
ONE WORLD OUTLOOK
THE NEW RACE FOR PROGRESS
Artificial Intelligence, Power, and Human Potential
August 2025

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EXECUTIVE SUMMARY

Artificial Intelligence (AI) has emerged as a defining force of the 21st century, transforming how societies function and how people live, learn, work, and interact. Once relegated to specialized applications, AI now permeates everyday life—from real-time language translation and personalized health diagnostics to creative innovations in art and science. It is no longer just a frontier technology; it is a general-purpose force reshaping development trajectories across the globe.

Over the past decade, the explosive growth of AI has been propelled by three key drivers: the proliferation of massive datasets, concentrated global investments, and a flow of elite technical talent into AI research and development. However, this revolution is occurring unevenly. While AI has tremendous potential to uplift economies and accelerate human progress, its benefits are not equitably distributed. In fact, AI is evolving under conditions of deep global asymmetry, where a handful of high-income nations set the pace and direction while others are left navigating the margins.

Human development—the expansion of people's freedoms to live lives they value—is at a crossroads. After decades of consistent progress, global development has slowed sharply. The Human Development Index (HDI), long seen as a barometer of global wellbeing, has stalled and even regressed in many countries following successive global shocks like the COVID-19 pandemic. This has exacerbated inequalities between nations and exposed vulnerabilities in systems of health, education, and income.

While AI could serve as a powerful new engine to reignite inclusive growth, it also threatens to widen existing disparities. Much like earlier general-purpose technologies—from electricity to the internet—AI reshapes not just economies, but the very fabric of societies. However, unlike those historical innovations, the speed and scale of AI's spread are unprecedented. Its reach now spans virtually every sector, from agriculture to public health, and it often leapfrogs physical infrastructure, demanding connectivity, digital literacy, and centralized data—not equipment or factories.

This asymmetry is evident in the high concentration of AI power. A few countries and corporate actors control most of the data, algorithmic know-how, and computational capacity. For example, the United States is home to many of the world's leading AI firms and research institutions, shaping global norms and standards. Meanwhile, emerging economies are finding ways to adapt AI to local needs. In India, initiatives like Wadhwani AI are deploying machine learning in low-resource settings to assist in tuberculosis screening—a strategic intervention in a country where access to healthcare is inconsistent. In Brazil, NGOs are working with AI startups to build early disease prediction systems, allowing health authorities to preempt outbreaks and allocate resources more effectively.

The report illustrates that AI is not inherently democratizing or oppressive—it reflects the choices societies make around access, governance, and inclusion. Just as past waves of technological change were shaped by deliberate policies and institutions, AI's future depends on the governance frameworks we build today. Prioritizing human well-being, ethical design, and equitable innovation ecosystems will be central to ensuring that AI contributes positively to long-term development goals.

Ultimately, this is not just a story about machines—it is a story about people. To move from AI-powered disruption to AI-powered development, the global community must not ask what AI can do, but *what we can do with AI*—for everyone. Reclaiming the human-centric foundations of development in this new era will be essential to ensuring that the greatest technological leap of our time becomes a shared leap forward, not another chasm between the haves and have-nots.

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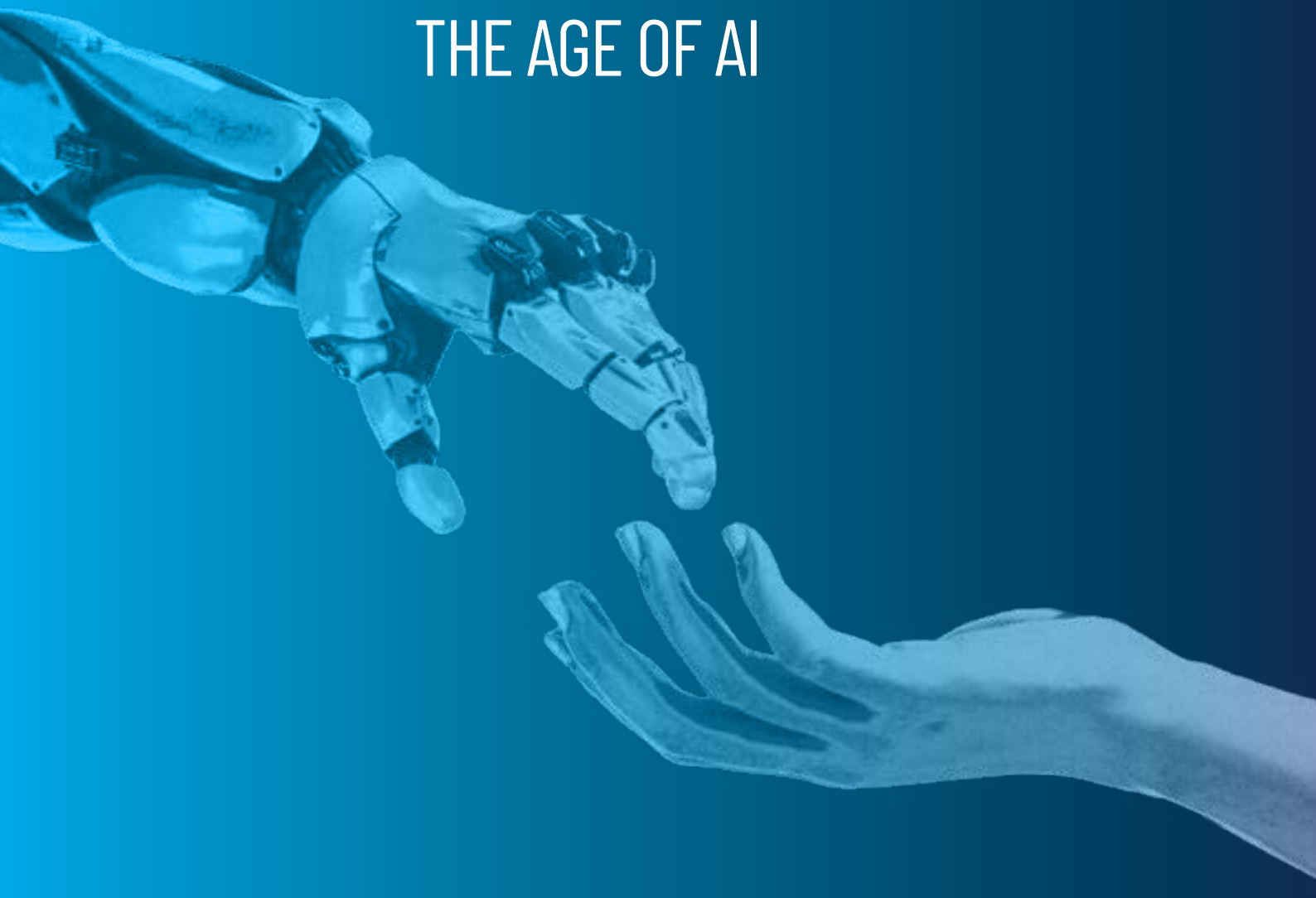
INTRODUCTION

HUMAN DEVELOPMENT IN THE AGE OF AI



OVERVIEW OF RAPID ADVANCES IN ARTIFICIAL INTELLIGENCE (AI)

Over the past decade, artificial intelligence (AI) has advanced at an extraordinary pace, fundamentally altering the technological landscape and the daily reality of billions. Once confined to narrow, highly specialized applications, AI systems now permeate nearly every aspect of social, economic, and personal life. From real-time language translation and autonomous vehicles to personalized medical diagnostics and generative models capable of producing human-like text, art, or protein structures, AI's capabilities have expanded rapidly, becoming both general-purpose and accessible to broad segments of the global population.

This technological surge is frequently compared to previous epoch-defining innovations, such as electricity or the internet. However, AI distinguishes itself by its capacity not only to automate physical tasks but also to match or exceed human-level performance in cognitive domains assumed to be uniquely human, including pattern recognition, creative problem-solving, and adaptive decision-making. The diffusion of AI is global and accelerating: surveys show that about two-thirds of respondents in low, medium, and high Human Development Index (HDI) countries expect to use AI in education, health, and work within one year, highlighting the speed and breadth of adoption.

The underlying drivers of this progress include:

- Steep reductions in the cost of computing and storage, enabling larger and more complex models.
- The proliferation of vast datasets required for training AI systems, resulting from widespread digitalization.
- Advances in algorithmic architectures, such as deep neural networks and transformer-based large language models.
- Massive financial investments and talent flowing toward AI research and development, particularly in a small number of high-income countries.
- Open-source movements and cloud-based platforms bringing sophisticated AI capabilities to developers, businesses, and individuals around the world.

As AI becomes ubiquitous, the boundary between human and machine agency is becoming increasingly porous, challenging fundamental assumptions about work, creativity, learning, and social organization. The advent of AI as a general-purpose technology signals a historic turning point, offering opportunities for transformation but also presenting complex risks and trade-offs.

COUNTRY SNAPSHOTS
AI DRIVING HUMAN DEVELOPMENT

United States

Amazon Alexa/Siri: AI-powered digital assistants reinvent daily convenience through voice interaction and smart home control.

European Union

EU-wide regulations and investment in ethical AI research have both protected fundamental rights and ensured broad access to AI's benefits for citizens across member states.

THE CROSSROADS FACING GLOBAL HUMAN DEVELOPMENT

Despite these remarkable technological advances, progress in global human development has stalled in recent years. The United Nations Human Development Index (HDI)—a composite measure reflecting health, education, and income—experienced dramatic setbacks during the COVID-19 pandemic and is now seeing only a modest recovery. Global development inequalities are widening: while AI-enabled digital economies surge ahead in many very high HDI countries, lower HDI countries find their development prospects increasingly constrained, hemmed in by limited access to capital, infrastructure, and digital technologies.

Key challenges at this crossroads include:

- **Widening global divides:** Decades of convergence in HDI scores between high- and low-income countries have reversed, with the weakest and most vulnerable being left farther behind.
- **Narrowing development pathways:** Traditional models of large-scale job creation and poverty reduction—such as industrialization and export-led growth—are threatened by automation and shifts in the global economy accelerated by AI.
- **Potential for entrenched inequalities:** The concentration of AI research, talent, and power in a handful of countries and corporations risks deepening existing divides while shaping the rules and norms of the digital future.
- **Risks to agency and well-being:** In some countries, particularly among young people, increased connectivity and exposure to AI-powered technologies have coincided with declining subjective well-being and new sources of psychological distress.
- **Governance and ethical uncertainty:** Rapid AI deployments outpace the capacity of existing political and civic institutions to monitor, evaluate, and regulate the impacts of these systems.

These shifts mark a profound inflection point. The world faces a choice: whether to harness AI to amplify and diversify human capabilities, thereby expanding freedoms and opportunities for all, or to allow new forms of technological determinism to deepen disadvantage, concentrate power, and erode democratic accountability.

THE CENTRAL ROLE OF HUMAN AGENCY AND CHOICE IN SHAPING AI'S IMPACT

At the heart of the human development approach is the principle that people, not technologies, are the true wealth of nations. Centuries of progress have demonstrated that advances in health, knowledge, and well-being are ultimately shaped not by the inherent properties of technology but by the collective choices, values, and political arrangements of societies.

As AI systems become more capable and agentic—able to make decisions, influence preferences, and mediate relationships—the question of agency becomes both a practical and ethical imperative. Human agency refers to the ability of people to define their goals and values, make choices, and exercise substantive control over their lives and futures.

AI introduces a paradox at the core of contemporary human development:

- At its best, AI can **augment human potential**—helping individuals learn more effectively, make informed decisions, and access new opportunities for creativity, productivity, and inclusion. In this framing, AI is a new tool for deepening freedoms and capabilities.
- At its worst, AI can **undermine agency** by narrowing choices, entrenching opaque algorithms in decision-making, and reinforcing or amplifying existing biases in ways that are difficult for those affected to contest or redress.

The decisive factor is not what AI can do, but how societies choose to design, govern, and deploy AI. The future of human development in the age of AI will be shaped by deliberate decisions—by individuals, communities, firms, and governments—about:

- **What goals and values should guide AI development and deployment?**
- **How can technology be harnessed to expand, rather than restrict, human freedoms, equality, and well-being?**
- **How can the benefits, risks, and responsibilities associated with AI be distributed fairly, both within and between countries?**
- **What kinds of institutions are needed to ensure democratic oversight, transparency, and accountability when powerful technologies mediate the most fundamental aspects of economic and social life?**

Rather than surrendering the future to technological inevitability, the human development approach asserts that the path AI takes remains open, contingent, and contestable. Agency—the capacity to make choices and to act on them—must remain at the center of decision-making about AI if the technology is to serve as a force for inclusive, sustainable, and equitable progress.

Humanity stands at a critical juncture: AI has the potential to redefine the parameters of progress and possibility on an unprecedented scale. Whether this transformation supports human flourishing or deepens exclusion will depend on how agency, ethics, and inclusive governance are prioritized. The future remains, as ever, a matter of choice—requiring a renewed commitment to expanding freedoms, investing in people's capacities, and shaping technologies that serve human development as their primary purpose.

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TECHNOLOGY AND HUMAN DEVELOPMENT

FRAMING THE OPPORTUNITY

THE EVOLUTION OF AI AS A GENERAL-PURPOSE TECHNOLOGY

Artificial intelligence (AI) has emerged as a transformative force—an archetype of general-purpose technology (GPT) with the capacity to reshape industries, societies, and human potential. Much like previous epoch-defining innovations such as steam power, electricity, and the internet, AI's defining characteristic is its breadth of application: rather than being confined to a single sector, AI permeates diverse realms from healthcare and education to finance, manufacturing, and governance.

The current wave of AI, particularly underpinned by advancements in machine learning, deep neural networks, and massive data processing, is distinguished by its dual ability to automate routine and nonroutine cognitive tasks. This progress has been fueled by several converging drivers:

- Exponential increases in computational power coupled with plummeting storage costs.
- Ubiquity of digital data originating from an increasingly connected world.
- Algorithmic breakthroughs—especially transformer models—enabling generative AI capable of producing human-like language, images, and more.
- Enormous investments of capital and expertise, primarily concentrated in a few countries and firms.
- The open-source ecosystem, cloud infrastructure, and accessible application programming interfaces (APIs), democratizing AI's affordances globally.

AI's growing generality signifies its ability to be adapted and repurposed for tasks previously unimaginable for machines—from real-time medical diagnostics and complex logistics optimization to creative domains such as art and scientific discovery. The trajectory of AI is one of widening scope and decreasing friction: more tasks can be delegated to machines, and with less explicit human instruction required than in any prior paradigm shift.

PARALLELS AND CONTRASTS WITH PAST TECHNOLOGICAL REVOLUTIONS

AI's ascent invites comparison to historical technological revolutions that have profoundly altered social, economic, and political landscapes. Like steam engines during the Industrial Revolution or electrification in the 20th century, AI promises significant productivity gains, new markets, and changes in labor organization. Yet, important parallels and equally salient contrasts must be recognized:

Parallels:

- **Breadth of Impact:** Like previous GPTs, AI's diffusion is not limited to one industry or a single set of tasks; instead, it transforms production, consumption, communication, and organization at scale.
- **Complementarity and Disruption:** As with electricity (which powered both new industrial processes and novel consumer goods) or the internet (which created entirely new business models), AI catalyzes both complementary and disruptive change—enabling new sectors while rendering others obsolete.
- **Lag between Innovation and Impact:** Historically, there has often been a delay between the introduction of a new technology and its profound impact, as societies, organizations, and labor markets gradually adapt their structures, institutions, and skills.

Contrasts:

- **Scope of Automation:** Previous revolutions primarily automated physical labor (e.g., steam power, assembly lines), but AI increasingly encroaches on cognitive, decision-making, and creative domains long regarded as uniquely human.
- **Speed and Scalability:** Due to globalized digital infrastructure, AI can proliferate at unprecedented speed—crossing national and sectoral boundaries faster than previous innovations, with little need for physical infrastructure.
- **Concentration of Power and Access:** The AI ecosystem is marked by acute concentration—of data, algorithmic know-how, and computational resources—among a handful of countries and tech giants, in contrast to the more distributed nature of past technological adoption. This risks entrenching new divides unless actively addressed.
- **Opacity and Accountability:** Unlike many prior technologies, AI's decision-making processes are often opaque ("black box" models), raising novel challenges for trust, agency, and accountability, especially as AI intervenes in high-stakes social decisions.

MOVING BEYOND TECHNO-DETERMINISM: THE CENTRALITY OF SOCIETAL CHOICES

A recurrent pitfall in discussions of technological progress is *techno-determinism*: the misconception that technology unfolds according to its own logic, inexorably shaping society and human fate. This perspective mislocates agency, neglecting the defining role of individual and collective choices in steering technological trajectories and outcomes.

AI's impact on human development is not dictated solely by what algorithms can do, but more importantly, by:

- **Policy Interventions:** National and international regulatory choices determine how AI is developed, deployed, and controlled—shaping who benefits and who risks being left behind.
- **Societal Values and Norms:** The goals and priorities that societies embed in AI systems—whether for inclusion, efficiency, equity, or control—profoundly influence outcomes.
- **Institutional Adaptation:** The willingness and capability of governments, educational systems, and civil society to update structures and protect public interests is a key variable in leveraging AI for positive change.
- **Democratic Deliberation and Accountability:** Open debate, public participation in technology governance, and transparent mechanisms for oversight ensure that AI augments rather than diminishes human capabilities and freedoms.

Moving beyond techno-determinism means recognizing that the future of AI—and its effect on human development—is not preordained. Instead, it is the cumulative result of deliberation, negotiation, and contestation across all levels of society. Societal choices—about investment, incentives, ethical frameworks, and international cooperation—will ultimately decide whether AI acts as an engine of empowerment and equity, or becomes a force for exclusion and power concentration.

By anchoring AI's development in people-centered values and transparent governance, societies can seize the opportunity to harness a transformative technology for human flourishing—framing not only what AI can achieve, but how and for whom it serves.

COUNTRY SNAPSHOTS
AI DRIVING HUMAN DEVELOPMENT

India

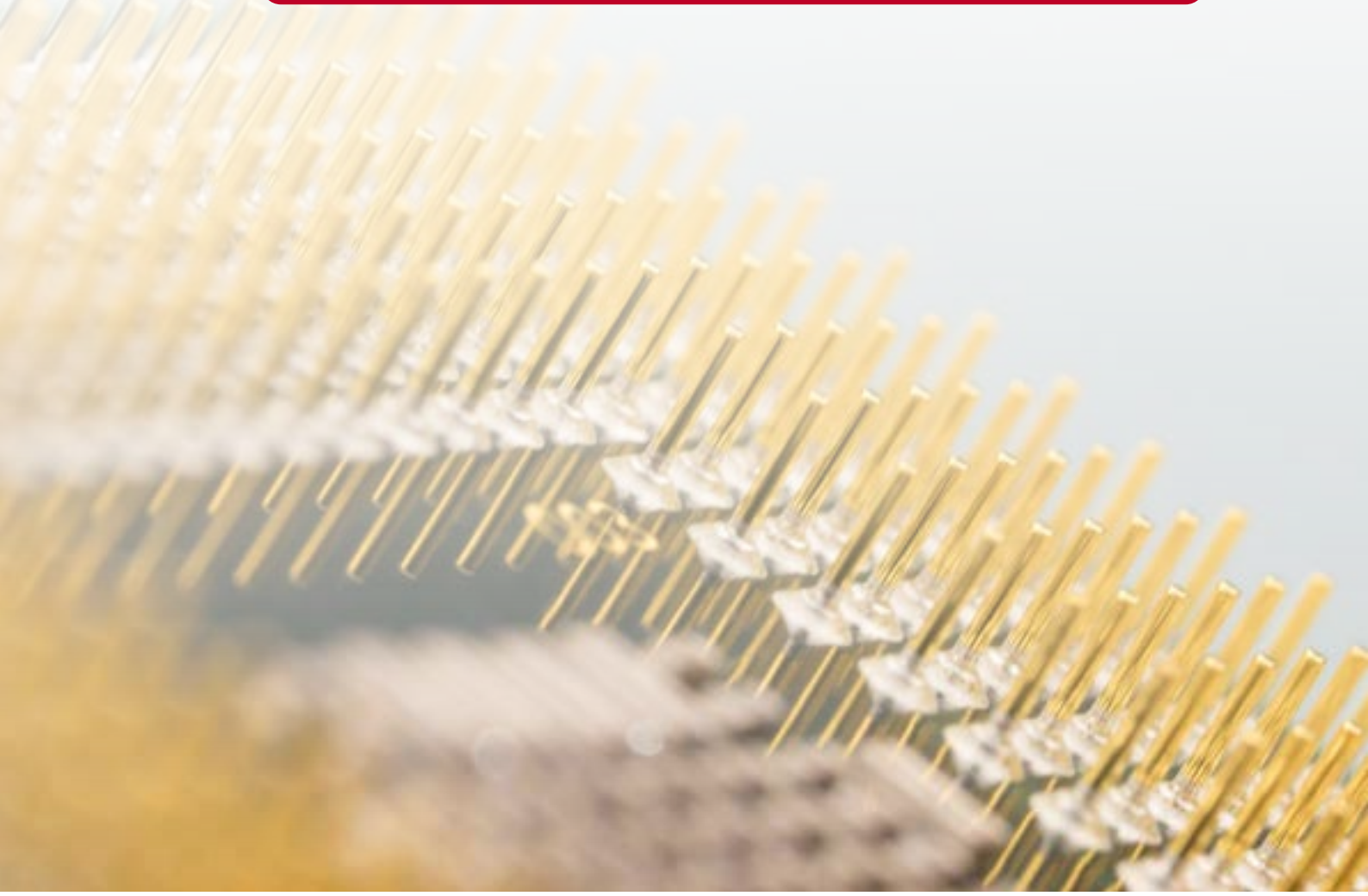
The government's Digital India and "AI for All" initiatives promote digital access, language localization, and upskilling in rural and underserved populations.

Brazil

NGOs have collaborated with AI startups to deploy disease prediction platforms, using data and AI to anticipate outbreaks and direct resources for public health.

Singapore

The Smart Nation program exemplifies the integration of AI into urban planning, transportation, and public service delivery, aiming to enhance the quality of life on a city-wide scale.



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THE STATE OF HUMAN DEVELOPMENT

PROGRESS AND SETBACKS

TRENDS IN THE HUMAN DEVELOPMENT INDEX (HDI): GLOBAL SLOWDOWN AND WIDENING INEQUALITIES

The Human Development Index (HDI), a composite measure of achievements in health, education, and income, has long served as a principal benchmark for global development progress. For much of the past three decades, the HDI revealed a steady upward march, with the most vulnerable countries gradually closing the gap with very high HDI nations. However, recent years mark a significant departure from this trend.

Following the COVID-19 pandemic, global HDI growth stalled and, in some instances, reversed. The modest rebound observed since the deep declines of 2020–2021 has failed to restore the previous pace or breadth of development. Projections indicate that, while the global HDI will reach a record high in 2024, the rate of improvement is the lowest since records began 35 years ago. More alarmingly, the divide between very high and low HDI countries—which had been shrinking for decades—began to widen again over the past four years, reversing long-standing trends of convergence.

The global context compounds these setbacks. Conflicts, economic volatility, and environmental stresses have exacerbated inequalities, leaving the weakest and most vulnerable farther behind. Development pathways that fueled job creation and poverty reduction—particularly industrialization and export-led growth—are narrowing, in part due to the impact of automation and rising trade barriers. Financial constraints further squeeze opportunities, especially for low- and middle-income countries facing inadequate external support.

PERSISTENT DIVIDES BETWEEN VERY HIGH AND LOW HDI COUNTRIES

The persistent, and now widening, divides between very high and low HDI countries constitute a critical concern for the global community. The difference in HDI values between these groups, after years of steady decline, has increased sharply since 2020, returning to levels not seen in decades. For example, the anticipated convergence by 2030—a world where most societies would achieve very high HDI status—has been delayed by decades, according to current trends.

Several reinforcing factors contribute to these persistent divides:

- **Disrupted educational attainment:** School closures, resource disparities, and digital divides have disproportionately affected learners in low HDI settings.
- **Health system strain:** Pandemic impacts and ongoing health crises have exacerbated mortality and morbidity in the least developed countries.
- **Limited economic diversification:** As manufacturing becomes more capital- and technology-intensive, low HDI economies without the infrastructure or expertise to compete globally are left behind.
- **Digital and technological exclusion:** While high HDI countries surge ahead with advanced AI and digital integration, lower HDI countries are constrained by connectivity gaps, lack of investment, and restricted access to emerging technologies.

The result is a "triple squeeze": diminished opportunities for industrialization and export growth, inadequate financing, and growing technology gaps, all of which impede progress for countries most in need1.

THE INTERPLAY BETWEEN TECHNOLOGICAL CHANGE, ECONOMIC DEVELOPMENT, AND SOCIAL DIVIDES

Technological innovation—particularly the acceleration of artificial intelligence—offers both promise and peril for global human development. Historically, major technological revolutions have driven economic transformation and, with effective policies, fostered broad improvements in well-being. Nevertheless, technological change has also introduced new sources of exclusion and stratification.

The current digital era is marked by several distinctive dynamics:

- **Productivity gains and job polarization:** Advanced technologies, including AI, increase productivity but often do so in ways that primarily benefit those with high skills and capital, leaving lower-skilled workers and less-developed economies at a disadvantage.
- **Skill and capability gaps:** Countries with the infrastructure and education systems to adopt and harness new technologies realize the bulk of the benefits, exacerbating skill-based inequalities within and between nations.
- **Network effects and market concentration:** Digital platforms and AI ecosystems tend to concentrate power among a narrow set of global actors, typically in very high HDI countries, curtailing opportunities for broader participation and reinforcing dependency structures.
- **Potential for inclusion—and exclusion:** AI and digital tools can expand access to education, health, and economic opportunity, but only when complemented by inclusive policies that address affordability, literacy, and the particular needs of marginalized groups.

Crucially, the direction and impact of technological change are not preordained. While innovation can create new opportunities and aid in overcoming persistent barriers, the absence of deliberate policymaking and investment risks locking in and magnifying existing social and economic divides. For countries already lagging in HDI, technological change—if left unchecked—may further curtail viable development pathways and limit the realization of fundamental human freedoms.

The recent era has witnessed a concerning slowdown in global human development, with widening divides between countries and new challenges posed by technological transformation. Persistent inequalities—rooted in structural, economic, and technological factors—threaten to undermine decades of progress unless urgently addressed through coordinated action, investment in capabilities, and a renewed commitment to inclusion and equity as countries navigate the digital and AI-driven age.

COUNTRY SNAPSHOTS
AI DRIVING HUMAN DEVELOPMENT

Denmark

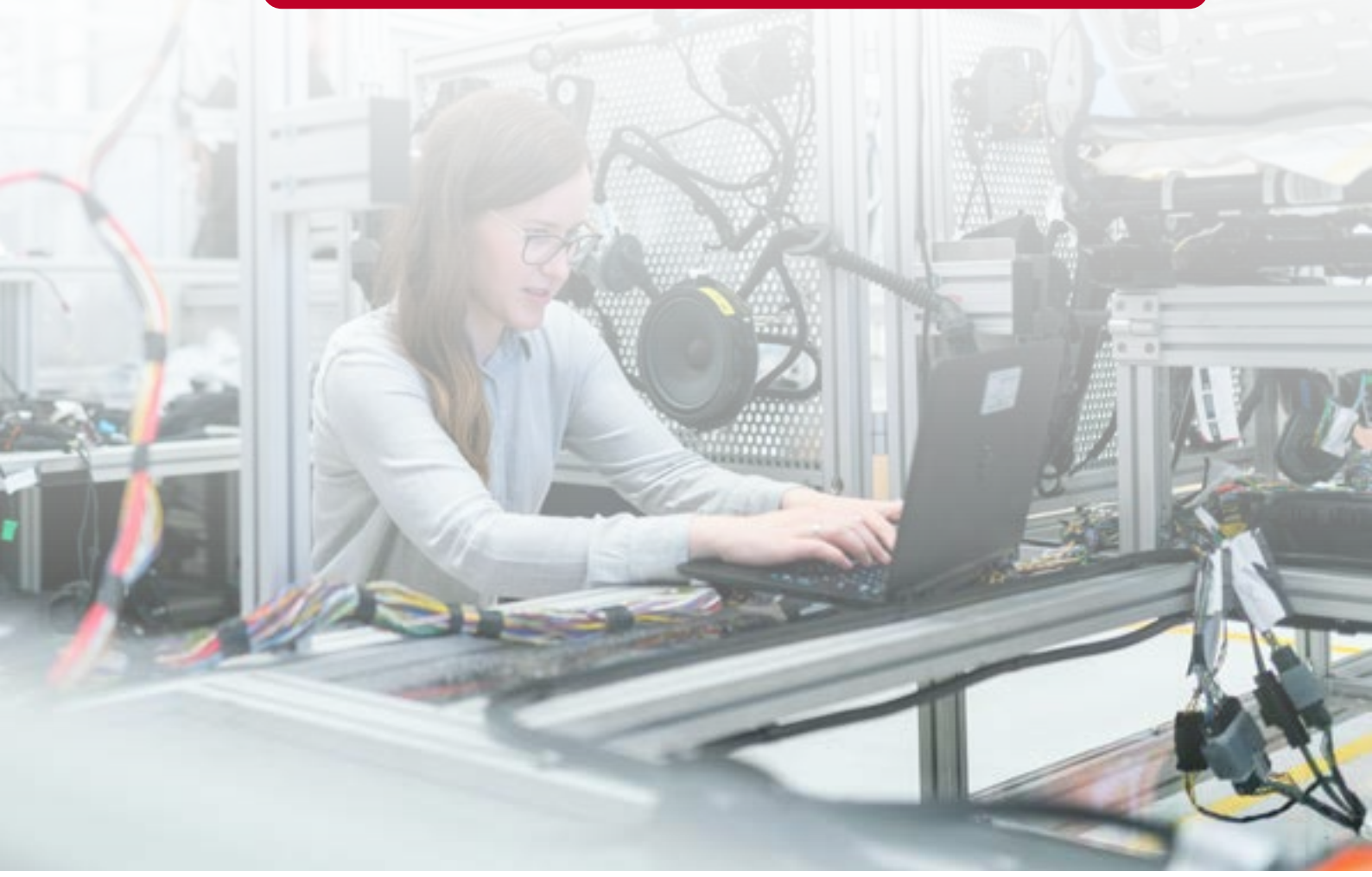
AI voice recognition in emergency services rapidly identifies cardiac arrest, demonstrating measurable progress in life-saving outcomes, though it also raises concerns about data consent and privacy.

South Africa

AI-powered mobile health clinics tackle shortages in rural areas, but infrastructural and connectivity gaps persist, showing uneven progress.

United States

The adoption of AI diagnostic tools (e.g., FDA-cleared imaging software) has improved care quality but also highlighted persistent disparities in high-tech healthcare access.



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INEQUALITY AND INCLUSION IN THE AI ERA

UNEQUAL ACCESS TO AND CONTROL OVER AI TECHNOLOGIES

The transformative potential of artificial intelligence (AI) is shaped not merely by algorithmic advances, but by the distribution of access to—and control over—these technologies. At present, AI is deeply entangled with pre-existing global inequalities, amplifying the risks that powerful new tools will deepen rather than bridge divides between and within societies.

Several factors drive this landscape of unequal access:

- **Resource Intensiveness:** Cutting-edge AI (especially large language models and advanced machine learning) requires immense computational resources, vast datasets, technical expertise, and robust infrastructure. These prerequisites are disproportionately concentrated in high-income countries and a handful of global technology firms.
- **Skill and Literacy Gaps:** AI benefits flow most readily to those with advanced digital and domain-specific skills, leaving behind populations and sectors with inadequate access to digital literacy, STEM education, or opportunities to acquire relevant experience.
- **Economic Barriers:** The high costs associated with developing, deploying, and maintaining AI systems restrict access for low- and lower-middle-income countries, small organizations, and marginalized communities.

Open-source movements, cloud computing, and international capacity-building efforts help spread access to AI. Yet, these remain insufficient to fundamentally rebalance the underlying asymmetries in technological and economic power. The continued exclusion of large segments of the globe from shaping, deploying, or benefiting from advanced AI highlights the urgency of concerted policy intervention.

RISK OF CONCENTRATION OF POWER IN A FEW COUNTRIES AND CORPORATIONS

The current AI landscape is marked by extreme concentration at multiple levels:

- **Geographic Concentration:** The majority of investments, patents, and research breakthroughs are generated in a narrow cluster of countries—primarily the United States, China, and a handful of high-income European and Asian economies. These countries also house the data centers and high-performance computing capabilities required for state-of-the-art AI research and deployment.
- **Corporate Concentration:** A small set of global technology conglomerates exercise extraordinary influence over AI development, standards, and infrastructure. They own and operate proprietary platforms, control key data flows, and often set the pace and direction of innovation and governance debates on AI.
- **Talent Flows:** Global competition for AI experts exacerbates brain drain from low- and middle-income countries, further consolidating expertise and decision-making power in dominant regions.

This concentration has several implications:

- It threatens to make the rules, standards, and norms of the algorithmic age reflect the priorities of a minority, ignoring the lived realities, social values, and needs of most of humanity.
- It increases the risk of exclusion from future economic gains, global value chains, and digital public infrastructure.
- It undermines efforts at inclusive AI governance by cementing dependencies and lock-ins that are hard to overcome.

DIGITAL DIVIDES: GENDER, AGE, DISABILITY, AND GEOGRAPHY

The digital divide in the AI era does not exist only between rich and poor countries. Within nations, inequalities in technological access and use cut across gender, age, disability, and geography:

- **Gender:** Globally, women are less likely to access and use digital technologies, including AI-driven platforms and services. Even with equivalent educational qualifications, women use generative AI for work less than men. Gender bias and underrepresentation persist in the data, design, and deployment of AI systems, leading to algorithmic discrimination and further entrenchment of inequalities.
- **Age:** Younger people generally have higher rates of AI adoption, but also face unique risks, such as increased exposure to online harms and declining mental wellbeing linked to digital context. Older adults, meanwhile, are less likely to have digital access and the skills needed to benefit from AI—often resulting in increased social isolation and missed opportunities.
- **Disability:** AI-powered assistive technologies (e.g., live captioning, sign language interpretation, image-to-text) offer unprecedented promise for people with disabilities. However, accessibility remains uneven and often unaffordable, and AI systems can also amplify existing biases and barriers for these groups.
- **Geography (Urban/Rural, North/South):** Rural communities and those living in low-connectivity settings are least likely to benefit from AI, given persistent gaps in electricity, internet, and affordable devices. This compounds disadvantages and restricts access to services ranging from health and education to finance and civic engagement.

These divides interact, so people at the intersection of multiple vulnerabilities (e.g., women living with disabilities in rural areas) are at particular risk of exclusion in the AI era.

POLICY OPTIONS TO FOSTER INCLUSION AND EQUITABLE AI DEPLOYMENT

Closing AI-driven divides and ensuring that technology advances human development for all requires a proactive, multifaceted policy agenda:

1. Ensure Universal Connectivity and Foundational Digital Access

- Invest in infrastructure for affordable and reliable internet and electricity access, especially in underserved rural and low-income communities.
- Provide devices and digitally inclusive platforms tailored to diverse users, including those with disabilities or limited literacy.

2. Bridge the Skills and Capabilities Gap

- Mainstream digital literacy, STEM, and critical thinking in education for all ages and backgrounds.
- Support lifelong learning and upskilling as AI reshapes labor markets and everyday life.

3. Prioritize Gender and Social Inclusion by Design

- Mandate gender-sensitive approaches, algorithmic fairness, and active mitigation of biases in AI systems.
- Support women, minorities, and people with disabilities to participate in AI innovation—as users, designers, scientists, and policymakers.

4. Break Down Corporate and Geographic Concentration

- Support open-source AI development and knowledge-sharing.
- Encourage local and regional innovation ecosystems to adapt AI to local contexts and challenges, rather than importing external models.

5. Strengthen Inclusive Governance and Accountability Mechanisms

- Foster multistakeholder dialogue, public participation, and community-based oversight in shaping AI policy and standards.
- Develop international frameworks (like the proposed UN Global Digital Compact) to promote equitable access, shared standards, and distributed benefits from AI.

6. Expand Data Sovereignty and Rights

- Protect privacy, ensure transparency, and foster democratic discourse on the data that fuels AI systems.
- Empower individuals and groups to control how their data is used, particularly historically marginalized populations.

7. Invest in People-Centered Innovation

- Target public and private investments toward AI for social good, inclusive public services, and empowerment of disadvantaged groups.
- Incentivize deployment of AI in ways that augment rather than automate away human capacities across diverse societies.

By embedding equity and inclusion at the core of AI strategies, and acting on these multiple fronts, societies can harness the promise of artificial intelligence as a catalyst for more just, resilient, and human-centered development trajectories in the 21st century.

COUNTRY SNAPSHOTS
AI DRIVING HUMAN DEVELOPMENT

India

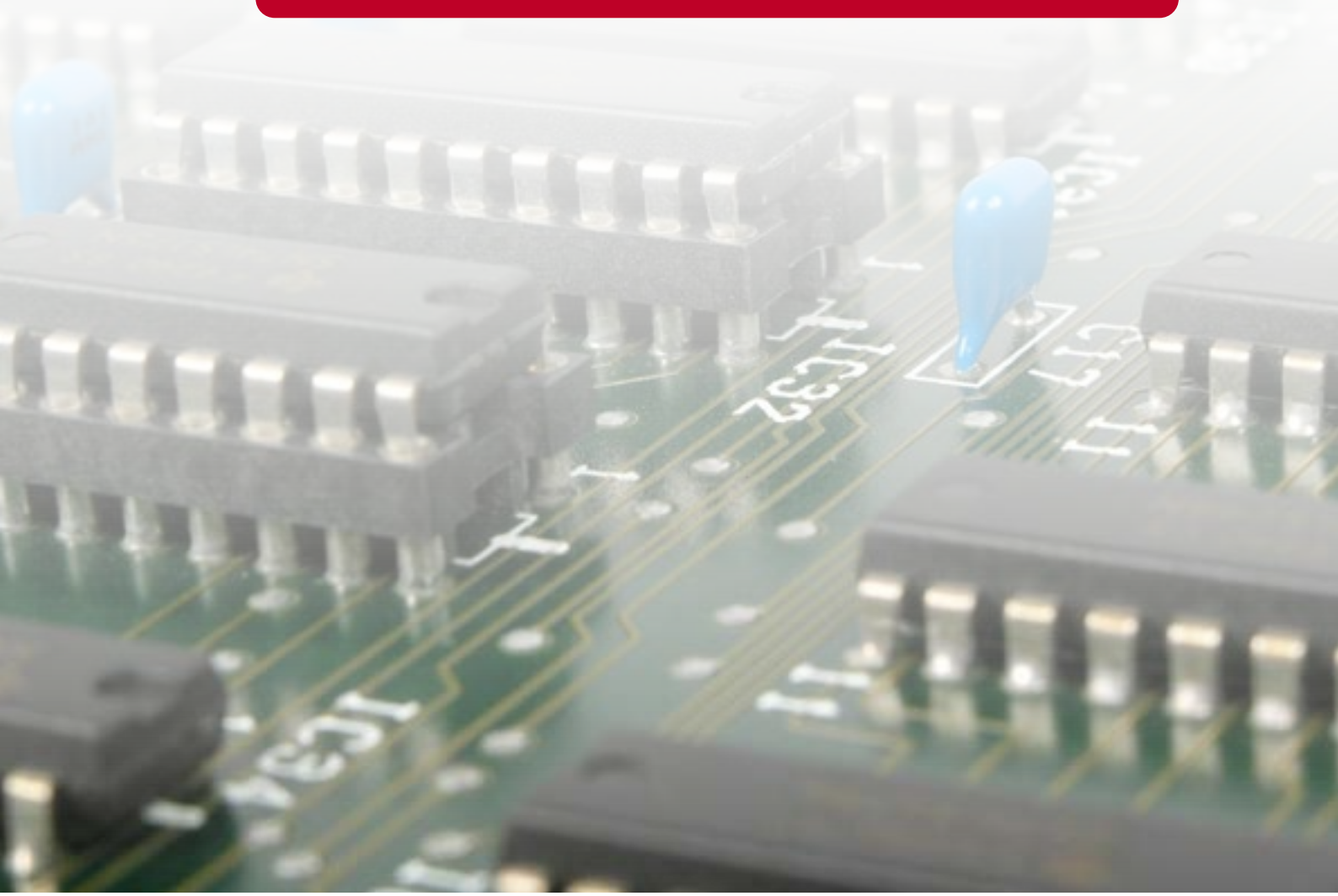
State-led AI in agriculture (e.g., Kisan e-mitra programs) provides small-scale farmers with weather alerts and credit access, bridging divides between urban and rural innovation.

Germany

The AI Campus (KI-Campus) national learning platform supports digital literacy and workforce reskilling, addressing inclusion in advanced economies.

Nigeria

Startups create localized language processing tools, enabling broader participation in the digital economy despite language barriers across hundreds of dialects.



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SOCIETAL BIASES AND GOVERNANCE CHALLENGES

AI'S TENDENCY TO MIRROR AND EXACERBATE EXISTING SOCIETAL INEQUALITIES

As artificial intelligence (AI) permeates more aspects of society, it reveals a persistent risk: rather than acting as a neutral force for progress, AI systems often mirror—and in some cases, amplify—the structural inequalities and social biases embedded in the data, institutions, and incentives that shape their development and use. Far from existing outside of social context, AI reflects the worldviews and priorities of its creators, users, and the societies in which it operates.

Several factors converge to make AI particularly vulnerable to bias reproduction and magnification:

- **Biased Data and Representations:** AI systems learn from datasets that frequently underrepresent marginalized groups or encode historical patterns of exclusion and discrimination. As a result, predictive models often reinforce rather than redress social biases.
- **Design and Deployment Choices:** The priorities, expertise, and lived experiences of those who conceive and engineer AI systems are unevenly distributed and not representative of the full spectrum of societies. As a result, critical perspectives on fairness, accessibility, and cultural diversity are often overlooked.
- **Lack of Context Awareness:** AI tends to treat correlation as causation, failing to distinguish between social differences rooted in discrimination and those based on legitimate factors, thereby perpetuating disparities in outcomes.

In practical terms, this means that AI applications used in domains such as credit scoring, hiring, law enforcement, health diagnostics, and public resource allocation can systematize inequalities unless explicitly checked through design and oversight. Examples include facial recognition systems that underperform for people of color, hiring algorithms that disadvantage women, and predictive policing tools that reinforce patterns of over-surveillance in marginalized communities.

ALGORITHMIC DISCRIMINATION AND GENDER DIGITAL DIVIDES

One of the most extensively documented risks of AI systems is their reinforcement of existing discrimination—often referred to as algorithmic bias or algorithmic discrimination. Algorithmic discrimination occurs when models make systematically unequal predictions or recommendations for different social groups, even in the absence of explicit intent.

Mechanisms of Algorithmic Discrimination

- Training on Skewed Data: When models are trained on data reflective of historical inequalities (such as employment or lending data), they learn to perpetuate these patterns. For instance, if women or minorities had less access to loans in the past, AI credit scoring models may continue to restrict access.
- Proxy Variables: Even when legally protected attributes are removed from datasets, proxy variables (such as address or educational background) can reintroduce social biases, masking discrimination.
- Feedback Loops: Automated systems used in law enforcement or hiring can reinforce their own predictions—if certain groups are over-policed or under-hired, the model "learns" to direct further scrutiny or exclusion to these populations.

Gender Digital Divides

Gender inequalities are particularly acute in the digital and AI era:

- Access and Use Gaps: Women and girls, especially in low- and middle-income countries, are less likely to have access to internet and digital devices, a gap that extends into AI-driven services and opportunities for digital skills acquisition.
- Representation in STEM and AI Fields: Globally, women are underrepresented in science, technology, engineering, and mathematics (STEM) education and AI-related professions. Only about 35% of STEM graduates are women, a share that has stagnated for more than a decade.
- Bias in AI Outcomes and Design: AI-enabled products and platforms often reflect gender biases—not only in data and algorithms, but also in modes and priorities of design. For example, voice assistants trained predominantly on male voices, or health apps that fail to address women's unique needs.

Barriers are compounded by broader social norms and responsibilities. For instance, women shoulder a disproportionate share of unpaid care work, constraining their ability to acquire and apply digital skills and to participate as leaders, engineers, or users of technology.

THE CASE FOR ROBUST, INCLUSIVE AI GOVERNANCE FRAMEWORKS

The risks and realities of AI-driven discrimination and exclusion underscore the necessity for comprehensive governance frameworks that prioritize inclusion, fairness, and accountability. Without such frameworks, AI's potential to empower society may be overshadowed by its capacity to deepen existing divisions.

National-Level Governance

Effective national strategies for AI governance should address:

- **Legal and Regulatory Protections:** Enacting clear anti-discrimination laws for algorithmic systems, including mechanisms for redress and auditability, to deter unlawful bias in both public and private sector AI.
- **Transparency and Explainability Requirements:** Mandating that significant AI systems—especially those affecting fundamental rights—be transparent in operation, explainable in their decisions, and subject to independent oversight.
- **Public and Stakeholder Participation:** Engaging diverse stakeholders, including marginalized groups and civil society, in the development and review of AI systems and standards.
- **Diversity and Inclusion Initiatives:** Supporting the education, recruitment, and advancement of underrepresented groups in STEM, AI research, and policy settings to ensure broader perspectives inform AI development.
- **Digital Literacy and Rights Awareness:** Promoting digital and AI literacy, particularly among groups at risk of exclusion or discrimination, to empower individuals in navigating and contesting automated decisions.

INTERNATIONAL COOPERATION AND STANDARDS

Given the global spread of AI and the cross-border impacts of technology, international cooperation is critical. The United Nations, notably through the proposed Global Digital Compact, has called for a principled approach to digital and AI governance rooted in shared values of equality, non-discrimination, and human rights.

Key aspects of robust international governance include:

- **Development of Common Standards:** Fostering alignment on definitions of fairness, transparency, and privacy, as well as on technical protocols for algorithmic auditing, across jurisdictions.
- **Capacity Building for Low- and Middle-Income Countries:** Providing support for regulatory infrastructure, skills training, and access to technical expertise to avoid deepening the AI divide.
- **Global Mechanisms for Accountability:** Establishing processes for complaint, investigation, and remedy that cross national borders, ensuring victims of algorithmic discrimination have meaningful avenues for redress.
- **Cultural and Contextual Sensitivity:** Ensuring that AI systems and governance frameworks respect cultural differences and are adapted to local contexts, avoiding the imposition of "one size fits all" standards that may not serve minority or underrepresented groups.

Addressing the challenge of societal biases in AI is not merely a technical task but a political, social, and ethical imperative. It requires embedding inclusiveness, equity, and human rights at every step—from design and data collection to deployment and governance—through robust frameworks at both national and international levels. The ultimate goal is to ensure that AI serves as a tool for broadening, rather than narrowing, the horizons of human development.

COUNTRY SNAPSHOTS
AI DRIVING HUMAN DEVELOPMENT

United States

Companies like Textio deploy AI to reduce gender and racial bias in hiring, showing both progress and the need for continuous oversight in data-driven HR.

China

The deployment of facial recognition in urban management has triggered domestic and international debates on privacy, surveillance, and the balance between innovation and civil liberties.

Brazil

National debates over AI-powered crime prediction systems have underscored the risk of reinforcing societal prejudices through opaque algorithms in law enforcement.

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STRATEGIC PATHWAYS FOR AI-AUGMENTED HUMAN DEVELOPMENT

As artificial intelligence (AI) rapidly evolves and integrates across social and economic domains, the challenge and opportunity for human development is to move beyond passive adaptation. Instead, societies can proactively chart pathways that ensure AI becomes a force for expanding freedoms, equity, and well-being. Three interrelated strategic pathways—building a complementarity economy, driving innovation with intent, and investing in skills and capabilities—offer a foundation for steering this transformation towards inclusive and sustainable human development.

BUILDING A COMPLEMENTARITY ECONOMY: EXPANDING HUMAN-MACHINE COOPERATION

AI's greatest promise does not lie in replicating or displacing human abilities, but in creating new forms of complementarity—where humans and machines collaborate, enhancing each other's strengths. This concept frames the core of a **complementarity economy**:

- **Augmentation over automation:** Rather than viewing AI as a replacement for human workers, the focus shifts to the augmentation of human labor. AI can relieve people of repetitive, taxing, or dangerous tasks, while humans contribute contextual understanding, judgment, empathy, and ethical reasoning.

  For example, in healthcare, AI can assist providers with diagnosis or administrative tasks, enabling clinicians to devote more time to direct patient care and nuanced decision-making.

- **Job transformation and emergence:** AI is projected to both transform current roles and create entirely new categories of work. These include roles such as *trainers* (guiding AI systems), *explainers* (interpreting AI outputs for stakeholders), and *sustainers* (overseeing AI's reliability, alignment, and social outcomes).

- **Inclusive productivity gains:** The productivity effects of AI should be widely shared. Policies can incentivize firms to deploy AI in ways that boost output while safeguarding and upgrading jobs, ensuring that gains are not concentrated among a small elite.

- **Social dialogue and collective bargaining:** Active participation by workers, employers, and civil society is essential in shaping how AI is integrated. Social dialogue can ensure fair transitions, address worker displacement, and establish standards for "decent work" in AI-augmented contexts.

- **Smart social protection systems:** Adaptive social safety nets, skills retraining, and mobility support are necessary responses to job transitions, reducing risks of social or economic disenfranchisement.

To realize a complementarity economy, public policy must:

- Curb the adoption of "so-so AI" that automates without generating meaningful productivity or social gains.
- Use fiscal incentives and regulations to favor AI deployments that support job creation, worker empowerment, and sectoral diversification.
- Develop innovation ecosystems that nurture cooperation between startups, established firms, and public research, channeling AI solutions toward underserved sectors and communities.

DRIVING INNOVATION WITH INTENT: ALIGNING TECHNOLOGY WITH SOCIAL PRIORITIES

Technological progress is not neutral; its direction can and should be purposefully steered to advance societal values and priorities. "Driving innovation with intent" requires:

- **Setting social priorities for AI:** Governments, communities, and global forums must articulate what outcomes matter—such as equity, sustainability, improved health and education, or empowerment of marginalized groups.
- **Aligning incentives and benchmarks:** Current AI innovation cycles are often driven by private profitability rather than broader social value. Public investments, targeted funding, and updated benchmarks (measuring AI's contribution to development rather than only technical performance) can realign incentives.
- **Inclusive governance and oversight:** Multi-stakeholder governance at both national and international levels is crucial for setting standards related to fairness, safety, explainability, and cultural adaptation of AI models.
- **Localized solutions and contextualization:** Encourage the adaptation of AI systems to local knowledge, languages, and social realities, avoiding one-size-fits-all imports that risk reinforcing inequalities.
- **Supporting open and collaborative innovation:** Open-source models, knowledge-sharing networks, and international partnerships can broaden who participates in AI development, especially for low- and middle-income countries.

Concrete policy actions include:

- Prioritizing basic and curiosity-driven research alongside challenge-driven innovation (e.g., AI to address climate change, health disparities, or educational access).
- Establishing clear frameworks for transparency, accountability, and redress in AI systems—particularly those affecting high-stakes domains.
- Fostering international cooperation on AI standards, data sharing, and responsible research to prevent harmful AI races and exclusionary dynamics.

INVESTING IN SKILLS AND CAPABILITIES: EMPOWERING PEOPLE IN THE AI ERA

Central to human development is equipping people with the skills, literacy, and capabilities to both shape and thrive in an AI-driven society. This entails:

- **Universal digital and AI literacy:** Integrate digital and critical skills throughout the educational lifecycle, from early childhood to adult learning, so all individuals can navigate, evaluate, and use AI tools meaningfully.
- **Lifelong learning ecosystems:** Recognize that technological advances will continue to reshape job requirements. Vocational training, on-the-job learning, online education, and flexible training programs must continually upskill workers and prepare new entrants.
- **Critical thinking and "soft" human skills:** As AI takes on more routine and even some cognitive tasks, human skills such as creativity, emotional intelligence, and complex problem-solving grow in importance. Schools and training systems must nurture these capacities, not just technical competencies.
- **Targeted inclusion efforts:** Special attention must be paid to closing gaps for women, marginalized minorities, people with disabilities, and those in rural or low-income settings—who remain most at risk of digital exclusion.
- **Empowering informed agency:** People must not only be users of AI but empowered agents: able to make informed choices about when and how to use AI, to advocate for rights, and to participate in civic dialogue on technology's role.

Policy actions encompass:

- Mainstreaming digital and AI literacy in curricula at all levels.
- Supporting transitions for workers displaced or affected by AI, with social protection, retraining, and job-matching services.
- Ensuring access to foundational infrastructure: affordable broadband, hardware, and adaptive tools for all social groups.
- Investing in teachers' and trainers' own upskilling, enabling them to confidently integrate AI in education and training.

The strategic pathways for AI-augmented human development are not prescriptions for a distant future but an urgent agenda for inclusive action. By anchoring AI deployment in human-centered values, intentionally directing innovation, and massively investing in people's skills and capabilities, societies can transform the uncertainties of the AI age into new freedoms, opportunities, and equitable progress.

COUNTRY SNAPSHOTS
AI DRIVING HUMAN DEVELOPMENT

India

Development of AI for low-resource settings—such as remote diagnostics for tuberculosis (e.g., Wadhwani AI)—highlights strategic design for maximizing health equity.

Finland

The national "Elements of AI" course offers free introductory AI education to every citizen, setting a precedent for broad public engagement and responsible AI understanding.

United Kingdom

The NHS's partnership strategy with AI startups for cancer diagnostics illustrates how strategic alliances can accelerate beneficial impacts while managing ethical and regulatory risks.

08

INTERNATIONAL COOPERATION AND THE FUTURE OF AI

CROSS-BORDER CHALLENGES: POWER, COMPETITION, AND THE RISK OF EXCLUSION

Artificial intelligence (AI) is not only a national or local phenomenon but a deeply global one, carrying implications that transcend borders and governance frameworks. The rapid evolution and diffusion of AI have introduced a complex landscape of cross-border challenges that shape opportunities—and exclusions—for nations and people everywhere.

Power and Geopolitical Competition

- **Concentration of AI Capacity:** The global AI landscape is marked by acute concentration of talent, investment, leading research, and computational capacity in a few countries—most notably the United States, China, and some high-income economies. This concentration grants disproportionate influence over AI standards, governance, and market directions.
- **AI as a Strategic Asset:** Nations increasingly view AI as a strategic resource, fundamental to economic competitiveness, national security, and soft power. This has given rise to strategic competition ("AI races") that risk entrenching divides and stifling cooperation on global challenges.
- **Inequities in Access and Voice:** Countries and regions outside these AI "hubs" face exclusion not only from technological benefits but also from decision-making that determines global AI norms and trajectories. Lower-income countries risk being consigned to the role of passive consumers, unable to influence how AI shapes their societies.

Emerging Risks of Exclusion

- **Digital Dependency and Fragmentation:** With AI models, platforms, and digital infrastructure dominated by a few actors, most countries depend on external providers for critical technology, data, and expertise. This fuels digital dependency, weakens local innovation, and risks "splinternet" conditions where technology regimes fracture along political lines.
- **Marginalization of Diverse Values:** Without global mechanisms to ensure broad representation, prevailing AI ethics and priorities may reflect only the experiences and interests of leading powers, sidelining diverse cultural, linguistic, and societal perspectives.
- **Global Value Chains and "AI Divide":** The new global value chains emerging around AI risk replicating or deepening old patterns of exclusion, with economic gains and control accruing disproportionately to actors at the top of the supply chain.

PROPOSALS FOR INTERNATIONAL COORDINATION: THE UN GLOBAL DIGITAL COMPACT AND BEYOND

Recognizing the immense stakes, several proposals have been advanced to foster coordination and collaboration at the international level, aiming to mitigate risks, share benefits more equitably, and harness AI in service of global public goods.

The UN Global Digital Compact

- **Vision and Goals:** The United Nations has called for a Global Digital Compact—a set of shared principles, objectives, and frameworks to guide the development, governance, and deployment of digital technologies, including AI. The Compact seeks to clarify rights and responsibilities for states, private actors, and civil society, and to anchor digital progress in human rights, equity, and sustainable development.
- **Key Pillars:** The Compact emphasizes universal connectivity, digital inclusion, ethical standards for AI, data sovereignty, and the protection of human rights online. It aims to foster cooperation in capacity-building, infrastructure investment, and the reduction of digital divides.
- **Multi-stakeholder Engagement:** Its design calls for participation from governments, the private sector, international organizations, academia, and representatives from marginalized groups, aiming to ensure global legitimacy and buy-in across varied interests.

Other Mechanisms and Proposals

- **International Standards and Benchmarking:** Efforts are underway to harmonize technical, ethical, and governance standards, including through organizations such as the International Telecommunication Union (ITU), OECD, G7, and others. These processes seek common norms for fairness, transparency, data privacy, and auditability of AI systems.
- **AI for Global Public Goods:** There is growing momentum behind strategies to align AI development with public goods—such as climate action, sustainable health, and pandemic response—through open research, data-sharing, and cross-border scientific collaboration.
- **Capacity Building and Inclusion:** Targeted international support is being advanced to help low- and middle-income countries develop regulatory capability, technical expertise, and local innovation ecosystems, reducing inequalities in AI access and voice.

THE GLOBAL STAKES: FOSTERING TRANSPARENCY, SHARED STANDARDS, AND EQUITABLE ACCESS

Ensuring that AI serves as a vehicle for inclusive and sustainable human development, rather than a new driver of exclusion, is a challenge of global scope. The future of AI will be defined as much by the structures of international cooperation as by technological breakthroughs.

Key Priorities for International Action

- **Transparency and Accountability:** Establishing mechanisms for transparency around data, models, and decision criteria is essential for trust, safety, and the prevention of harms stemming from opaque or biased systems. International audits, explainability protocols, and knowledge exchanges are critical elements.
- **Shared Standards and Ethical Norms:** The advancement of interoperable, evidence-based standards—covering safety, nondiscrimination, and respect for human rights—underpins meaningful global cooperation. These standards must be devised inclusively, reflecting a plurality of values and contexts.
- **Equitable Access and Benefit Sharing:** International frameworks must prioritize equitable access to AI's benefits. This includes open-source resources, affordable infrastructure, localized applications, language adaptation, and support for innovation and entrepreneurship in developing countries.
- **Safeguarding the Global Commons:** AI has the power both to help solve and to worsen pressing transnational challenges—including climate change, public health crises, and disinformation. International cooperation should channel AI innovation to advance the global commons through joint investment in socially beneficial research and the responsible sharing of data and tools.

The stakes of international cooperation on AI are immense and growing. Without bold, coordinated action, the world risks an AI-powered future marked by new forms of exclusion and unchecked concentration of technological and economic power. But with inclusive, transparent, and rights-centered global governance, AI can become a force for reducing divides, enlarging capabilities, and expanding freedom for people everywhere.

COUNTRY SNAPSHOTS
AI DRIVING HUMAN DEVELOPMENT

European Union–US–Japan

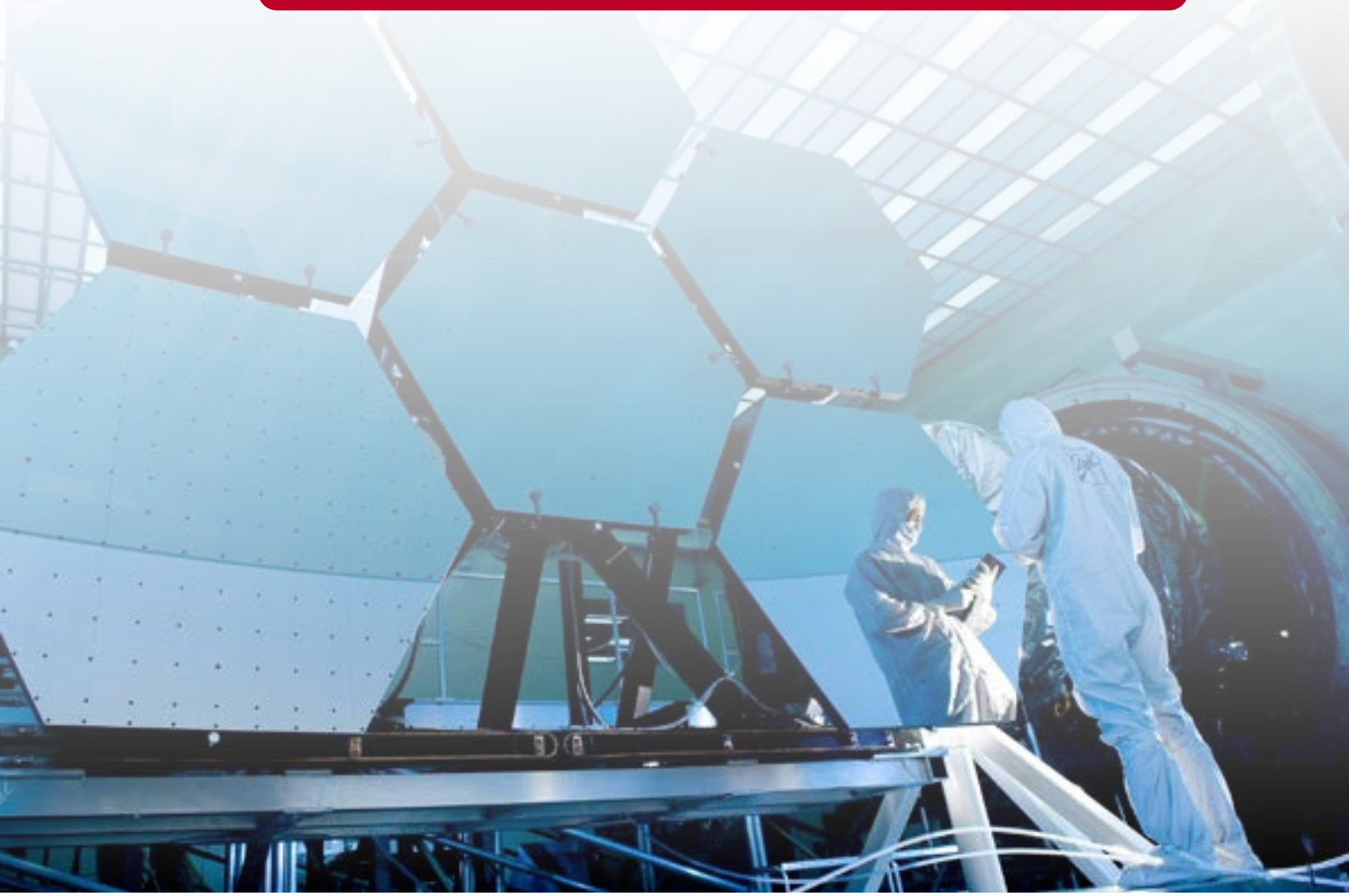
The G7's "Hiroshima AI Process" sets international benchmarks for AI safety and ethics, demonstrating collaborative governance beyond individual nations.

African Union

The African Union (AU) Digital Transformation Strategy emphasizes continent-wide cooperation to ensure AI supports peace, security, and inclusive growth for all member states.

United Nations

UN agencies are piloting multi-country AI initiatives, such as disaster response platforms, which combine global norms with local adaptation for maximum benefit.



09

CONCLUSION
CHOICES FOR A SHARED AI FUTURE

The 2025 Human Development Report underscores that the dawn of the AI era is not defined by the technology's capabilities alone, but by the aggregate decisions and principles adopted by people, communities, businesses, and governments. Across its chapters, the Report's central message is unambiguous: **the future of AI—and its impact on human development—is a matter of deliberate choice**. The evolution of AI as a general-purpose technology marks a pivotal moment in history, offering unprecedented opportunities for progress while presenting equally significant risks of exclusion and intensified inequality. The choices made at this juncture will have profound and lasting consequences.

MAIN INSIGHTS AND POLICY IMPERATIVES

1. Human Agency Remains Central

Rather than succumbing to narratives that frame technological advancement as inevitable or uncontrollable, the Report illustrates that the trajectory of AI is, and must be, shaped by human agency. The capacity to set goals, establish ethical guardrails, and make responsible policy choices is within reach. Policymakers, civic actors, and ordinary people all possess agency to direct how AI is designed, deployed, and governed.

2. Technology Alone Does Not Drive Development

While AI holds revolutionary potential, trends in the Human Development Index (HDI) reveal that progress is stalling globally, with gaps widening between countries at different stages of development. The rise of AI has not automatically translated into equitable growth; on the contrary, persistent divides—by geography, gender, and access—threaten to deepen unless consciously addressed. The experience of previous technological revolutions shows that progress only emerges when innovation is channeled into inclusive institutions, broad capability building, and opportunities for all.

3. The Double-Edged Nature of AI

AI is not inherently emancipatory or oppressive. It mirrors and magnifies the values, structures, and inequalities within the societies that create and deploy it. Without targeted interventions, automation risks displacing workers, exacerbating social divides, and entrenching power in a few hands. With inclusive policies and robust governance, however, AI can become a powerful force for empowerment, augmenting human creativity, solving complex challenges, and opening new pathways for education, health, and social participation.

4. Policy Directions for a People-Centered AI Future

The Report outlines three intertwined policy priorities:

- **Building a complementarity economy:** Harnessing AI to foster new forms of human-machine cooperation, job creation, and economic diversification. Policies should deliberately steer technology towards augmenting human abilities rather than replacing them, safeguarding decent work and broad participation.
- **Driving innovation with intent:** Deliberately aligning technological trajectories with social priorities such as equity, sustainability, and inclusion. This includes creating benchmarks for AI that go beyond technical capability to measure social and developmental impacts, and incentivizing innovations that solve public goods challenges.
- **Investing in capabilities that count:** Prioritizing universal access to digital infrastructure, lifelong learning, and critical, creative, and relational skills. Special attention is needed to close gender, education, disability, and geographic gaps—empowering all people to meaningfully engage with, and benefit from, AI.

THE PIVOTAL ROLE OF CHOICES

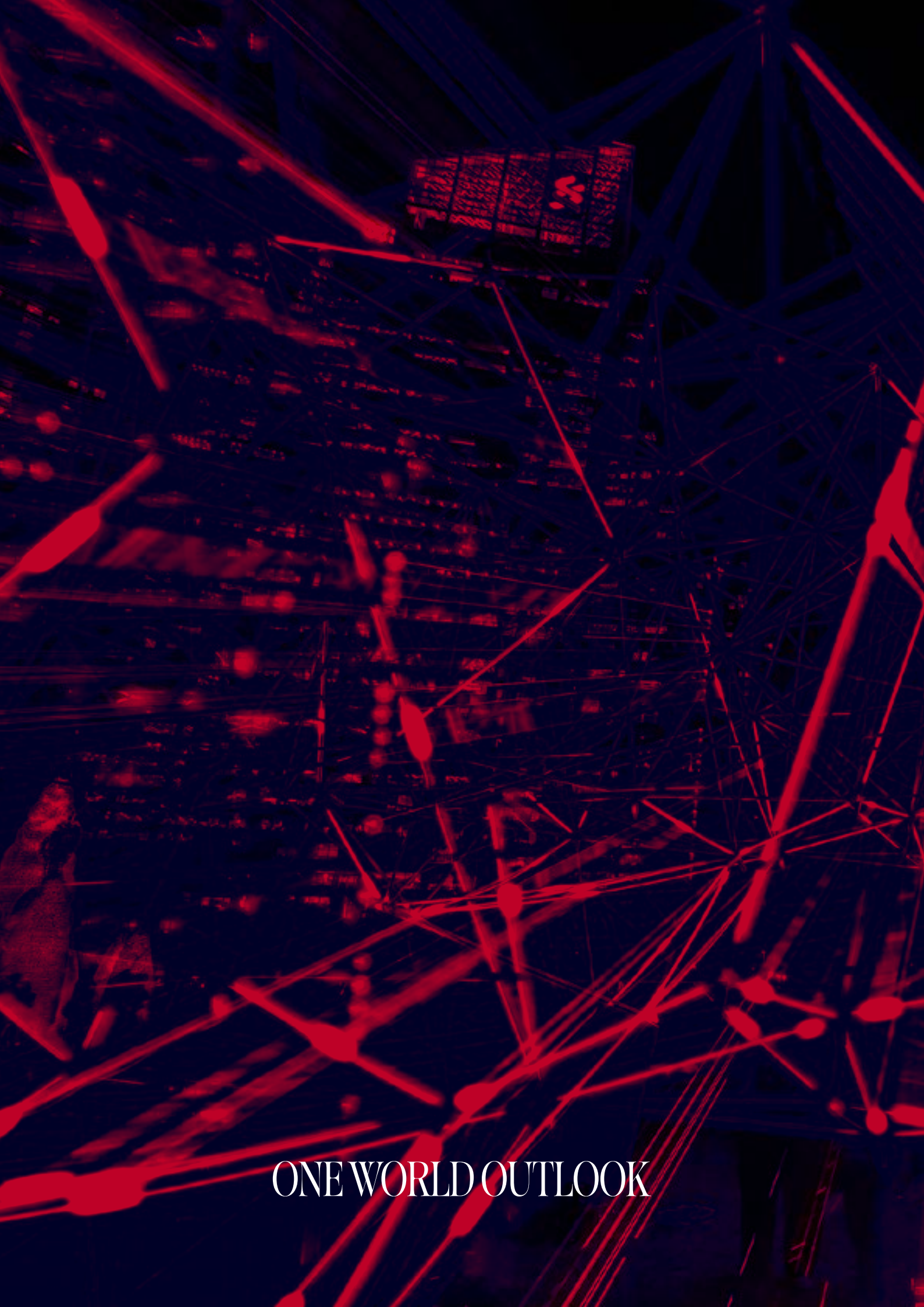
The future of AI is not merely a technical question but a fundamentally human one. Choices at every level—from the local to the global, from the design of algorithms to the rules of international cooperation—will steer whether AI is a force for the few or for the many. Policy choices can tip the balance between an AI-powered future marked by further concentration of wealth and opportunity, or one characterized by broader freedoms, flourishing, and expanded human agency.

The Report emphasizes that deterministic narratives—whether utopian or dystopian—obscure this agency and risk apathy or fatalism. The practical imperative is to claim and exercise this agency: shaping narratives, institutions, and incentives so that the development, application, and governance of AI serve collective aspirations and shared human values.

A VISION FOR AI AS A FORCE FOR HUMAN DEVELOPMENT AND FREEDOM

Ultimately, the Report offers a hopeful vision: AI's promise lies in amplifying human dignity, creativity, and opportunity. This is only possible if the technological, social, and ethical dimensions of AI are woven together in service of human development. Whether in education, health, work, or governance, AI must be seen as a tool for expanding freedom—enabling people to live lives they value and have reason to value.

The horizon is not set; the "razor's edge" between reduction and expansion of freedoms in the AI era is defined by choices made today. Societies that build economies of complementarity, drive innovation with clear social intent, and invest deeply in the capabilities of their people will be best positioned to thrive. As the Report makes clear, the future is not written by algorithms, but by the hands and minds of people—by the choices we make together about the kind of world we wish to inhabit.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