#03
April 2025

Ethical Governance of AI and the Prevention of Digital Authoritarianism in South and Southeast Asia:

Case Studies of India and Singapore

Dr. Sangeeta Mahapatra

DIGITAL COOPERATION WITH GLOBAL PARTNERS

POLICY STUDY

GIGA
German Institute for Global and Area Studies
Leibniz-Institut für Globale und Regionale Studien

Author

Dr. Sangeeta Mahapatra is a Research Fellow at the GIGA Institute for Asian Studies, Hamburg, working on AI and Internet Governance, Digital Authoritarianism, Countering Disinformation, and Building Cyber and Democratic Resilience. She focuses on South and Southeast Asia, collaborates with local civic partners, and has led research projects that have academic, policy, and social impacts.

About the Digital Transformation Lab (DigiTraL)

GIGA's Digital Transformation Lab (DigiTraL) is funded by the Federal Foreign Office and analyses the political drivers and real-world consequences of the digital transformation taking place around the world. The Global South in particular is an important actor in and shaper of this transformation. In the first phase (2021-2023) of the project, the focus was on digital diplomacy and on analysing the question of what new opportunities, challenges and instruments the digital transformation offers for German foreign policy. The second phase (2024-2025) concentrates on analysing the opportunities that digitalisation offers for Germany's cooperation with global partners. Central questions include: Where do individual countries and regions in the Global South stand with regards to digitalization? Where are the points of contact for (tech) partnerships with Germany? Where are new developments arising (e.g. emerging threats from digital disinformation, related reactions, and interventions in the Global South)? What cooperative relationships exist in the field of digitalization in the Global South, and how can the German government and other actors in Germany best respond to this? The current phase of DigiTraL is headed by Dr. Iris Wieczorek, Senior Research Fellow at the GIGA Institute for Asian Studies. For more information, please have a look here.

GIGA
German Institute for Global and Area Studies
Leibniz-Institut für Globale und Regionale Studien

Ethical Governance of AI and the Prevention of Digital Authoritarianism in South and Southeast Asia: Case Studies of India and Singapore

Sangeeta Mahapatra

Abstract

The initial enthusiasm for artificial intelligence (AI) systems has given way to a more balanced reflection on their impacts. AI's potential – both transformative and disruptive – depends on governance. The 2025 Paris AI Summit marked a shift in government priorities from AI safety to security, regulation to innovation, and global to national strategies. However, given AI's transnational nature, a globally accepted ethical governance framework is crucial.

This paper contributes to such a framework by offering insights for the EU – specifically Germany, a key player in shaping the EU AI Act. It examines AI governance in India and Singapore – two emerging AI powers investing in skills, infrastructure, and innovation. Their distinct strategies reflect national priorities and global ambitions. While advocating AI democratisation, they may also face risks of authoritarianism enabled by AI technologies.

The paper provides policy recommendations through three sections: (1) a comparative analysis of India's and Singapore's AI governance frameworks; (2) insights on AI risk regulation, innovation incentives, and countering digital authoritarianism; and (3) recommendations for Germany's cooperation with India and Singapore on regulation, R&D, trade, and security. Ethical AI governance must ensure equity, sustainability, and global cooperation, preventing AI's misuse while maximising its benefits.

Policy Recommendations

A global ethical AI governance framework is essential to ensure that AI development aligns with democratic values, economic progress, and societal well-being while mitigating risks of misuse. The following policy recommendations identify key areas of collaboration between Germany, India, and Singapore – three influential AI powers from Europe, South Asia, and Southeast Asia – offering pathways for regulatory alignment, innovation, and responsible AI deployment.

To ensure a holistic approach to AI governance, Germany can collaborate with India and Singapore on four key aspects: regulatory mechanisms and models, research and development, trade and investment, and security and resilience.

- *Regulatory Mechanisms and Models*: Germany can establish strategic AI governance frameworks with India and Singapore through bilateral regulatory alignment initiatives. This includes specialised working groups and joint certification protocols, enabling expedited AI safety approvals in sectors such as healthcare and transportation. Ministerial-level meetings between digital and trade ministries of each country before global AI governance negotiations can ensure policy coordination, promoting their joint visions and interests regarding AI.

Given AI's evolving risks, joint monitoring mechanisms can facilitate real-time risk assessments and mitigation strategies. Learning from India's and Singapore's hybrid AI governance models, Germany can adopt a participative policy-making process while maintaining government-led implementation. A whole-of-government to whole-of-society approach can bridge the gap between innovators, regulators, and academia, enhancing ethical AI cooperation. AI Safety Institutes (ASI) could serve as global standard-setters. Expanding responsible AI's scope to human rights, labour protections, and environmental sustainability can transform AI from a productivity tool into a force for social good.

- *Research and Development:* Germany can establish joint research hubs with Indian and Singaporean institutions to advance ethical AI development. Collaborations in computing infrastructure and socio-technical standards can drive AI safety benchmarks for autonomous systems. Researcher exchange programmes can facilitate knowledge transfer, allowing German researchers to gain insights into India's large-scale AI applications and Singapore's urban AI innovations.
- *Trade and Investment:* India's and Singapore's regulatory sandboxes promote AI innovation while allowing sector-specific flexibility. Germany can benefit by positioning sectoral regulations with these frameworks, expediting market access for AI products and services. Digital fast-track channels can streamline investment processes, enabling concurrent approvals across participating countries.

  Germany can also establish joint investment funds to drive sustainable AI solutions in areas such as climate tech. The focus should be on not only large AI models but also small-scale models (SSMs) for operational efficiency. Learning from India's digital public infrastructure (DPI), Germany can democratise AI technology to expand e-governance and fintech accessibility. To avoid impeding innovation, regulatory measures should not impose excessive burdens on startups and emerging AI markets.
- *Security and Resilience*: Germany can shift AI regulations to focus on outcomes rather than internal mechanics, aligning AI policies with existing EU regulations such as the GDPR. Collaboration with India's and Singapore's civil society organisations can enhance AI-driven misinformation detection and election security. Joint AI security frameworks can protect AI infrastructure against emerging cyber threats, while coordinated vulnerability assessments and incident response mechanisms can bolster Germany's security posture beyond the EU.

  To prevent AI misuse for authoritarian control, Germany can promote transparency measures such as government AI transparency reports. These reports can document AI usage, ensuring accountability and ethical compliance. AI Safety Institutes can further act as oversight bodies to evaluate government AI initiatives. Germany can lead the EU in de-risking AI as an authoritarian technology by discouraging business collaborations with illiberal governments and restricting AI's use in destructive military applications.

  By strengthening regulatory cooperation, advancing research collaborations, fostering ethical AI trade, and ensuring security resilience, Germany can establish a comprehensive AI governance model. Working with India and Singapore, Germany can help shape AI as an equitable, sustainable, and innovation-driven technology while preventing its misuse for control and authoritarian purposes.

Outline

Introduction

This paper comes at a time when there has been a significant shift in artificial intelligence (AI)[1] governance driven by political leadership changes, market disruptions, and evolving security concerns. In 2024, government discussions centred on establishing ethical global standards for AI. By 2025 their priorities had shifted toward AI sovereignty and market dominance, as seen at the Paris AI Summit (10–11 February 2025), co-hosted by France and India.

At the summit, governments largely favoured market-led innovation over ethics-driven regulation (Dastin et al. 2025). This came on the heels of the US, the market leader in AI (Stanford HAI Staff 2024),[2] rolling back AI restrictions including on high-risk tech developed by AI companies (Wheeler 2025), and China, the second major AI player, releasing DeepSeek, challenging the dominant AI investment model of Western tech giants (Bhattacharya 2025). Immediately after the summit, the UK, the third major AI power, which had held the first AI Safety Summit and established the first AI Safety Institute in the world, rebranded this institute as the AI Security Institute, focusing on security threats to AI systems rather than on ethical aspects of AI development (Poireault 2025). Unlike the previous summits at Bletchley Park (2023) and Seoul (2024), the US and UK did not sign the Paris Summit's joint declaration on AI, which contained non-binding commitments on sustainable and inclusive AI (Élysée 2025). To stay competitive, the EU, once a leader in AI regulation with its AI Safety Act, has toned down on its position on stringent regulations (Haeck et al. 2025). This has weakened the quest for global ethical AI governance. It has also raised concerns about tech-driven authoritarianism.

False Binary between Regulation and Innovation

AI is a powerful, transformative tech that is being integrated into every aspect of life, changing the way people think, work, and live. As a whole-of-society concern, it needs a multi-stakeholder model of governance, which demands democratic accountability from governments and corporations on their AI policies and practices.

Regulation, which is at the heart of AI governance, has become a dirty word. When a discussion on AI governance pits regulation against innovation, it scores a narrative victory for Big Tech. Research has shown there are multiple factors that can impede digital innovation (Bradford 2024). Overregulation is a problem – not regulation, which ensures ethical and responsible AI development.

As AI evolves from *generative AI* (content-creating models)[3] to *agentic AI* (autonomous decision-making systems)[4] and *artificial general intelligence/AGI* (computer systems having

1 Artificial intelligence (AI), is a broad field of technology that includes generative models (which create new content), agentic systems (which autonomously interact with environments to achieve goals), and the yet-to-exist artificial general intelligence/AGI (which is capable of human-like reasoning and adaptability across diverse tasks). In this paper, the term "AI" encompasses generative and agentic AI.

2 The Stanford University Human-Centered Artificial Intelligence's Global Vibrancy Tool 2024 is a tracker on Global AI power that aggregates 42 AI-specific indicators to provide a comprehensive, quantitative view of countries leading in AI, ranks the top AI powers in descending order as the US, China, the UK, India, UAE, France, South Korea, Germany, Japan, and Singapore.

3 As per Microsoft's explainer on 'What is Generative AI', generative artificial intelligence is a subset of artificial intelligence that analyses data to find patterns, learn new complex structures, create new content, adapting and improving over time.

4 Agentic artificial intelligence can do a range of tasks on a user's behalf, is more active than assistive artificial intelligence, and is capable of autonomous decision-making tailored to specific tasks and information environ-

human-like cognitive abilities capable of outperforming humans in any intellectual task),[5] the stakes are getting higher, demanding a careful balance between regulation and innovation to ensure both progress and safety. For a leading EU country such as Germany, this is a critical time to chart its path in AI development and steward the discussions on AI governance. As the US turns more inward-looking, emerging AI economies are making their presence felt in the global arena.

Examining emerging AI leaders such as India and Singapore – who balance regulation with innovation despite strong state-led policies – offers valuable lessons for Germany. This comparison can highlight cooperation opportunities in AI governance, development, and trade while reinforcing global ethical standards for AI.

India and Singapore as Pivotal AI Powers

AI governance covers a wide range of issues related to the lifecycle, use, and impact of an AI product, service, and infrastructure. As AI is dynamic and fast-evolving – with its different components serving different needs and having varied impacts – an AI governance framework needs to be equally dynamic and adaptive, tailored to the different components of AI development and use.

Governments, by and large, view AI as a power-enhancing and a prestige-building capability. In this sense, having their value positions and priorities reflected in globally applicable AI governance frameworks can be a way to ensure their national interest and maintain their competitive edge (Adams 2025). Post–Paris Summit, the EU seems to be veering towards protectionism, which could be counter-productive. For Germany, strengthening its domestic industry and being part of a regional common market and infrastructure can happen in tandem with strategic partnerships with emerging AI powers on governance and trade.

India and Singapore are ranked fourth and tenth, respectively, in the Global AI Power list (Stanford HAI Staff 2024). According to Stanford's AI Index Report 2024, India ranks first globally in AI skill penetration with a score of 2.8, followed by the US at 2.2 and Germany at 1.9 (Maslej at al. 2024). When it comes to government's AI capacities, Oxford Insights' Government AI Readiness Index 2023 ranks Singapore second after the US, and India is ranked 40th amongst 193 governments in the world (Oxford Insights 2023).

Following an "open arms approach to AI" (Mcque et al. 2025), India's investments in AI skyrocketed in 2024. The Indian government earmarked USD 1.25 billion for its AI India Initiative (Ghosh 2024). American firms such as Microsoft, Meta, and Amazon are inking million-dollar deals in India to build AI skills and capacities. Following an "AI forward strategy" (integrating AI into every aspect of governance and economy), Indian state governments are adopting AI tools, and domestic companies are building AI models, though mostly on top of US-made platforms (Mcque et al. 2025).

India is keying up to be a leader in global AI standard-setting. As the lead chair of the Global Partnership in AI (GPAI), it hosted the GPAI members in the Global India AI Summit, 3–4 July 2024. At the summit, the government presented its goal of ethical AI governance and of "developing AI in India, for India, and for the world"– stressing building its indigenous capacities

ments. See: Susanna Ray. (2024). 'AI Agents: What they are, and how they'll change the way we work', Microsoft, November 19, https://news.microsoft.com/source/features/ai/ai-agents-what-they-are-and-how-theyll-change-the-way-we-work/.

5 AGI may exist in future though this is hotly debated.

based on its national strategy for national and international applications (India AI 2024a). At the G20 meeting in Rio de Janeiro in November 2024, India sought to guide the global conversation on AI governance with its vision of democratic AI envisaged through its digital public infrastructures (DPIs), offering to share its knowledge on DPIs.

At the Paris AI Summit, unlike the US and certain European Commission representatives, who focused on domestic regulatory frameworks, India and Singapore emphasised international cooperation underlining the "transboundary nature of AI." As co-host of the summit and host of the forthcoming AI summit in 2026, the Indian prime minister Narendra Modi emphasised,

> "We must also make the 'Global Partnership for AI' truly global in nature. It should be more inclusive of the Global South and its priorities, concerns, and needs" (Ministry of External Affairs 2025).

While India is growing into its role as a shaper of global AI governance while building its domestic AI capabilities, Singapore seems to define and refine its rules of ethical AI governance and make its presence felt through a combination of business and bilateral initiatives. During the Paris Summit, it introduced new AI governance initiatives, including the Global AI Assurance Pilot, a joint testing report with Japan, and published the AI Safety Red Teaming Challenge Evaluation Report to enhance AI safety locally and globally (Infocomm Media Development Authority 2025). While India is averse to any one country or entity being a super-regulator (Lobo 2024), both countries agree on the desirability of having a global framework.

Multi-Stakeholder, Multi-Sectoral Governance Model

This paper takes a grounded view of ethical AI governance, based on a cross-contextual understanding of the concept.[6] AI governance has two key facets: (a) regulations ensuring responsible AI use and preventing authoritarian misuse, and (b) enablers fostering AI innovation. Ethical AI governance balances both within a framework of responsible AI – developing and using AI ethically for individuals, communities, and states.

Key principles of "responsible AI" include fairness (non-discrimination), transparency (understandability), accountability (clear responsibility), privacy (data protection), and security (safeguarding AI from attacks). These require continuous oversight, risk assessment, and monitoring. While many countries share these ethical AI norms, their regulatory approaches vary in scope and strictness.

India and Singapore adopt a government-led, multi-sectoral, and multi-stakeholder AI governance model, blending government oversight, industry standards, and self-regulation. Given AI's complexity and global impact, experts advocate for "hybrid governance," decentralising discussions while centralising decision-making and aligning national and international ethical AI frameworks. This model demands high accountability from both governments and private sector actors, as states remain AI's most powerful users.

6 This is derived from recurring traits found in different definitions of "ethical AI" including suggestions on what it needs to comprise. See: Thilo Hagendorff. (2024). 'Mapping the Ethics of Generative AI: A Comprehensive Scoping Review', *Minds & Machines* 34, 39, https://doi.org/10.1007/s11023-024-09694-w.

Aims and Purposes

This paper, based on desk research and expert interviews,[7] aims to contribute to a globally applicable, practical, and ethical AI governance framework. It explores opportunities for knowledge transfer, convergence, and cooperation between these regions and the EU, particularly Germany. Focusing on India and Singapore as emerging AI powers, the paper compares their AI governance approaches with the EU AI Act 2024, highlighting similarities and differences. It then distils three key policy insights : (a) balancing innovation and regulation, (b) democratising AI technology, and (c) mitigating AI-driven digital authoritarianism. The paper concludes with broader policy recommendations based on these insights.

Ethical AI Governance of India and Singapore

India and Singapore are actively developing their AI governance frameworks though they do not have a separate AI Act like the EU. They do follow key global guidelines. This is the rights-respecting, human-centric approach to AI outlined by the OECD AI principles (2019) for Singapore (as a non-member) and G20 AI principles derived from the OECD AI principles for India.[8] Following the market mainstreaming of generative AI, they subscribe to the Hiroshima AI Process (2023), the first international guiding principles and code of conduct for promoting safe, secure, and trustworthy advanced AI systems (Hiroshima AI Process 2023), and the Bletchley Declaration (2023) for collective understanding and countering of AI risks (Gooding 2023). They converge on ethical AI being collectively ideated, drafted, and implemented. This counters the discourse on AI governance done the “American way” or “European way” – which presumes value primacy of the Western countries and creates friction if risk classification and regulation is imposed on other countries, especially emerging powers.

As AI governance works as a multi-stakeholder model, governments, corporates, and civic actors in India and Singapore find it prudent to sync their value positions and priorities with global guidelines present in the charters of big tech companies such as Microsoft (which works closely with the governments of India and Singapore on high-impact, high-investment projects, as do other corporates such as Google, Meta, and AWS) and major civic organisations such as Partnership on AI, the AI Now Institute, Access Now, and the Electronic Frontier Foundation (which mostly inform digital rights civil society organisations in India).[9] These actors emphasise mitigating bias, protecting civil liberties, and risk-auditing and risk-proofing AI. While the civic actors emphasise individual rights, most South and Southeast Asian governments tend to emphasise social welfare with human rights being intrinsic to any conception of such welfare.[10]

7 Ten AI experts who have policy experience and knowledge of AI governance were interviewed for this paper. Seven were from India, comprising two policy experts working in big corporations, one policy expert from a start-up, three digital rights experts, and one AI policy expert/consultant. Three experts were from Singapore including policy experts from corporates and one researcher. The interviews were based on informed consent. All except one AI expert from India have been anonymised as per their request.

8 OECD Principles of AI, adopted in 2019, was updated in 2024, and is available at https://oecd.ai/en/ai-principles.

9 Online interview of tech policy expert from a big tech firm based in Bengaluru, India, December 9, 2024; Online interview of digital rights expert based in Hyderabad, India, November 27, 2024; Online interview of tech researcher based in Singapore, October 17, 2024.

10 Online interview of digital rights expert based in Hyderabad, India, November 27, 2024.

This makes them view AI as a "public good" and AI infrastructure as a "public utility." This does not, however, stand in the way of their promotion of AI as a "private innovation."

Certain aspects of AI governance are unique to India and Singapore, while others are shared. Some of the shared aspects additionally align with the European Union AI Act of 2024 – the first comprehensive legislation to provide a detailed categorisation of AI risks and corresponding regulations.

India's Approach

India is more focused on sectoral regulation, incorporating AI provisions into existing laws for specific sectors such as healthcare, defence, and finance. This approach is designed to address specific risks and opportunities in each sector. It also creates incentives to fast-track AI development and adoption.

Key policy frameworks in India include the National Strategy for Artificial Intelligence (2018), which outlines India's vision for AI development and adoption (Nitia Aayog 2018); the Principles for Responsible AI Approach Document (2021), which delineates ethical guidelines for AI development and use (Niti Aayog 2021a, 2021b); the Digital India Act (to be enacted), an omnibus legislation that would govern all aspects of the digital ecosystem (Ministry of Electronics and Information Technology 2023); and the National Data Governance Framework Policy (2022), a draft that focuses on data governance and its implications for AI development (Haridas et al. 2023). The latter aims to promote an AI ecosystem for research and start-ups in India, achieved by establishing an extensive repository of datasets. The Ministry of Electronics and Information Technology (MeitY) is developing voluntary ethical guidelines for AI and generative AI firms to promote responsible and transparent AI practices. It is also establishing an India AI Safety Institute to ensure the ethical and safe deployment of AI models, with a focus on India's socio-economic and cultural landscape (Press Information Bureau 2025). In March 2024, it also issued advisories requiring AI platforms to prevent unlawful content, mitigate bias, and label under-tested models to enhance transparency for users (DD News 2024). AI governance also includes existing laws such as the Information Technology Act (2000) and the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules (2021). As an interviewee from a big tech firm in India said, "When we do business in a country, we follow their national legislations alongside the best practices and code of conduct outlined in our company charter."[11] However, in the fiscal year 2025/26, MeitY allocated INR 2,000 crore (approximately USD 232 million or EUR 213 million) to the IndiaAI Mission, but only INR 2 crore (approximately USD 233,600 or EUR 215,300) in the fiscal year 2025 to establish and cover salary expenses for the Data Protection Board. It plans to increase this allocation to INR 5 crore (approximately USD 584,000 or EUR 538,500) in the fiscal year 2026. This indicates a prioritisation of innovation over data protection.

In its quest for innovation, India promotes public–private partnerships (PPPs) in a big way. In the PPP model of AI development and promotion, corporate ethics harmonise with governance ethics in AI governance.

IndiaAI, under MeitY, serves as the implementation agency for the government's IndiaAI Mission, aiming to democratise AI benefits across all segments of society, strengthen India's global leadership in AI, ensure self-reliance, and embed ethical and responsible AI use in governance and commerce (India AI 2024b). It engages stakeholders from industry, academia,

11 Online interview of tech policy expert from a big tech firm based in Bengaluru, India, December 9, 2024.

and civil society in collaborative projects to mitigate AI harms and promote fairness in AI practices. This approach balances enabling mechanisms for ethical AI development with regulatory measures targeting sector-specific risks. In essence, the strategy is: first, innovate while adhering to general ethical and best industry practices; then, refine regulations based on a deeper understanding of AI outcomes.

Singapore's Approach

Singapore follows an approach to AI governance similar to India's, tailoring regulations and guidelines to specific industries while providing a few general guidelines. This allows for flexibility in AI adoption while ensuring accountability and ethical considerations in high-impact sectors such as finance, healthcare, and transport. Key policy frameworks in Singapore include the Model AI Governance Framework (2024), which outlines a set of principles and best practices for AI development and use (Infocomm Media Development Authority 2024b); Model AI Governance Framework for Public Sector (2024), which specifies ethical guidelines for public sector organisations (Infocomm Media Development Authority 2024b); AI Governance Playbook for Digital Forum of Small States (2024), which addresses the constraints and challenges small states face and provides a trusted AI ecosystem for collaboration and creation of AI products for public benefit (Infocomm Media Development Authority 2024b); and the Personal Data Protection Act (2012), which includes provisions on personal data protection, including on AI.[12] While India and Singapore emphasise ethical AI development, Singapore's framework seems to be more explicit.

Similarities and Differences Vis-à-Vis the European Union AI Act

The pursuit of global ethical AI begins by identifying common ethical priorities. Indian and Singaporean AI governance provisions align with the European Union AI Act (2024) in several ways. First, all three are increasingly adopting a risk-based approach to AI governance. However, they differ in the degree of their emphasis and execution of such an approach. The EU AI Act classifies AI systems into four risk categories – minimal/no, limited, high, and unacceptable – each with corresponding oversight and regulations. India and Singapore regulate high-risk AI, with India taking an issue-based approach, such as addressing risks from deepfakes. Second, like the EU AI Act, both countries have frameworks that embed fairness, transparency, and accountability throughout the AI lifecycle. Third, they emphasise human oversight to ensure responsible AI development and deployment, mirroring the EU AI Act's approach. As an interviewee said, "The human is always in the loop."[13] Fourth, the EU AI Act requires high-risk AI systems to be explainable, while India and Singapore treat explainability as a key aspect of ensuring transparency in AI development and usage.

India and Singapore differ from the EU in several key aspects. First, the EU AI Act serves as a comprehensive legal framework, whereas India and Singapore regulate AI through a mix of existing laws and guidelines. Second, the EU AI Act enforces strict penalties and fines, while

12 Singapore claims to promote a 'balanced approach' to AI governance innovation and consumer safety while providing a global reference point. See: Personal Data Protection Commission, Government of Singapore, 'Singapore's Approach to AI Governance', https://www.pdpc.gov.sg/help-and-resources/2020/01/model-ai-governance-framework.

13 Online interview of tech researcher based in Singapore, October 17, 2024.

India and Singapore rely on existing regulatory bodies with less developed enforcement mechanisms. Third, the EU AI Act applies cross-sectoral regulations, covering a broad range of AI applications, while India and Singapore regulate AI within specific sectors such as healthcare, finance, and transportation. Fourth, despite adopting a risk-based approach, India and Singapore classify risks less granularly than the EU AI Act, resulting in less specific oversight and regulations for each risk category. Fifth, the EU AI Act imposes legal obligations on AI developers and deployers for ethical compliance, whereas India and Singapore primarily depend on ethical guidelines and voluntary codes of conduct. Finally, while the EU AI Act integrates AI governance with data protection (though the General Data Protection Regulation of the EU needs to be updated to respond to growing AI-related data concerns), India and Singapore have yet to explicitly align their AI regulations with data protection laws.

The EU AI Act represents a more proactive and stringent approach to AI regulation. India and Singapore have adopted a gradual and less prescriptive approach. It will be interesting to examine how these countries adapt their regulatory frameworks as they try to forge ahead as global leaders in AI. Being global standard-setters on AI innovation entails being global standard-bearers of ethical AI governance.

Policy Insights

A common refrain among AI experts interviewed for this paper is to approach any discussion on regulating generative/agentic AI as part of a broader AI policy.[14] As a multi-stakeholder concern, ethical AI regulations are most effective when developed through broad consultation and collaboration. They should be complemented by industry best practices to ensure both accountability and innovation. Discussions with government, corporate, and civil society stakeholders highlight two key regulatory challenges: (a) balancing necessary regulations with incentives for innovation, given AI's dynamic and evolving nature, and (b) focusing regulations on AI's end use, particularly to prevent its misuse for illiberal and authoritarian purposes. These concerns shape the following policy insights, which can help inform the EU's approach, particularly Germany's policies.

Policy insights focus on three key aspects of ethical AI. First, they address the challenge of regulating AI without stifling innovation. Second, they examine how AI models should be perceived – whether to continue focusing on Large Language Models and deep learning, which reinforce the dominance of big tech and AI-leading countries such as the US, or to shift towards small-scale AI innovations that democratise AI. Third, they explore ways to mitigate the risk of AI enabling digital authoritarianism, which can be countered by broadening AI access – not only among developers and deployers but also by empowering end-users.

Balancing Innovation with Regulation

The first step is about deciding what can be regulated and what cannot be regulated. As Jason Furman, professor of economic policy at Harvard University and former chairperson of the White House Council of Economic Advisors, opines, "not every problem caused by AI can be

14 Online interview of AI policy expert from a big tech company based in Bengaluru, India, December 9, 2024; Online interview of AI tech expert from a big tech company based in Mumbai, India, November 17, 2024; Online interview of Sagar Vishnoi, domain expert, November 12, 2024, India.

solved by regulating AI" (Furman 2024). In essence, not all problems are problems of regulation. For example, as Furman notes, regulators cannot fully assess or answer the risk of AI as job-replacing or inequality-increasing tech. The solutions to income inequality and job loss are to be found in more conventional economic policies such as creating a skilled labour force that connects their training to industry demands and having a progressive tax and transfer system that allows equitable distribution of the benefits of AI (Furman 2024). This is iterated by experts who caution against a blanket strategy of excessive regulation without accounting for the different uses of AI tech.[15]

This leads to the second insight on understanding the different uses and outcomes of AI. This follows from some of the key tenets of ethical AI usage, specifically on responsibility and transparency. It is important to understand and explain as much as possible the outcomes of AI despite their probabilistic nature. Microsoft was among the first companies to come out with a Responsible AI Transparency Report.[16] The focus of developers is often on how to make AI effective in real-world situations where the information may be complex or noisy. It is difficult for them to predict actual harmful outcomes. However, that does not detract from the fact that guardrails must be put in place against their misuse. Several big tech companies such as Microsoft, IBM, and others identify such guardrails as their working principles. These include principles of transparency, fairness, reliability, privacy, trust, safety, and accountability. However, rights groups often claim that these principles need to be demonstrated in action and in their outcomes. For example, there is a growing debate on the "fair use" principle (Barber 2023). Current AI products are trained on large-scale datasets claiming the fair use principle. However, they may create products that might look like a substitute of the data they are trained on. This may be a violation of copyright law.[17] While this relates to infringing intellectual property by the product created by AI, there can also be offline harms – products may directly impact people's reputations, cause political unrest, facilitate invasive health profiling, or create destructive military devices (Blum 2024 ; Marr 2023).

In response to a question on whether there can there be a blanket categorisation of risk applicable to all AI products, a policy expert from a big tech company said,

> "Different AI apps and products have different uses and outcomes. There should be explainability on these products and outcomes by companies to the extent possible. The practical and effective way to regulate is to put in guardrails for specific and sensitive use cases like defence, healthcare, finance and all other cases that have direct consequence on people's lives. Companies follow best practices of business in general and for AI, specific guardrails can be put in place for certain domains."[18]

15 Online interview of AI policy expert from a big tech company based in Bengaluru, India, December 9, 2024; Online interview of AI policy expert from start-up based in Kolkata, India, December 3, 2024; Online interview of AI policy expert from Singapore in Berlin, Germany, November 18, 2024.

16 The 2024 Responsible AI Transparency Report of Microsoft outlines specific requirements of generative applications based on their Responsible AI Standards throughout the development and deployment cycle, as well as risk-mapping by their AI red teams, and managing these risks to reinforce trust in democratic processes and information ecosystems. The full report can be accessed at: https://cdn-dynmedia-1.microsoft.com/is/content/microsoftcorp/microsoft/msc/documents/presentations/CSR/Responsible-AI-Transparency-Report-2024.pdf.

17 Online interview of digital rights expert based in Hyderabad, India, November 27, 2024.

18 Online interview of AI policy expert from a big tech company based in Bengaluru, India, December 9, 2024.

This is restated by certain economic policy experts who feel that while new regulations for AI are needed, given the different uses of AI, it is more prudent to have domain-specific regulators. This is similar to the approach for other specialised industries such as medical devices, automobile safety, and stock markets (Furman 2024). This is because the AI regulators would need to have more expertise and be more adaptable to the shifting developments in their entrusted domain. This view of domain-specific approach to AI regulation opposes having a super-regulator. The case against having a super-regulator is made primarily on three grounds:

a) A super-regulator might tilt towards blanket regulations on AI that might slow down innovation. There is a need to perform a risk–benefit analysis for different types and uses of AI. Just as there is a need to think of the risks of AI, there is a need to think of the risks of having no or less AI (Furman 2024). If excessive regulation hampers innovation or creates excessive regulatory burdens, especially on small and medium enterprises (SME)/start-ups or less developed/developing countries, they will be left in an insecure position in a world where AI is critical to economic growth and development. Further, a state that willfully subjects itself to excessive regulation might risk having AI capacity and capability deficits, which will make that state beholden to those states that have AI capacity and capability surpluses.
b) There will be pushback against any one state or organisation being a super-regulator globally. When viewed from an AI arms race perspective, regulations might be weaponised to entrench state power. Leading AI powers such as the US and China signal AI dominance as critical to ensuring their national interest and security. Regulations can mutate into protectionism for ensuring their dominance in the AI race, rather than promote collaborations in the AI space (McBride and Ball 2024). As each state has a different degree of competency, accessibility, and usage of AI, as well as different norms, those with a first-mover advantage might gatekeep AI and try to establish their dominance over other states. A state that is an AI super-regulator will try to be an AI superpower.
c) A single corporation might set the benchmarks of regulation in a way so as to gatekeep AI and establish a monopoly over it (Furman 2024).

This does not mean that there cannot be some standardisation on ethical AI governance across the world. To make it clear, the proponents of domain-specific regulation are advocating for a more nuanced and balanced approach to AI regulation. They are against a top-down imposition of AI regulations by one super-regulator. The domain-specific regulation on AI also extends to having context-sensitive AI ethics. As scholar Rachel Adams puts it, there seems to be a dominance of Eurocentric ideas of morality, legality, or governance, and individual personhood in discussions around global AI ethics frameworks that do not fully grasp structural inequalities and harms that pervade outside North America and Europe (Adams 2025). She cautions against AI ethics becoming another rhetorical device within the broad empire of AI through which Eurocentric ideas get projected as superior. This leads to pushback – for example, India averring it would not follow heavy regulations of the European model or American model but have its own strategy (Lobo 2024).

Another insight is on placing regulatory attention on outputs of AI components. This can be related to domain-specific approach – that is, what kind of regulatory approach would work in which AI domain and its output. Take, for example, generative AI applications that may produce false information. This can directly impact fields dependent on factual information including

journalism, healthcare, law, and finance. A domain-specific regulatory approach can be extended to focus on outputs of such AI components. A paper by Theodore Christakis, Professor of International, European, and Digital Law at the Université Grenoble Alpes, France, and Senior Fellow at the Cross-Border Data Forum and the Future of Privacy Forum, is notable here. The paper deals with AI hallucinations (generated content that appears factual but is erroneous) and data subject rights under the GDPR. It proposes in this regard the nuanced approaches of a Discussion Paper published by the Hamburg Data Protection Authority in 2024 and the UK's Information Commissioner's Office (ICO) (Christakis 2024). The Discussion Paper makes clear the distinction between Large Language Models (LLM) and General-Purpose AI Systems, with the former being part of the latter. LLMs do not store personal data like conventional structured databases and, as such, GDPR in its current form would not feasibly apply to them. However, LLMs process personal data where the GDPR privacy and accuracy requirements would apply. Thus, the paper calls for shifting regulatory attention to outputs rather than internal mechanics of LLMs. The ICO advocates tailoring accuracy requirements to the purpose and context of use of AI where information and transparency requirements are emphasised. Currently, India follows a sector-specific approach to AI regulations, working in close collaboration with industry.[19]

Regulatory Sandboxes

On the concern of balancing risk with innovation, there is a compelling case to be made for having regulatory sandboxes. The basic idea is to foster innovation and do regulations on the way as businesses and regulatory authorities gain better understanding of how a technology or innovation works. As India's then minister of state for MeitY Rajeev Chandrasekhar said in a meeting with stakeholders in Mumbai on 23 May 2023, the government will not "hard code all the dos and don'ts that are expected" on emerging technologies but rather give the principles and allow rules "to capture the details as and when the details are required" (Sanzgiri 2023). This does not mean that there would be a regulatory vacuum. He clarified that all technologies including AI would be regulated through the prism of user harm but that the government did not aim to create separate legislation on it but cover high-risk AI within the scope of the Digital India Act. When it comes to ethical AI governance, the regulatory sandbox approach is gaining traction.

A regulatory sandbox provides a controlled environment to test and experiment with new technologies. It brings on board innovators and regulators to monitor how these technologies perform, what their capabilities and limitations are, and how they fare on the risk–benefit scale. They gain an evidence-based understanding of the operation of such technologies, which helps them to draft better regulations. Article 53 of the EU AI Act provides for having such a regulatory sandbox to test AI technologies before releasing it to the market. This approach has been pioneered by the UK, Canada, and Singapore, and has found favour in India.

In India, regulatory sandboxes have been used successfully in the financial sector. For the tech sector, the example of Karnataka, one of the leading Indian states on AI and tech, is noteworthy. As Sanhita Chauriha, a data privacy and technology lawyer from India, says, the Karnataka government enacted the Karnataka Innovation Authority Act (2020), setting up an

19 There is debate as to whether such an approach would continue after the implementation of the Digital India Act (DIA). At the moment, the DIA proposal mentions defining and regulating high-risk AI systems without specifying the approach. See: https://www.meity.gov.in/writereaddata/files/DIA_Presentation%2009.03.2023%20Final.pdf.

Innovation Authority that promoted and regulated innovative technologies through the regulatory sandbox model (Chauriha 2024). Some states have used it for blockchain, Web 3.0, and AI. The benefits of this model are many: it encourages responsible design and creation of tech, promotes transparency and accountability, mitigates potential societal harms, builds trust and promotes cross-learning between innovators and regulators who work as collaborators, and embeds a culture of ethical AI development within the industry. For India, as Chauriha writes, "a regulatory approach should not be viewed as an approach to directly govern AI, but rather as a progressive step preceding formal legislation" (Chauriha 2024). A regulatory sandbox allows for pilot-testing ideas and products and forming case-sensitive and context-responsive regulations.

Indian entrepreneurs are investing in AI agents that have a transformative potential as they are capable of autonomous decision-making, performing complex tasks, and improving quality of work and life. Responsible AI regulations would need to mesh with societal values as AI agents are deployed across social and economic sectors and can create novel risks.

As India aims to be at the forefront of the AI landscape and have enabling policies for industrial transformation, job growth, and social welfare, the country's approach to ethical AI governance is "to regulate but not restrict" (Chauriha 2024). Chase India, a public policy and advocacy advisory firm, states in its report on regulatory sandboxing of AI that

> "the G20 New Delhi Declaration highlighted the need for a pro-innovation regulatory-governance approach that maximises the benefits and takes into account the risks associated with the use of AI" (Chase India 2023).

Singapore, similarly, follows an innovation-friendly approach. As early as 2018, the Monetary Authority of Singapore (MAS) facilitated the live testing of AI applications in the financial sector, releasing the *FEAT* (Fairness, Ethics, Accountability, and Transparency) principles for responsible use of AI and data analytics. These principles were released as part of Singapore's National AI Strategy (Fintech News Singapore 2018). Regulatory sandboxes on AI are an extension of this approach. On 7 February 2024, Singapore launched its first AI sandbox to help SMEs orient themselves towards, and make of the most of, AI opportunities. Enterprise Singapore (Enterprise SG) and Infocomm Media Development Authority (IMDA) launched this sandbox as the first step to facilitate local SMEs' access to generative AI and contribute to the efforts of Enterprise SG and IMDA in strengthening Singapore's AI development and ecosystem. This regulatory sandbox would benefit around 300 SMEs from sectors such as retail, food and beverages, education, and hospitality. The two agencies identified 13 AI solutions that were progressively onboarded by the end of February 2024 (Infocomm Media Development Authority 2024a). Singapore's sandbox strategy is more collaborative, working with other governments. For example, the IMDA has worked with governments of the US and the UK providing a "crosswalk" or joint mapping exercise on their domestic testing frameworks. The first crosswalk that the US and Singapore did with another government successfully was with each other. This joint mapping exercise was between IMDA's AI Verify and the US National Institute of Standards and Technology's AI Risk Management Framework (Ministry of Digital Development and Information 2023).

The sandbox of curated solutions would work in concert with the sandbox of curated regulations. However, there are limitations to this approach. As the Chase India report cited earlier puts it, "The current regulatory landscape is hampered by a fragmented approach, where each regulatory authority operates its own sandbox within its specific sector" (Chase India 2023).

This can hinder cross-sectoral collaborations and can impact businesses operating in multiple sectors. Further, to address challenges of scalability and interoperability, successful sandbox-tested solutions should be able to seamlessly integrate into existing regulatory frameworks and infrastructures. The report suggests certain solutions for the Indian context for its ethical use, including making safety, security, and privacy the key considerations in the regulatory sandboxes. Further, for scalability and viability of the sandbox

> "due recognition should be given to key elements of the AI technology stack such as model alignment, meta-prompt, application, etc. Without due recognition of these elements, it would result in sandbox testing end-to-end safety of AI systems which may result in extremely high requirements to deal with high-risk AI systems or extremely low criteria to ensure that any application of AI can be included" (Chase India 2023).

In India, there are suggestions for ensuring ethical practices in the post-sandbox phase, including disclosures on where high-impact models are being developed and deployed, how customers are accessing such models, and labelling of AI content by these models.

The Chase India report has certain practical suggestions for overcoming limitations of cross-sectoral and cross-border cooperation. It suggests that models tested in regulatory sandboxes in other countries – for example, in Germany – should be able to make their way to India without the need for a regulatory sandbox. For example, if AI products follow guidelines such as the NIST AI Risk Management Framework (AI RMF) intended to incorporate trustworthiness considerations into the design, development, use, and evaluation of AI products, services, and systems, they can be introduced into the Indian market. For cross-sectoral collaboration, if there are overlaps with any sectoral regulators or sandboxes, this learning can be offered to those sectoral regulators or sandboxes.[20]

Certain persistent themes can be gleaned from the discussions in the preceding sections: there is more stress on AI tech, where "thinking smaller" may be the way forward. This is a shift in mindset that has come about after almost two years of generative AI hype where the dominant narrative was about large models needing huge troves of data to be trained on and huge supplies of energy to run on. This think-large business model is bound to be dominated by a few companies and countries who have advantages in terms of resources and skilled manpower. But there are other ways to think of AI. For example, China's DeepSeek challenged leading US models, signaling a shift from a capital-intensive to cost-effective system and from proprietary to open-source models. It has prompted a re-evaluation of AI development strategies globally. It has also opened a can of worms on the ethical side by raising concerns about the risks of open-source, potential misuse, lack of accountability, and challenges in regulating powerful models accessible to all. The current inflection point necessitates global discussions on governance and not retreat into regionalism.

20 This is relevant to Germany. The German Federal Ministry for Economic Affairs and Energy seeks to establish regulatory sandboxes to foster experimentation, promote more information and networks on creating regulatory sandboxes, and support their creation. However, this strategy does not focus on one specific field of innovation, but on regulatory sandboxes as a cross-cutting instrument useful for different fields of innovation. See: Federal Ministry for Economic Affairs and Energy, Germany. (2019). 'Making space for innovation: the handbook for regulatory sandboxes', https://www.bmwk.de/Redaktion/EN/Publikationen/Digitale-Welt/handbook-regulatory-sandboxes.pdf?__blob=publicationFile&v=2.

As a representative of a social media company based in Singapore noted,

> "A conscious dialogue is taking place to merge the concerns of the Global South countries with the Global North countries. There is now a vociferous set of countries from the Global South who have their homegrown AI strategies while asserting their agency over what a global AI framework must look like."[21]

In response to a question on whether the EU AI Act 2024 can be viewed as a global benchmark, a big tech representative from India concurred that while the EU AI Act's risk-based assessment was helpful, companies operating in India will follow India's AI guidelines and existing IT laws.[22] They also found the regulatory burdens imposed by the EU AI Act to be impractical for smaller companies. For example, the Coalition for Responsible Evolution of AI (Core-AI) – a group of Indian startups, civil society organisations, think tanks, academic institutions, and industry experts – highlighted these concerns during legislative consultations with 16 legislators on 27 November 2024**.** Core-AI advocated for India to adopt its responsible AI strategy, emphasising sectoral regulation over a broad, overarching framework. Their critique focused on the risks of overregulation, rather than opposing regulation itself.

Governance frameworks occur in a global context with local adaptations. As such, no one country or company can be the sole rule-maker and standard-setter of AI. There needs to be regulatory interoperability and regulatory representation on responsible AI. Regulatory sandboxes have emerged as mechanisms to have such regulatory interoperability.

Democratising AI Tech

The push for democratising AI technology stems from concerns over corporate monopolies (Bushell-Embling 2024, Aneja 2024) and digital authoritarianism (Ünver 2024) – the risk of AI misuse or weaponisation when a central authority holds excessive control. One concern is big tech dominance, where powerful corporations may resist government regulation and civil society oversight, making them less accountable for AI-related harms on their platforms. Another concern is AI dominance by a few states, allowing them to dictate what qualifies as ethical AI while selectively applying regulations to suppress competition and extend their influence over civil society and other countries. To counter corporate dominance, governments implement regulations and policies that promote fair competition, incentivise small-scale AI enterprises, and support academic research in AI innovation.

The first concern about corporate dominance is challenged by governments through regulations and policies that encourage fair competition, and incentives that promote small-scale AI enterprises and academic research.

Democratising AI tech through regulations covers concerns in the realm of what can be described as "normative ethics" (abstract values and principles that help us to make better decisions) and "practical ethics" (substantive moral issues facing us every day like protection of civil liberties and environment) (Crisp 2023). Principles of fairness, justice, privacy, security, responsibility, and accountability are related to lived realities. Apart from these principles, what is to be noted are practical ethical concerns emerging not only about rights violations of data subjects/end users of AI tech but also from a reality check among developers of AI.

21 Online interview of an AI policy expert from a corporate based in Singapore, December 5, 2024.

22 Online interview of an AI policy expert from a big tech company based in Bengaluru, India, December 9, 2024.

An IBM blog post by Cole Stryker breaks down this dawning realisation among AI developers that the current path of AI with big tech and large-scale models is not very sustainable and has ethical implications. He lists four distinct crises that demonstrate this unviability of the current AI growth trajectory: data crisis (large-scale data used to train LLMs are losing value and as online platforms and publishers shut access to their data, demand for training data will soon exhaust supply); compute crisis (demand for GPUs to process data is leading to a bottleneck of chip supply); power crisis (current energy infrastructure is not equipped to handle the demand for energy by LLMs); and use-case crisis (generative AI is yet to come out with a killer app in an enterprise context) (Stryker 2024). The first three are particularly relevant to ethical AI as the first deals with a host of issues related to privacy, accuracy, integrity, and security of data. The second and third have strategic/political and environmental consequences. As such, the response to these crises is to be creative and course correct. Brent Smolinski, IBM's Global Head of Tech, Data and AI Strategy, suggests looking at small language models or specialty models, which are becoming more important in solving real business problems (Stryker 2024).

This signifies a move from pre-training to finetuning models – and towards becoming more output-oriented. Pre-training is the most expensive part of the AI process. This shift to finetuning of existing tech would allow for a more sustainable and environment-friendly approach where there would be more GPUs and less energy consumption. This shift in mindset would also prevent big tech monopolising the AI sector.

In India, the "think small" narrative is becoming popular. The current minister of state for Electronics and Information Technology, Ashwini Vaishnaw, emphasised that India's approach to AI is to democratise technology, making it accessible to researchers, academia, and startups (Pandey 2024). In this sense, AI is viewed as a public good and not just a commercial interest. This encourages government public utilities and the academic community to participate in the AI space alongside corporations. AI start-ups can build on existing models.

India is encouraging innovative projects under its "Safe and Trusted AI" pillar of the government's IndiaAI Mission. With an outlay of INR 10,371.92 crore (approximately USD 1.2 billion or EUR 1.1 billion) for the research and development of AI, the IndiaAI mission is procuring 10,000 GPUs under a public–private partnership, providing them to AI startups and researchers to create an AI marketplace for AI services and pre-trained models, building an open-source dataset platform, promoting AI education and skillsets, and providing financing for startups (Parasnis 2024). This move towards focusing on small-scale AI projects is an extension of the government's larger policy of "Responsible AI, #AIForAll" (Niti Aayog 2021b). While working with big tech for government projects, the government is also bringing the regulatory hammer down on social media companies for content moderation of deepfakes and other harmful uses of AI (Ganesan 2023). At the same time, the government is building a large pool of indigenous AI capabilities through small-scale AI entrepreneurs and developers. For ethical and equitable AI development alongside global competitiveness, it is also creating cloud infrastructure such as GI Cloud (MeghRaj).

To democratise access to AI, the government has proposed investing in public compute infrastructure, high-quality datasets, and a common set of protocols and technical/legal frameworks. For example, its AI Data Bank aims to accelerate technological growth and innovation by providing researchers, startups, and developers access to high-quality, diverse datasets essential for creating scalable and inclusive AI solutions (Press Information Bureau 2024b). The government has also proposed a federated model of AI infrastructure akin to India's digital

public infrastructure (DPI) model. As Minister Vaishnaw said during the Global IndiaAI Summit's inaugural session,

> "The Digital Public Infrastructure is a classic case where no single payment provider or single service provider has a monopoly of the service. The government invests in the platform, and everybody basically becomes a part of that. This is the same approach we are going to adopt in AI also" (Pandey 2024).

However, for such a DPI on AI to work, it has to be competitive with big tech, opines Urvashi Aneja, an Indian researcher, policy analyst, and the founding director of the Digital Futures Lab (Aneja 2024). Cloud and compute advantages allow big tech to offer AI services that make workflows easier, faster, and more effective. Aneja suggests a "radically different approach to the development of AI,", away from the "big data" and "larger is better" mindset, where more purpose-driven smaller models are built, informed by lived experience and domain expertise rather than statistical patterns in big data alone (Aneja 2024). This kind of tech, she claims, will be essentially more democratic. This is similar to the earlier cited proposal of IBM's Brent Smolinski.

The Singapore government is also a proponent of democratising AI in building domestic capacities and countering foreign corporate monopolies. Like IndiaAI's mission, Singapore's Smart Nation 2.0 initiative focuses on growth alongside building trust and citizen-centric and community-centric AI space. It has allocated SGD 120 million (approximately USD 89 million or EUR 86 million) for its "AI for Science" mission led by its National Research Foundation (Roy Choudhury 2024). It also plans to launch the Digital Infrastructure Act in 2025 for strengthening domestic reliance and resilience.

Democratising AI for both India and Singapore seems to be led by a "whole of government" mode for "whole of society" use, where a more community-centric outlook prevails – that is, AI for social welfare and not just for profit. There is similarity in the discourse of Narendra Modi and the Singapore prime minister Lawrence Wong, who speak of their AI initiatives and schemes as a "whole of a nation movement" for securing their citizens' future (Roy Choudhury 2024).

This is a larger view of AI, which combines the corporate approach to viewing AI as a product to increase efficiency of enterprises and make work faster and more effective and to make its development more democratic. This entails a different set of ethical considerations than simply the ethics of regulating a business. It is about the ethics of defining AI, developing AI, and deploying AI, which is tied to national wellbeing and not just national power.

However, there are certain caveats here. Both the Indian and Singaporean governments while speaking of democratising the space of AI, still hold enormous power over AI policies and their implementation. They have enough discretionary power, which can make ethical regulation of AI selective and opportunistic. This leads to the next concern about preventing the use of AI for authoritarian purposes.

Reducing the Risk of Digital Authoritarianism

While on one hand, India and Singapore have been working on responsible AI in business and governance, on the other hand, there are concerns about digital authoritarianism as their governments have immense power over and a strong hold on technology. The checks and balances are not as robust as in liberal democracies, leading to the question: Who will regulate the regulator?

India is the world's most connected democracy (954.4 million internet subscribers as of March 2024) (Press Information Bureau 2024a) and the world's largest social media democracy (approximately 467 million users: Anderson 2024). It also accounts for the world's largest 360-degree surveillance (including the practice of having centralised databases comprising citizen's data for "cradle to grave" delivery of government services) and the largest biometric identity project in a democracy with immense capabilities to surveil, profile, and target citizens (Mahapatra 2021). It also accounts for the largest number of internet shutdowns in the world (Access Now 2024). There have also been reports on disinformation being a form of "state-sponsored violence" in the country (Sircar 2021). Further, the government has exercised control over social media platforms – with content takedown orders from the government to platforms being selectively applied against critics and opponents of the regime – leading to allegations of content moderation becoming a form of censorship (Sombatpoonsiri and Mahapatra 2024).

In this context, the fears of AI being weaponised for digital authoritarianism emerge. For example, India has one of the largest AI-enabled facial recognition technology (FRT) systems in the world, and drones that use AI surveillance have been mainstreamed into public life without a statutory basis or the consent of the surveilled (Mahapatra 2021). There have been allegations of profiling of minority communities during protests through the use of such FRT. Freedom House in its report *Freedom on the Net 2023* warned against AI chatbots and machine learning being used to harden government's control over online platforms and censor critics and opponents. India and several other countries, including the US and some from Europe, figured in the list of countries where AI could be used for repression. AI has enabled governments to refine surveillance and censorship. It also allows purveyors of disinformation to spread deepfakes speedily and at scale. In India, as the report notes, the censorship regime is creating an uneven playing field, which challenges the claims of democratising AI tech for all users' benefits. While from socio-economic welfare and business perspectives, India has successfully leveraged AI tech for e-governance and e-commerce, from political rights and civil liberties perspectives, it also has a record of using tech and legal policies related to it to selectively to favour regime supporters and control and curb dissenters.

When it comes to use of AI to undermine elections, especially through dis/misinformation, a news report on India found limited AI content during elections and that such content was more about trolling than information warfare (Brandom 2024). Further, a study on political AI during elections across the world in 2024 showed that half of the AI used during elections were not deceptive. Further, deceptive content could be replicated without AI and that focusing on demand for misinformation was more effective than focusing on the supply (Kapoor and Narayanan 2024).

At this point, the concerns about AI are more about digital repression than election disruption–though this may occur if the weaponisation of AI by powerful government actors and regime supporters are not checked.

Democratisation of AI, therefore, brings another facet to ethical and responsible AI governance: democratic application of regulations of AI – the same rules and restrictions should apply to the government as do to private sector and civil society actors.

Similar digital authoritarian risks enabled by AI are found in the case of Singapore, which, like India, has a very powerful political party at the centre. Like India, the combination of laws, digital surveillance, and pro-regime trolling are used to control the country's digital sphere and information flows (Gomez 2022). The IMDA has overarching powers that allows it to control

content on social media. The COVID-19 pandemic demonstrated Singapore's surveillance capabilities and the government's untrammeled access to people's information (Gomez 2022). Further, like India, Singapore has been struggling with deep fakes and it will hold elections in 2025. The government has outlawed deepfakes and other digitally manipulated content of candidates during elections by passing the Elections (Integrity of Online Advertising) (Amendment) Bill. Under this measure, social media platforms could face fines of up to SGD 1 million for compliance violations, and individuals could face fines of up to SGD 1,000, imprisonment for up to a year, or both (Chin 2024). While there is a need to counter deepfakes, the fear of digital authoritarianism arises when a government tries to assert itself as the final arbiter of what is true and what is false and exert excessive control over platforms. Combined with their own surveillance infrastructures, they can access user data from social media companies. LLMs can operate to trawl social media and identify dissenters, red-flag language of political opponents that government actors may classify as anti-national and criminal and create AI-enabled products that might profile and target traditionally marginalised and minority communities, either denying them government services, curbing the exercise of their rights, or intimidating/prosecuting them.

A user submission to the India AI Portal of the MeitY outlines the dual potential of AI to promote and hinder human rights. To decrease the risk of AI for authoritarian ends, the government should be held to a high standard of transparency and accountability as the private sector and big tech, if not higher. The user submission to India AI Portal identifies specific areas of concern: a) reducing bias in predictive policing and profiling tech; b) preventing the misuse of AI, especially in FRT – and developing robust mechanisms of informed consent if FRT is used; and c) demonstrating transparency and accountability in automated decision-making (Rajmohan 2024).

India and Singapore have taken measures to address concerns of digital authoritarianism. But these concerns about digital authoritarianism remain. For example, India's Digital Personal Data Protection Act (2023) aims to protect personal data but provides broad exemptions to the government and to those private sector data fiduciaries deemed by the government to come under the ambit of exemptions. This has raised concerns about potential executive overreach and surveillance capabilities. India's Information Technology Act (2000) and IT Rules 2021 (amended in 2023) have been used to curb online speech and monitor digital activities, raising concerns about its potential to stifle dissent and limit privacy. While Singapore's Personal Data Protection Act is considered a relatively strong privacy law, the government has also implemented surveillance measures, such as the use of CCTV cameras and FRT raising concerns about privacy. Further, its Model AI Governance Framework does not explicitly address concerns about digital authoritarianism or surveillance.

Therefore, the countries continue to balance privacy concerns with the need for security and public safety. Both governments have implemented surveillance measures that raise concerns about privacy and potential misuse of data; and civil society organisations in both countries are advocating for stronger digital rights. It is important to note that the regulatory landscape in both countries is evolving, and that new laws and regulations may be introduced in the future.

To check authoritarian impulses of the government, independent and robust oversight mechanisms are needed. Government transparency reports on AI, similar to governments' financial transparency reports or even big tech transparency reports, can be a way to make a government accountable for its use of AI. Such transparency reports detailing the money spent

on AI and for what purposes – including a government's impact assessment of their policies – can build trust in the country, both domestically among its own populace and business community, and internationally with other states and investors. This report can be an extension of other reports on transparency that the government brings out with the addendum of impact assessments and course correction measures. As an interviewee said,

> "The governments have the resources and personnel to come out with accountability or transparency reports but need the political will and intent to make themselves open to thorough scrutiny on AI."[23]

Next, bodies like the AI Safety Institutes, alongside industry and civil society organisations, can be part of a multi-stakeholder monitoring mechanism to check the government's use of AI and suggest interventions and correctives if the government makes discretionary and discriminatory use of AI. These measures increase chances of government self-regulation.

Governments are the most powerful users of AI, and they need to step up in de-risking AI as an authoritarian tech. This is even more imperative for those that claim to be democracies, as they have been found to have violated digital freedoms in recent years.

The benefits and risks of technology often lie not in their access but in their use. Regulation is not simply about denying access to technology that can turn risky but in moderating its use so that it does not pose a risk. When there is a whole-of-government approach to AI, there is need for a whole-of-government accounting mechanism and whole-of-government AI ethics and sensitivity training alongside acquiring AI literacy and skills. An independent ethics committee can be created or existing ones ramped up to deal with the ethical use of AI by the government. Grievance redressal and procedural and substantive justice mechanisms for government's AI-related harms can be established as AI becomes integral to different aspects of governance.

Finally, there is a need to harmonise national understanding and application of AI ethics with globally acceptable best practices. However, this involves an expansive definition of AI ethics to include "intercultural ethics" (Mohamed et al. 2020), which emerges from a dialogue between those leading in AI adoption and those who are amid AI adoption. This serves the ends of equity and safety meaningfully. If the EU model of AI governance is to be acceptable to the world outside the EU, this model needs to reflect intercultural ethics. This is even more salient for Germany, which is doing business with fast-emerging AI powers located outside the EU.

Policy Recommendations

The preceding sections highlight several key points. First, AI governance revolves around values, processes, and impacts. Second, the transborder nature of AI demands global collaboration on standards and regulations. Third, becoming an AI powerhouse requires not deregulation but innovation with safety and oversight mechanisms that foster trust and credibility. Fourth, AI technology is becoming more democratised, with smaller and emerging AI players strengthening their capabilities. Countries such as India and Singapore are leading global AI governance discussions at a time when Western powers are shifting toward protectionism.

23 Online interview of digital rights expert based in Hyderabad, India, November 27, 2024.

Engaging with them is essential for any country aspiring to be a global AI leader. Fifth, ethical and responsible AI governance can prevent authoritarian control and corporate monopolisation of AI power.

At this critical juncture, the EU – particularly Germany – has a unique opportunity to lead in both AI safety and security. The world extends beyond the US and the EU. The policy recommendations focus on Germany as it has taken a leadership role in the EU AI Act. Further, as a research, innovation, and industrial powerhouse, Germany can build strategic AI partnerships with countries such as India and Singapore. These partnerships can align profit and progress with ethics, ensuring that market incentives go hand in hand with democratic values. The strategic location and connectivity of both India and Singapore alongside their proactive, investor-friendly government initiatives and skilled workforce make them attractive destinations for Germany. For example, a 2024 KPMG and Indo-German Chamber of Commerce survey found that nearly 59 per cent of German companies planned to boost their investments in India that year (KPMG and Indo-German Chamber of Commerce 2024). They wanted to jointly develop AI solutions, and valued the highly skilled workforce, lower labour cost, proactive government initiatives, and thriving start-up scene.

Drawing from comparative insights from India and Singapore, the following policy recommendations outline lessons and areas for Germany's cooperation with them. They cover multiple aspects of AI governance, including regulatory mechanisms and models, research and development, trade and investment, security, and resilience.

Regulatory Mechanisms and Models

Regulatory alignment mechanisms: Germany can establish strategic governance frameworks with India and Singapore. For example, they can create bilateral regulatory alignment mechanisms through specialised working groups connecting their respective ministries. They can work on an AI regulatory harmonisation initiative through which they could co-develop consistent standards for transparency and accountability in public-use cases of AI.

Joint certification: They could also work together on joint certification frameworks that allow for expedited approval in each other's markets. This could include developing bilateral recognition protocols akin to those between Germany's TÜV and India's BIS or Singapore's IMDA for AI safety certifications in sectors such as healthcare and transportation.

Ministerial fora: They could also set up bilateral/trilateral/multilateral talks (with more like-minded countries) for coordinated approaches to global AI governance. They can hold ministerial-level meetings to align their positions before major international AI governance negotiations.

Joint risk-monitoring: As the risks of AI keep shifting and are transnational in nature, Germany can also create joint monitoring mechanisms with India and Singapore for emerging AI risks. For example, they can draw on the expertise of each country's cyber security agency for risk assessments, coordinate mitigation strategies, and share early-warning protocols.

Hybrid AI governance model: Germany can benefit from knowledge exchange with India and Singapore on how hybrid AI governance models work. As an AI expert said, "Nothing is fixed

when it comes to technology. Governance models need to evolve."[24] Emergent and high-impact tech such as AI needs a combination of a stakeholder model of governance and a state-driven model of governance. As AI is a multi-stakeholder concern, a hybrid model of AI governance, which is participative and pluralistic in the creation of AI policies and government-led in terms of implementation of such policies (as governments have the resources and infrastructure for this) may be beneficial. This would make stakeholders invested in the process of ethical AI governance and increase their trust in and support for governments' AI projects.

Whole-of-government to whole-of-society approach: In India and Singapore, the government acts as a connecting link between innovators, regulators, academia, and civil society to develop inclusive and adaptive ethical AI frameworks. Germany, which is among the leaders in AI governance in the EU, can cooperate with the governments of India and Singapore in having such links between their own country-based innovators, researchers, and regulators. They could create a dedicated pipeline of bilateral sharing of best practices and information, inviting a cohort of invested civil society and industry stakeholders from India and Germany or India and Singapore to be a part of such pipelines. This cohort of invested stakeholders could help in drafting policies that promote bilateral trade or update policymakers on dealing with a critical development in a particular domain of AI, as well as provide them with important feedback to scale up such cooperation.

AI Safety Institutes as standard-setters: AI Safety Institutes (ASI) will play a prominent role in global standard-setting. The Indian approach is to project ASI as a hub for standards rather than a regulator of industry. The Singaporean approach is to favour collaborative framing of standards and sharing of information and best practices between ASIs of different countries. While it is too early to say which of the two approaches works best, Germany and the EU might benefit from a combination of both approaches that are flexible but also ensure that AI safety standards align with situation-specific and domain-specific needs.

Broadening remit of responsible AI: This expansive framing of AI ethics would also mean broadening the scope of responsible AI based on outcomes and consequences of AI. Responsible AI would combine ethical design, deployment, distribution, and use of AI, as well as viewing AI as a public good that includes consideration of human rights, community rights, labour rights, and environmental protections. The parameters of inclusivity, trust, privacy, and security of responsible AI are not just norms and values but a way of doing things for the betterment of the society. This would make AI an agent of change for the better rather than simply an instrument to do certain tasks better and faster. This broad framing of responsible AI can encourage Germany to work with India and Singapore on utilising AI as a public good. India could share its expertise on DPIs. Germany and India could explore different ways to democratise AI tech, which could help them in public governance and private innovation.

Research and Development

Joint research hubs: Germany could enhance its ethical AI innovation ecosystem by developing joint research hubs with institutes in India and Singapore having complementary research interests and strengths. Germany could also develop computing infrastructure with

24 Online interview of an AI policy expert from Singapore, November 22, 2024.

them providing dedicated access for collaborative research. They could co-develop socio-technical and legal standards. For example, they could set up joint technical committees in research institutes that would develop AI safety benchmarks for autonomous systems that incorporate testing scenarios and experiments from German and Indian/Singaporean operating environments.

Researcher exchange programmes: There can be no ethical AI without ethical research. Germany can cooperate with India and Singapore, leveraging each country's specialised AI talent. This could take the form of an AI fellowship programme through which 50 to 100 researchers from each country could complete guest residencies at partner institutes. For example, German researchers could gain exposure to Singapore's expertise in urban AI applications and India's innovations in large-scale AI deployments.

Trade And Investment

Regulatory sandboxes: Instead of a super-regulator or a one-size-fits-all approach to regulation that might curb competition and innovation, India is going for issue-specific and sectoral regulations, especially those related to online harms and protection of critical infrastructure. Singapore, through their Model AI Governance framework, allows for flexibility through regulatory sandboxes accommodated within this approach. Co-creation of regulations within a sandbox between two countries (such as the US and Singapore) or aligning sector-specific regulations between national and international standards through constructive dialogue between the Global North and Global South countries (as through GPAI) can increase scientific knowledge and commercial trade exchanges between countries. This can go a long way in laying down the foundation for a global ethical AI governance framework. As India and Singapore allow for AI innovations and services from Germany to bypass regulatory sandboxes if they are vetted by German data protection laws and regulatory standards of AI, tech transfer and investments can be speeded up between these countries and Germany. Germany, like the US and the UK, could participate in joint mapping exercises or crosswalks, cited earlier. These could fast-track the uptake of their AI products and services in India's large AI market as there is a huge demand for it. Singapore, like India, also has AI industry fairs that invite collaborations. Germany could make use of the Expressions of Interests (EoI) from the AI portals of the governments of India and Singapore to promote private-sector and government-to-government collaborations on next-gen AI products. These can be scalable products designed for scalable economies.

Ethical AI standard-setting: Evidence-backed insights from regulatory sandboxes and sectoral AI audits can inform ethical AI standard-setting. While starting with certain general guidelines on ethical practices, standards specific to AI tend to evolve over time given the dynamic growth of AI and the probabilistic nature of its outcomes. Germany can cooperate with India and Singapore on sector-specific regulatory sandboxes, especially on the use of AI in automobile, healthcare, fintech, and green tech, which have been identified as priority growth areas in Indo-German cooperation.[25]

25 Priority sectors for Indo-German cooperation can be identified from the 'Outcomes of the 7th India-Germany Inter-Governmental Consultations' published on October 25, 2024 by the Federal Foreign Office of Germany. These sectors were also specified during the author's onsite discussions with Indian and German stakeholders from think tanks, government, and the private sector in Berlin, November 20, 2024.

Fast-track channels: Germany could create digital fast-track channels with both countries based on their joint ethical protocols and standards. Through such channels, investors and businesses in each country could use a single application process and receive concurrent investment approvals and incentives. This would help the expansion of German AI companies into Indian/Singaporean markets and vice versa.

Joint investment funds: Germany could also establish with India/Singapore joint investment funds for responsible AI innovation. For example, they could set up a bilateral or even trilateral funding scheme for sustainable AI solutions for climate tech, for example, with Germany providing expertise in industrial AI, India on public welfare AI, and Singapore on financial AI.

Rethinking AI growth and development: The focus on large language/deep learning models detracts from the focus on small-scale models (SSMs) that are capable of operational efficiency. There is no doubt that LLMs have transformative potential as they can perform complex tasks at scale. However, their growth gets undercut by data, compute, energy, and use-case crises. For a sustainable path forward, there are suggestions to radically rethink AI and democratise the AI landscape giving small players a fair chance at AI development and end users an equal opportunity to access and use AI. India's digital public infrastructure (DPI) provides a model for democratic access to AI tech. Democratising AI is not just a model of AI development but also emerges as a new ethical value and norm of AI. Germany could benefit from insights and practical demonstrations of India's DPI model for expanding its e-governance and fintech, making these highly accessible and affordable to its population, who may not all be at the same level of digital penetration and literacy.

Reduce regulatory burdens: Increasing the scope of responsible AI does not mean increasing regulatory burdens, especially not on small businesses and developing countries. Huge costs are involved in building AI infrastructure and capacities. Many under-resourced countries and companies are struggling to build these. To ensure these countries and companies are compliant with new standards and stringent regulations will take time. Those who do not have the resources can fold up before their AI projects take off. Projects such as the Global Index on Responsible AI are trying to measure such costs and gaps that exist between countries. Therefore, the suggestion is to regulate, but not put in place onerous due diligence mechanisms that can overwhelm under-resourced entities. This is especially important for AI start-ups in India and Germany that wish to do business with each other and tap into each other's markets.

Refine existing legislations instead of a separate legislation on AI: The Indian case supports using transitional guidelines and existing legislation to prevent overlapping liability or regulatory blind spots on AI. For example, India has a comprehensive framework for corporate liability, free speech, anti-trust, and public order that covers AI development and use cases without separate legislation. For high-risk AI and transformative AI such as AI agents, a novel set of regulations attuned to their nature and risks can be added as a separate chapter within the existing framework regulating emergent tech. One practical approach may be to do innovations first, and then regulate the use cases to ensure the innovations are used responsibly. This will be a useful approach for German businesses, especially those who want to diversify AI products across different verticals.[26]

26 Author's onsite discussions with Indian and German stakeholders from think tanks, government, and the private sector in Berlin, November 20, 2024.

Security and Resilience

Focus on outcomes: The regulatory focus could be on outcomes of AI rather than on its internal mechanics. Focusing on outcomes would also help bring AI under the purview of existing regulations. This is particularly helpful for EU regulations such as the GDPR on privacy and data security and the Digital Services Act on countering online harms. Further, focusing on the demand for such harms such as AI-driven mis/disinformation can be more effective than focusing on the supply side of mis/disinformation as this might disincentivise and deter the use of such tech. Civil society organisations in India and Singapore can cooperate with Germany on drafting stakeholder inputs specific to outcomes of AI that cause harm.

Joint AI security frameworks and training: When it comes to AI security, Germany could create frameworks for shared security standards on protecting AI infrastructure against emerging threats with India and Singapore. While the EU focuses on this regionally, AI threats are transnational and Germany has interests beyond the EU. It can strengthen its security posture by collaborating with Indian and Singaporean security experts, developing coordinated vulnerability assessments, and implementing incident response mechanisms for AI security breaches.

Reducing the risk of AI as an authoritarian tech: To regulate the regulators (government) and prevent them from using AI for authoritarian ends, a multi-stakeholder monitoring mechanism can pressurise a government to self-regulate. This is more important in contexts where democratic checks and balances are weak. Government transparency reports, similar to financial spending transparency reports or big tech transparency reports, can compel governments to put on paper and clarify their use of AI. While there may be several government audit and review reports, a standalone transparency report may be needed for the use of AI given the scale and scope of its use. Such reports by governments alongside AI Safety Institutes can act as a bulwark against authoritarian impulses of governments. These reports can help assess a government's performance on AI ethics and suggest interventions to prevent AI for democratic governance from mutating into AI for authoritarian control of the population. This can ensure accountability of the government domestically and internationally. It can build trust in the government and foster societal and commercial collaborations grounded on the principles of ethical and effective use of AI. Germany can lead the EU's drive for de-risking authoritarian AI tech. It could refine such interventions that create disincentives for businesses and big tech to work with illiberal governments and misuse AI for destructive military or invasive surveillance devices.

This multi-level approach to AI governance with India and Singapore can allow Germany to leverage complementary strengths: India's large-scale AI implementation and talent pool, Singapore's advanced regulatory ecosystem and financial expertise, and Germany's industrial process and technical leadership. By understanding and responding to the unique challenges of ethical AI governance that is context-sensitive, global in scope, and local in application, policymakers and stakeholders in Germany and its potential partner countries outside the EU– such as India and Singapore – can develop effective strategies to address complex issues around AI, reduce its risks and uncertainties, promote collaboration between countries on this transformative technology, and shape a sustainable future.

Bibliography

Access Now. (2024). 'Unabashed and unabated : India leads the world shutdown for sixth year'. August 26. https://www.accessnow.org/press-release/india-keepiton-internet-shutdowns-2023-en/.

Adams, R. (2025). *The New Empire of AI : The Future of Global Inequality*. Cambridge, UK: Polity Press.

Anderson, N. (2024). 'Ranked Countries with the most social media users, 2024'. *CEOWorld Magazine*. February 3. https://ceoworld.biz/2024/02/03/ranked-countries-with-the-most-social-media-users-2024/.

Aneja, U. (2024). 'Democratising AI needs a radically different approach'. *The Hindu*. November 23. https://www.thehindu.com/opinion/op-ed/democratising-ai-needs-a-radically-different-approach/article68899326.ece.

Barber, G. (2024). 'The generative AI copyright fight is just getting started'. *Wired*. December 7. https://www.wired.com/story/livewired-generative-ai-copyright/.

Bhattacharya, A. (2025). 'Non-Western founders say DeepSeek is proof that innovation need not cost billions of dollars'. *Rest of World*. January 30. https://restofworld.org/2025/deepseek-ai-model-openai-dominance-challenge/.

Blum, K. (2024). 'Dangers of AI tops health tech hazards list for 2025'. *Association of Healthcare Journalists*. December 13. https://healthjournalism.org/blog/2024/12/dangers-of-ai-tops-health-tech-hazards-list-for-2025/.

Bradford, A. (2024). 'The False Choice Between Digital Regulation and Innovation', 119 Nw. U. L. Rev. 377. https://scholarlycommons.law.northwestern.edu/nulr/vol119/iss2/3.

Brandom, R. (2024). 'India's election wasn't the deepfake doomsday many feared'. *Rest of World*. May 30. https://restofworld.org/2024/exporter-india-deepfake-trolls/.

Bushell-Embling, D. (2024). 'AWS, Microsoft have 56% of cloud services market: Finbold'. *Govtech Review*. July 26. https://www.govtechreview.com.au/content/gov-cloud/news/aws-microsoft-have-56-of-cloud-services-market-finbold-767150963.

Chase India. (2023). 'Regulatory sandbox for responsible AI'. https://www.chase-india.com/media/slljmxav/chase-india_regulatory-sandbox-for-responsible-ai.pdf.

Chauriha, S. (2024). 'On the importance of regulatory sandboxes in artificial intelligence'. *The Hindu*. May 15. https://www.thehindu.com/sci-tech/technology/on-the-importance-of-regulatory-sandboxes-in-artificial-intelligence/article68176084.ece.

Chin, S.F. (2024). 'Bill passed to counter digitally manipulated content, deepfakes during elections'. *The Strait Times*. October 15. https://www.straitstimes.com/singapore/politics/bill-passed-to-counter-digitally-manipulated-content-deepfakes-during-elections.

Crisp, R. (2023). 'Practical Ethics and Philosophy'. *Practical Ethics*, University of Oxford blog. March 13. https://blog.practicalethics.ox.ac.uk/2013/03/practical-ethics-and-philosophy.

Christakis, T. (2024). 'AI Hallucinations and Data Subject Rights under the GDPR: Regulatory Perspectives and Industry Responses'. *SSRN*. December 2. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5042191.

Dastin, J., Loeve, F. and Howcroft, E. (2025). 'Paris AI summit: France and EU promise to cut red tape on tech'. *Reuters*. February 11. https://www.reuters.com/technology/artificial-intelligence/paris-ai-summit-draws-world-leaders-ceos-eager-technology-wave-2025-02-10/.

DD News. (2024). 'MeitY issues advisory on AI for intermediaries'. March 17. https://ddnews.gov.in/en/meity-issues-advisory-on-ai-for-intermediaries/.

Digital India Act (DIA). https://www.meity.gov.in/writereaddata/files/DIA_Presentation%2009.03.2023%20Final.pdf.

Élysée, Official Website of the President of France. (2025). *Statement on Inclusive and Sustainable Artificial Intelligence for People and the Planet*. Paris AI Summit. February 11. https://www.elysee.fr/en/emmanuel-macron/2025/02/11/statement-on-inclusive-and-sustainable-artificial-intelligence-for-people-and-the-planet.

Federal Foreign Office, Germany. (2024). 'Outcomes of the 7th India-Germany Inter-Governmental Consultations'. October 25. https://www.auswaertiges-amt.de/en/newsroom/news/2682276-2682276.

Federal Ministry for Economic Affairs and Energy, Germany. (2019). 'Making space for innovation: the handbook for regulatory sandboxes'. https://www.bmwk.de/Redaktion/EN/Publikationen/Digitale-Welt/handbook-regulatory-sandboxes.pdf?__blob=publicationFile&v=2.

Fintech News Singapore. (2018). 'MAS Unveils FEAT Principles to Promote Responsible Use of AI and Data Analytics'. *Fintech News Network Singapore*. November 12. https://fintechnews.sg/25903/ai/mas-feat-ai-aida/.

Furman, J. (2024). 'How to regulate AI without stifling innovation'. *The Wall Street Journal*. November 21. https://www.wsj.com/opinion/how-to-regulate-ai-without-stifling-innovation-regulation-eu-licensing-a2f0d8af.

Ganesan, A. (2023). 'Platforms That Do Not Meet Deep Fake Takedown Obligations Will Lose Safe Harbour, Rajeev Chandrasekhar Says'. *Medianama*. November 22. https://www.medianama.com/2023/11/223-platforms-deep-fake-takedown-obligations-safe-harbor-2/.

Ghosh, S. (2024). 'India's US$1.25 billion push to power AI'. *Nature India*. March 17. https://www.nature.com/articles/d44151-024-00035-5.

Gomez, J. (2022). 'Maintaining One-party Rule in Singapore with the Tools of Digital Authoritarianism'. *Kyoto Review of Southeast Asia*. Issue 33. https://kyotoreview.org/issue-33/one-party-rule-in-singapore-tools-of-digital-authoritarianism/.

Gooding, M. (2023). 'Governments agree Bletchley Declaration on AI safety at UK Summit'. *Tech Monitor*. November 1. https://www.techmonitor.ai/digital-economy/ai-and-automation/bletchley-declaration-uk-ai-safety-summit?cf-view&cf-closed.

Haeck, P., Bristow, T. and Herrero, O. (2025). 'How the world stopped worrying and learned to love AI', *Politico*. February 12. https://www.politico.eu/article/ai-action-summit-france-paris-macron-vance-modi-artificial-intelligence-technology/.

Hagendorff, T. (2024). 'Mapping the Ethics of Generative AI: A Comprehensive Scoping Review'. *Minds & Machines* 34, 39. https://doi.org/10.1007/s11023-024-09694-w.

Haridas, G., Kim Sohee, S. and Brahmecha, A. (2023). 'The Key Policy Frameworks Governing AI in India'. *Access Partnership*. October 2. https://accesspartnership.com/the-key-policy-frameworks-governing-ai-in-india/.

Hiroshima AI Process. (2023). https://www.soumu.go.jp/hiroshimaaiprocess/en/index.html.

India AI, Government of India. (2024a). *Global India AI Summit*, July 3-4. https://indiaai.gov.in/globalindiaaisummit/.

India AI, Government of India. (2024b). *Expression of Interest for Safe & Trusted AI Projects under IndiaAI Mission*. December 10. https://indiaai.gov.in/article/expression-of-interest-for-safe-trusted-ai-projects-under-indiaai-mission?utm_source=newsletter&utm_medium=email&utm_campaign=The%20Heuristic%20from%20IndiaAI.

Infocomm Media and Development Authority, Government of Singapore. (2024a). 'Singapore's first generative AI sandbox to familiarise and help SMEs get head start in capturing new AI opportunities'. February 7. https://www.imda.gov.sg/resources/press-releases-factsheets-and-speeches/press-releases/2024/sg-first-genai-sandbox-for-smes.

Infocomm Media Development Authority, Government of Singapore. (2024b). 'Singapore launches Model AI Governance Framework (Gen AI) and AI Governance Playbook for Digital Forum of Small States (Digital FOSS)'. May 30. https://www.imda.gov.sg/resources/press-releases-factsheets-and-speeches/factsheets/2024/gen-ai-and-digital-foss-ai-governance-playbook.

Infocomm Media and Development Authority, Government of Singapore. (2025). 'Singapore announces new AI Safety initiatives at the global AI Action Summit in France'. February 11. https://www.imda.gov.sg/resources/press-releases-factsheets-and-speeches/press-releases/2025/singapore-ai-safety-initiatives-global-ai-summit-france.

Kapoor, S., and Narayanan, A. (2024). 'We looked at 78 Election Deepfakes: Political Misinformation is not an AI problem'. *Knight First Amendment Institute at Columbia University blog*. December 13. https://knightcolumbia.org/blog/we-looked-at-78-election-deepfakes-political-misinformation-is-not-an-ai-problem.

KPMG and Indo-German Chamber of Commerce. (2024). 'The increasing importance of India: 59% of German companies plan new investments there this year'. https://kpmg.com/de/en/home/media/press-releases/2024/06/standort-indien-immer-wichtiger.html.

Lobo, S. (2024). 'Heavy regulation on AI like in the US, Europe not the way to go for India: IT Minister Ashwini Vaishnaw'. *Medianama*. October 7. https://www.medianama.com/2024/10/223-ai-regulation-data-privacy-law-approach-it-minister-ashwini-vaishnaw/.

Mahapatra, S. (2021). 'Digital Surveillance and the Threat to Civil Liberties in India'. *GIGA Focus Asia*. Number 3. https://www.giga-hamburg.de/en/publications/giga-focus/digital-surveillance-and-the-threat-to-civil-liberties-in-india.

Marr, B. (2023). 'The 15 Biggest Risks of Artificial Intelligence', *Forbes*. June 23. https://www.forbes.com/sites/bernardmarr/2023/06/02/the-15-biggest-risks-of-artificial-intelligence/.

Maslej, N., Fattorini, L., Perrault, R., Parli, V., Reuel, A., Brynjolfsson, E.,Etchemendy,J., Ligett, K., Lyons, T., Manyika, J., Niebles, J.C., Shoham, Y., , Wald,R., and Clark,J. (2024). 'The AI Index 2024 Annual Report'. AI Index Steering Committee. Institute for Human-Centered AI. Stanford University. https://aiindex.stanford.edu/wp-content/uploads/2024/05/HAI_AI-Index-Report-2024.pdf.

McBride, K, and Ball, D.W. (2024). 'The United States must win the global open AI race'. *Just Security*. November 7. https://www.justsecurity.org/104676/american-ai-leadership-requires-support-open-source/.

Mcque, K., Martins, L., Bhattacharya, A. and Du Plessis, C. (2025). 'The global struggle over how to regulate AI'. *Rest of World*. January 21. https://restofworld.org/2025/global-ai-regulation-big-tech/.

Microsoft. *What is Generative AI*. https://www.microsoft.com/en-us/ai/ai-101/what-is-generative-ai?msockid=06f240d3ba366258324851afbb9b6387.

Microsoft. *What is artificial intelligence?* https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-artificial-intelligence/#self-driving-cars.

Microsoft. *The 2024 Responsible AI Transparency Report*. https://cdn-dynmedia-1.microsoft.com/is/content/microsoftcorp/microsoft/msc/documents/presentations/CSR/Responsible-AI-Transparency-Report-2024.pdf.

Ministry of Electronics and Information Technology, Government of India. (2023). 'Proposed Digital India Act'. March 9. https://www.meity.gov.in/writereaddata/files/DIA_Presentation%2009.03.2023%20Final.pdf.

Ministry of External Affairs, Government of India. (2025). 'Concluding Address by Prime Minister Shri. Narendra Modi at the AI Action Summit, Paris'. February 11. https://www.mea.gov.in/Speeches-Statements.htm?dtl/39021/Concluding_Address_by_Prime_Minister_Shri_Narendra_Modi_at_the_AI_Action_Summit_Paris_February_11_2025.

Ministry of Digital Development and Information, Government of Singapore. (2023). 'Singapore and the US to Deepen Cooperation in AI', October 13. https://www.mddi.gov.sg/media-centre/press-releases/singapore-and-the-us-to-deepen-cooperation-in-ai/.

Mohamed, S., Png, M. and Isaac, W. (2020). 'Decolonial AI: Decolonial Theory as Sociotechnical Foresight in Artificial Intelligence'. *Philosophy and Technology*, No. 33. pp.659-684.

Niti Aayog, Government of India. (2018). 'National Strategy for Artifician Intelligence'. https://www.niti.gov.in/sites/default/files/2023-03/National-Strategy-for-Artificial-Intelligence.pdf.

Niti Aayog, Government of India. (2021a). 'Responsible AI, #AIForAll: Approach Document for India, Part 1: Principles for Responsible AI'. https://www.niti.gov.in/sites/default/files/2021-02/Responsible-AI-22022021.pdf.

Niti Aayog, Government of India. (2021b). 'Responsible AI, #AIForAll: Approach Document for India, Part 2: Operationalising Principles for Responsible AI'. https://www.niti.gov.in/sites/default/files/2021-08/Part2-Responsible-AI-12082021.pdf.

OECD Principles of AI. (2019). https://oecd.ai/en/ai-principles.

Oxford Insights. (2023). 'Government AI Readiness Index 2023'. https://oxfordinsights.com/wp-content/uploads/2023/12/2023-Government-AI-Readiness-Index-2.pdf.

Pandey, K. (2024). 'India plans to adopt a digital public infrastructure approach to AI: IT Minister Ashwini Vaishnaw said during Global IndiaAI summit'. *Medianama*, July 4. https://www.medianama.com/2024/07/223-india-digital-public-infrastructure-ai-ashwini-vaishnaw-summit/.

Parasnis, S. (2024). 'IndiaAI Mission Selects Eight Proposals for Responsible AI Development'. *Medianama*. October 18. https://www.medianama.com/2024/10/223-indiaai-mission-selects-eight-proposals-responsible-ai-development/.

Poireault, K. (2025). 'UK's AI Safety Institute Rebrands Amid Government Strategy Shift'. *Infosecurity Magazine*. February 14. https://www.infosecurity-magazine.com/news/uk-ai-safety-institute-rebrands/.

Press Information Bureau, India, (2024a). 'Universal connectivity and Digital India initiatives reaching to all areas, including tier-2/3 cities and villages'. Ministry of Communications, Government of India. August 02. https://pib.gov.in/PressReleasePage.aspx?PRID=2040566.

Press Information Bureau, India. (2024b). 'India Unveils AI Data Bank to Propel Innovation and Strengthen National Security'. Ministry of Science and Technology. November 20. https://pib.gov.in/PressReleasePage.aspx?PRID=2075176.

Press Information Bureau, India. (2025). 'With robust and high-end Common computing facility in place, India all set to launch its own safe & secure indigenous AI model at affordable cost soon: Shri Ashwini Vaishnaw'. January 30. https://pib.gov.in/PressReleasePage.aspx?PRID=2097709.

Rajmohan, S. (2024). 'Navigating the Intersection of Human Rights and AI in India'. India AI Portal, Government of India. February 19. https://indiaai.gov.in/article/navigating-the-intersection-of-human-rights-and-ai-in-india.

Ray, S. (2024). 'AI Agents- What they are, and how they'll change the way we work'. Microsoft, November 19. https://news.microsoft.com/source/features/ai/ai-agents-what-they-are-and-how-theyll-change-the-way-we-work/.

Roy Choudhury, A. (2024). 'Singapore's Smart Nation 2.0 policy focuses on AI and building resilience'. *GOVINSIDER*. October 02. https://govinsider.asia/intl-en/article/singapores-smart-nation-20-policy-focuses-on-ai-and-building-resilience.

Sanzgiri, V. (2023). 'MeitY Minister Rajeev Chandrasekhar talks about AI regulation under the Digital India Act'. *Medianama*. May 25. https://www.medianama.com/2023/05/223-meity-chandrasekhar-ai-regulation-under-the-dia/.

Sircar, N. (2021). 'In India, disinformation has emerged as a new form of state-sponsored violence'. The India Forum. *Scroll India*, October 07. https://scroll.in/article/1007070/in-india-disinformation-has-emerged-as-a-new-form-of-state-sponsored-violence.

Sombatpoonsiri, J. and Mahapatra, S. (2024). 'Regulation or Repression?: Government Influence on Political Content Moderation in India and Thailand'. *Working Paper*. Carnegie Endowment for International Peace. July 31. https://carnegieendowment.org/research/2024/07/india-thailand-social-media-moderation?lang=en.

Stanford HAI Staff. (2024). 'Global AI Power Rankings: Stanford HAI Tool Ranks 36 Countries in AI'. November 21. https://hai.stanford.edu/news/global-ai-power-rankings-stanford-hai-tool-ranks-36-countries-ai.

Stryker, C. (2024). ‘With generative AI don’t believe the hype (or the anti-hype)’. *IBM Blog*, September 03. https://www.ibm.com/blog/with-generative-ai-dont-believe-the-hype-or-the-anti-hype/.

Ünver, A.H. (2024). ‘Artificial intelligence (AI) and human rights: Using AI as a weapon of repression and its impact on human rights’. Report for Directorate-General for External Policies, European Parliament. https://www.europarl.europa.eu/RegData/etudes/IDAN/2024/754450/EXPO_IDA(2024)754450_EN.pdf.

Wheeler, K. (2025). ‘How Trump Scrapping AI Safety Regulations Impacts Global AI’. *AI Magazine*. January 23. https://aimagazine.com/articles/trump-scraps-ai-risk-rules-what-you-need-to-know.

Imprint

 The GIGA is thankful for the institutional support provided by the Free and Hanseatic City of Hamburg (Ministry of Science, Research, Equalities and Districts) and the Federal Republic of Germany (Federal Foreign Offce).

Editor DigiTraL Policy Study: Dr. Iris Wieczorek
Editorial Department: Petra Brandt, Meenakshi Preisser

GIGA | Neuer Jungfernstieg 21
20354 Hamburg
Germany

info@giga-hamburg.de
http://www.giga-hamburg.de

GIGA
German Institute for Global and Area Studies
Leibniz-Institut für Globale und Regionale Studien