making of the NAIS appeared to be more of a capacity-building and knowledge enrichment exercise for the participating ministries rather than aimed at implementing practical steps in the governance of AI. Lack of expertise not only on the side of the ministries but also with economic and civil society actors was identified by all interviewees as one if not the most central challenge in the making of the NAIS and AI regulation more broadly. Referring to the lack of expertise on the ministerial side, one interviewee stated:

“The constellation was certainly aimed at expanding the knowledge of people in the ministries. [...] It became clear that there are many people in the ministries that are lacking expertise. German ministries are staffed by economists or jurists with limited technological expertise present. It is

rare to find people with expertise in digital technologies working at the ministries. A certain amount of fundamental knowledge is essential to understand, categorise, and contextualise new expertise.”

Beyond the mere lack of technical expertise, this quote points towards questions of what counts as expertise and who is expertise-wise capable of effectively participating in consultations and discourses, which interviewees had divided opinions on. One of the interviewees with a technical background proclaimed that technical knowledge is essential to understand the effects of AI on society. Another interviewee, who is specifically working on educational and capacity-building measures for civil society and the public, called for fostering broader intersectional understandings of the impact of AI on society that go beyond mere technical aspects.

Among other hurdles for effective participation of civil society actors in the governance of AI, interviewees mentioned a lack of funding, a lack of time and human resources, and difficulties to access decision-makers as key challenges. It was critiqued that, in contrast to corporate or government actors time, and financial resources are extremely scarce in civil society. One civil society worker usually works across several different topic areas and not merely focuses on the governance of AI. The lack of time is further reflected in the limited availability of these civil society actors to participate in the interviews for this discussion paper. While everyone I reached out to remarked that they are generally interested in participating and see this sort of research as extremely valuable to their work, several actors had to decline because of the limited time available. Limited time was also credited for inhibiting civil society actors from participating in informal gatherings where a lot of connections are made and influence is taken. In contrast, economic actors seemingly have more resources available to engage in these sorts of encounters. Commenting on the limited resources available to civil society actors, one interviewee stated:

“Besides the [official] expert consultations there are many bilateral meetings, which should not be underestimated, where civil society is disadvantaged. [...] The many luncheons, various formats of exchange, and receptions in the evening; for all this civil society actors, who already have a lot to do and limited human resources, simply do not have time. In the end, this revolving-doors kind of contact is first and foremost benefitting the economic side.”

In terms of civil society being called upon by decision-makers more generally, interviewees were divided. One interviewee representing a technical background mentioned frequent exchanges with relevant ministries and decision-makers, as stated:

“We receive quite a lot of invitations to comment, vocal, as well as written. [...] Every couple of weeks, sometimes several times per week, we receive some sort of inquiry to comment.”

In contrast, another interviewee located civil society actors at the outskirts of decision-making processes:

“Civil society is seldom brought to the table and into a constructive position. [...] When civil society is left out and can only watch from the sidelines then critique and the possibility to point out key topics is what remains, rather than active participation in shifting positions to find pragmatic solutions.”

To summarise, the impact of civil society on the making of the NAIS is questionable. Emerging out of the expert interviews, as well as out of the comparison of the resulting policy documents with issues brought forward by civil society actors, the NAIS and its Update merely reference these concerns on the surface. By simply putting questions of human-centric AI or AI for the common good in the headlines of policy documents, these refrain from deeper critical engagement, concrete measures, and the allocation of resources. A lack of expertise among all involved actors was credited with posing a major hurdle for effective policy-making. In addition, a lack of

funding, time and human resources, as well as access to decision-makers and participatory processes were identified as challenges towards the involvement of civil society actors in the governance of AI in Germany.

## 6 CONCLUDING THOUGHTS

Despite a broad range of challenges faced by German civil society, it is active and vocal in addressing questions of AI governance in Germany and Europe. Both the actor and topic mappings, as well as the expert interviews support the understanding that civil society is strongly interwoven with a shared criticality towards the development and deployment of AI. However, the topics these actors address and approaches they employ are heterogeneous ranging from watchdog functions, to independent policy think tanks, to intermediary organisations, and professional associations. Civil society actors tend to approach AI under the broader umbrella of the societal impact of digitalization, which is representative of the specific German context. Concrete topics range from the monitoring of publicly deployed ADMS, to technical initiatives focused on AI auditing and testing, to a diverse range of policy recommendations. While civil society is visibly engaged in addressing questions of AI governance, this often results from being pushed into opposition rather than being invited to actively engage in policy-making processes. As such, civil society actors tend to resort to vocal critique.

When it comes to the governance of AI many of the hurdles faced by civil society in the making of the NAIS are representative of previously existing challenges. On a structural level, civil society is challenged by a notorious lack of funding, human resources, and time. These structural issues are further amplified by poorly designed governance and participatory processes. Interviewees critiqued a lack of foresight in the planning of expert consultations in the making of the NAIS. Invitation of participants took place on a who-knows-who basis, rather than surveying the landscape of relevant civil society actors and addressing the cross-sectoral impact of AI. While there was an increased participation of civil society actors in the making of the Update to the NAIS, involved participants only represented actors that work on digitalization and AI specifically. Further, these actors were grouped together in a single working group on the societal impacts of AI. Other working groups, such as the ones on health and care, or production and industry 4.0, did not involve independent civil society actors.

The composition of the different working groups throughout the expert consultations reflects an unfolding interministerial competition throughout the making of the NAIS. Invited participants, methods of inquiry, and themes of discussion were found to be highly dependent on the organising ministry and the political party in control. While the expert consultations provided input for the NAIS, the authoring of the final policy documents, as well as the allocation of resources took place via interministerial negotiations behind closed doors. Civil society actors critiqued this as a black boxing of the policy-making process, similar to black boxed algorithms. As such, it proved challenging for civil society actors to discern how much impact their input had on the NAIS. Judging from the final policy documents, civil society concerns only appear in the bold headlines. Allocation of resources, forms of impact assessment and evaluation beyond mere economic data are notably absent. This lack of evaluation measures further became visible through the absence of any kind of follow-up to the expert consultations.

Many of these structural challenges are not particular to the governance of AI. They are rather amplified through the rapid development of digital technologies more broadly. This became especially visible in the overall lack of expertise of invited participants in the consultative processes. This lack of expertise is not limited to a specific type of actor but is a cross-sectoral issue faced by civil society, state, and industry actors alike. There are divided opinions on what exactly counts as relevant expertise, and what consequently qualifies actors to participate in expert consultations. While some view a technical understanding of AI as fundamental, others emphasise a broader understanding of the societal impacts of digitalization as key. This also calls into question the lacking concern for the experience and participation of often already marginalised social groups that are most impacted by the development and deployment of AI.

Overall the findings of this discussion paper fundamentally question the enabling function of the state *vis-à-vis* civil society envisioned by the German government in the early 2000's. As outlined, the German state certainly supports civil society actors through providing project-specific, as well as long-term structural funding to organisations. Nevertheless, the vision of civil society engaging on a level playing field with state and industry actors appears far from reality. When civil society actors are lacking funding, time, human resources, and expertise, when civil society actors are not invited to the table but forced into opposition, when participatory processes are poorly designed, and when civil society concerns are only superficially addressed in resulting policy documents, one can hardly speak of civil society being enabled to actively participate in governance processes, let alone in a position equal to state and industry. Leveraging the identified potentials of civil society involvement to ensure the ethical and equitable development and deployment of AI then requires a thorough reevaluation of the relationship between civil society, state, and industry.

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## 8 APPENDIX: LIST OF CIVIL SOCIETY ORGANISATIONS IN GERMANY

| Name   | Website   |
|--|---|
| acatech – Deutsche Akademie der Technikwissenschaften e.V.                   | <a href="https://www.acatech.de/">https://www.acatech.de/</a>                               |
| AlgorithmWatch   | <a href="https://algorithmwatch.org/">https://algorithmwatch.org/</a>                       |
| Bertelsmann Stiftung   | <a href="https://www.bertelsmann-stiftung.de/">https://www.bertelsmann-stiftung.de/</a>     |
| Berufsverband der Datenschutzbeauftragten Deutschlands (BvD) e.V.            | <a href="https://www.bvdnet.de/">https://www.bvdnet.de/</a>                                 |
| Center for Advanced Internet Studies   | <a href="https://www.cais.nrw/">https://www.cais.nrw/</a>                                   |
| Chaos Computer Club e.V.   | <a href="https://www.ccc.de/">https://www.ccc.de/</a>                                       |
| Charta Digital Vernetzung  | <a href="https://charta-digitale-vernetzung.de/">https://charta-digitale-vernetzung.de/</a> |
| D64 – Zentrum für Digitalen Fortschritt e.V.                                 | <a href="https://d-64.org/">https://d-64.org/</a>   |
| Das NETTZ  | <a href="https://www.das-nettz.de/">https://www.das-nettz.de/</a>                           |
| Data Science for Social Good Berlin  | <a href="https://dssg-berlin.org/">https://dssg-berlin.org/</a>                             |
| Deutsche Gesellschaft für Auswärtige Politik                                 | <a href="https://dgap.org/de">https://dgap.org/de</a>                                       |
| Deutsche Vereinigung für Datenschutz e.V.                                    | <a href="https://www.datenschutzverein.de/">https://www.datenschutzverein.de/</a>           |
| Digital Media Women e.V.   | <a href="https://digitalmediawomen.de/">https://digitalmediawomen.de/</a>                   |
| Digitalcourage e.V.  | <a href="https://digitalcourage.de/">https://digitalcourage.de/</a>                         |
| Digitale Freiheit  | <a href="https://digitale-freiheit.jetzt/">https://digitale-freiheit.jetzt/</a>             |
| Digitale Gesellschaft e.V.   | <a href="https://digitalegesellschaft.de/">https://digitalegesellschaft.de/</a>             |
| Each One Teach One e.V.  | <a href="https://www.eoto-archiv.de/">https://www.eoto-archiv.de/</a>                       |
| Forum InformatikerInnen für Frieden und gesellschaftliche Verantwortung e.V. | <a href="http://www.fiff.de/">http://www.fiff.de/</a>                                       |
| Forum Privatheit   | <a href="https://www.forum-privatheit.de/">https://www.forum-privatheit.de/</a>             |
| Gesellschaft für Datenschutz und Datensicherheit e.V.                        | <a href="https://www.gdd.de/">https://www.gdd.de/</a>                                       |
| Gesellschaft für Informatik e.V.   | <a href="https://gi.de/">https://gi.de/</a>   |

|   |   |
|---|---|
| <b>Gunda Werner Institut</b>  | <a href="https://www.gwi-boell.de/en/home">https://www.gwi-boell.de/en/home</a> |
| <b>I.D.I. Interessenverband Deutsches Internet e.V.</b>             | <a href="https://idi.de/">https://idi.de/</a>                                   |
| <b>Initiative D21</b>   | <a href="https://initiated21.de/">https://initiated21.de/</a>                   |
| <b>IOTA Stiftung</b>  | <a href="https://www.iota.org/">https://www.iota.org/</a>                       |
| <b>iRights.lab</b>  | <a href="https://irights-lab.de/">https://irights-lab.de/</a>                   |
| <b>Jugend Hackt</b>   | <a href="https://jugendhackt.org/">https://jugendhackt.org/</a>                 |
| <b>KI &amp; Wir</b>   | <a href="https://ki-convention.com/">https://ki-convention.com/</a>             |
| <b>KI Campus</b>  | <a href="https://ki-campus.org/">https://ki-campus.org/</a>                     |
| <b>Kiron Open Higher Education gGmbH</b>                            | <a href="https://kiron.ngo/">https://kiron.ngo/</a>                             |
| <b>Liquid Democracy e.V.</b>  | <a href="https://liqd.net/">https://liqd.net/</a>                               |
| <b>LOAD e.V. - Verein für liberale Netzpolitik</b>                  | <a href="https://www.load-ev.de/">https://www.load-ev.de/</a>                   |
| <b>mediale pfade.org – Verein für Medienbildung e.V.</b>            | <a href="https://medialepfade.org/">https://medialepfade.org/</a>               |
| <b>netzpolitik.org e. V.</b>  | <a href="https://netzpolitik.org/">https://netzpolitik.org/</a>                 |
| <b>Neuland 21 e.V.</b>  | <a href="https://neuland21.de/">https://neuland21.de/</a>                       |
| <b>NODE Verein zur Förderung Digitaler Kultur e. V.</b>             | <a href="https://nodeforum.org/">https://nodeforum.org/</a>                     |
| <b>Open Knowledge Foundation Deutschland</b>                        | <a href="https://okfn.de/">https://okfn.de/</a>                                 |
| <b>OpenLabNet</b>   | <a href="https://openlab-halle.de/">https://openlab-halle.de/</a>               |
| <b>School of Machines</b>   | <a href="https://www.schoolofma.org/">https://www.schoolofma.org/</a>           |
| <b>science2public – Gesellschaft für Wissenschaftskommunikation</b> | <a href="https://www.science2public.com/">https://www.science2public.com/</a>   |
| <b>Stifterverband für die Deutsche Wissenschaft e.V.</b>            | <a href="https://www.stifterverband.org/">https://www.stifterverband.org/</a>   |
| <b>Stiftung Datenschutz</b>   | <a href="https://stiftungdatenschutz.org/">https://stiftungdatenschutz.org/</a> |
| <b>Stiftung Neue Verantwortung</b>                                  | <a href="https://www.stiftung-nv.de/">https://www.stiftung-nv.de/</a>           |
| <b>SUPERRR Lab</b>  | <a href="https://superrr.net/">https://superrr.net/</a>                         |
| <b>Tactical Tech</b>  | <a href="https://tacticaltech.org/">https://tacticaltech.org/</a>               |
| <b>Trusted AI GmbH</b>  | <a href="https://www.trusted-ai.com/">https://www.trusted-ai.com/</a>           |
| <b>Verbraucherzentrale Bundesverband e.V.</b>                       | <a href="https://www.vzbv.de/">https://www.vzbv.de/</a>                         |

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\* Listed organisations frequently work or comment on questions of AI and its impact on society in relation to their specific field of interest.

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