Annexure 6: Toolkit to Reduce Inequalities Connected to the Use of AI

prepared for the 2025 South Africa Presidency of the G20

Introduction

Recognising the transformative potential of Artificial Intelligence (AI) technologies while acknowledging that they may potentially exacerbate or create inequalities, the 2025 South Africa Presidency of the G20 asked UNESCO to produce a "Toolkit to Reduce Inequalities Connected to the Use of AI" (the Toolkit). The Toolkit, designed as an evidence-informed, action-oriented guide, aims to help support G20 Members and other stakeholders in the development, deployment and use of AI systems that are inclusive and align with societal values.

The Toolkit is articulated over three sections, each addressing policy-relevant dimensions of AI: (i) (An overview of) AI's technological trajectories: (ii) The AI ecosystem and its cross-sectoral impact; and (iii) Actionable strategies to address the potential impact of AI on inequalities. The sections are complemented by real-world case studies illustrating how to operationalise strategies through practical implementation pathways.

Section I – AI's Technological Trajectories

Having a basic and shared understanding of the technical underpinnings, operational characteristics, and inherent limitations of current AI models is key for policy design and implementation, as well as practice. Section I proposes an overview of 2023-2025 AI's technological trajectories, outlines the technical innovations that have been driving recent breakthroughs, and maps emerging capabilities and the way they may be shaping frontier AI developments.

Key elements outlined include the progression from deterministic rule-based systems to machine learning, deep learning, and generative AI; the emergence of agentic AI systems and their facilitating autonomous decision-making and action; enabling factors such as transfer learning, fine-tuning instruction, transformer architectures, and mixture-of-experts models; and expanding capabilities in multimodality, abstraction, generalisation, and contextual reasoning.

Section II – The AI Ecosystem and Its Cross-Sectoral Impact

Building on the first Section establishing the technical context needed to better apprehend the opportunities and challenges associated with contemporary AI systems, Section II explores the broader ecosystem that enables AI development and deployment. It identifies possible interdependencies and examines how layers may influence the possible impact that AI technologies may have on economies and societies.

Key features encompassed include a layered ecosystem comprising foundational research, hardware and infrastructure, developer tooling, and applications; sectoral transformations across healthcare, education, finance, public administration, and creative industries; consideration related to ethics, governance, and access-related challenges; and recognition of the systemic nature of AI and the need for coordinated, cross-sectoral policy responses. The section underscores the importance of enabling environments and inclusive innovation ecosystems to ensure that AI benefits accrue to all.

Section III – Actionable Strategies to Address the Potential Impact of AI on Inequalities

Section III, which constitutes the core of the Toolkit, proposes a comprehensive set of strategies and highlights policy tools that may help prevent, address or mitigate potential AI-related inequalities. It is structured around three strategic pillars and outlines cross-cutting enablers.

The first pillar focuses on ensuring AI systems are fit for purpose. This involves establishing robust evaluation frameworks, including real-world ("in-the-wild") testing; supporting AI auditing and conformity assessment mechanisms; and promoting user-centric design and iterative development processes. The second pillar addresses capability diffusion challenges. These include investing in national AI compute infrastructure and data enablers; developing AI talent and specialised skills programmes; supporting local innovation ecosystems; and facilitating the deployment and adoption of AI by MSME. The third pillar focusses on fostering AI-related societal adaptation and resilience. Among the items considered, there are the promotion of proactive workforce development and lifelong learning strategies; the formulation of AI strategies that

balance innovation with resilience; multi-stakeholder adaptation processes and agile governance mechanisms; and encouraging transparency, explainability, and user control in AI system design.

The Toolkit further identifies several cross-cutting enablers: promoting AI literacy and public understanding; encouraging multi-stakeholder collaboration and international cooperation; and advancing energy efficiency and environmental sustainability throughout the AI lifecycle.

Section III concludes by offering real-world case studies that provide concrete examples of how AI can be deployed ethically and effectively, grounded in local needs and supported by inclusive processes. The case studies proposed serve as practical guides, helping policymakers and other relevant stakeholders understand the real-world implications and applications of AI policies and strategies.

Conclusion

The “Toolkit to Reduce Inequalities Connected to the Use of AI” provides a practical and adaptable guide. The goal is to help Member States and stakeholders harness AI’s potential while mitigating the risk that such transformative technologies may trigger or augment inequalities. By focusing on system fitness, capability diffusion, and societal adaptation, the Toolkit aims to support the development of AI systems that are inclusive, resilient, and aligned with societal values. The Toolkit is intended as a living resource, to be enriched through continued dialogue, shared learning, and the integration of additional case studies and good practices.