

# EXECUTIVE SUMMARY

**Artificial intelligence (AI) is beginning to reshape the global economy.** Like previous general-purpose technologies, or technological breakthroughs with global impact – such as electricity or the internet – AI has the potential to transform how economies function by altering the ways in which goods and services are produced, exchanged and consumed. However, its future trajectory and impact remain uncertain. In addition, the effects of AI raise critical questions about the future role of trade in supporting inclusive growth, because AI could either foster innovation, boost economic growth, and prompt income convergence between and within economies – or it could deepen existing economic and technological divides.

**The World Trade Report 2025 examines the complex and fast-evolving relationship between AI and international trade, and explores how these forces can shape inclusive growth.** The central message of this report is that AI can become a powerful driver of inclusive, trade-led growth – where inclusive growth refers to economic growth that expands market opportunities while ensuring that the gains from trade are widely shared both across economies and within societies – but only if economies invest in the right enabling policies and cooperate to prevent fragmentation of the regulations governing the digital economy. A rules-based multilateral trading system, with the WTO at its core, is essential to ensure that the benefits of AI are widely shared.

## AI and trade can be catalysts for more inclusive growth

**AI presents new opportunities to reduce trade costs and expand participation in global markets, especially for small companies.** AI tools are already enhancing trade efficiency by improving visibility within supply chains, automating customs clearance, reducing language barriers, strengthening market intelligence, improving contract enforcement and helping firms, including micro, small and medium-sized enterprises (MSMEs), to navigate complex regulations. WTO research, based on a joint survey conducted in 2025 with the International Chamber of Commerce (ICC) specifically for this

report,<sup>1</sup> finds that among firms currently using AI, nearly 90 per cent report tangible benefits in trade-related activities, and 56 per cent report that it has enhanced their ability to manage trade risks.

**AI is also boosting productivity across sectors, which underpins economic growth.** Empirical studies show that the use of AI brings about tangible efficiency gains in tasks as diverse as customer support, management consulting and software development, though the extent of these gains can vary by context. One recent estimate, based on research on specific tasks, suggests that AI could add around 0.68 percentage points to annual growth in total factor productivity, which measures how efficiently an economy uses its inputs – typically labour and capital – to generate output (Aghion and Bunel, 2024).

**WTO simulations suggest that AI could lead to significant increases in global trade and real income.** These simulations are based on an extension of the standard WTO Global Trade Model<sup>2</sup> with AI services and incorporate trade cost reductions, a shift in tasks from labour to AI and productivity gains related to this shift. They suggest that AI could lead to significant increases in trade and GDP by 2040, with global trade projected to rise by 34 to 37 per cent across different scenarios. The largest growth occurs in the trade of digitally deliverable services (42 per cent), including AI services. This trade increase reflects (i) reduced operational trade costs, (ii) the strong projected growth of AI services combined with the high tradability of AI services, related to its geographic concentration of production in a few regions, and (iii) the above-average productivity growth in more tradable sectors, in particular digitally deliverable services.<sup>3</sup> The development and deployment of AI are also projected to generate substantial global GDP increases, ranging from 12 to 13 per cent across scenarios.

**The impact of AI on inclusive growth will depend on how the digital divide across economies – which includes disparities in digital infrastructure, capabilities and hardware – is addressed, and on how the technology spreads globally.** WTO economists simulated four AI uptake scenarios to capture different degrees of policy and technological catch-up between

economies, and the differences between scenarios were substantial. In the benchmark scenario, where low-income economies do not catch up with high-income economies in terms of digital technology and infrastructure, high-income economies see their incomes rise by 14 per cent, compared to 11 per cent for middle-income economies and 8 per cent for low-income economies.<sup>4</sup> However, this gap narrows considerably if digital infrastructure improves in low-income economies, with income growth projected at 11 per cent for low-income economies, and 12 per cent in both middle- and high-income economies. Meanwhile, in a scenario that includes improvements in both infrastructure and broad AI adoption, low-income and middle-income economies are projected to benefit even more, with GDP gains rising to 15 per cent for low-income economies and to 14 per cent for middle-income economies.

**Furthermore, AI could contribute to a moderate reduction in income inequality among workers.**

As a result of the shift in tasks from human labour to AI, the skill premium, measuring the ratio of wages of high-skilled relative to low-skilled workers, could decline slightly. Globally, while the real wages of all labour groups are expected to rise, the skill premium is projected to decline by 3 to 4 per cent across various scenarios. The overall narrowing of the wage premium reflects the fact that the task substitution from human labour to AI is more pronounced for medium-skilled and high-skilled occupations than for low-skilled ones, meaning that the relative demand for medium-skilled and high-skilled labour declines.

**Trade contributes to making AI more accessible.**

Most economies depend on international markets for AI-enabling inputs, from raw materials to semiconductors and high-performance computing equipment, to training data and cloud services. In 2023, global trade in AI-enabling goods – including raw materials, semiconductors and intermediate inputs – totalled US\$ 2.3 trillion.<sup>5</sup> Trade also facilitates the delivery of AI-enabled tools – from remote diagnostics to financial inclusion apps, especially in economies with limited domestic capabilities.

**Participation in AI value chains opens a range of development opportunities.** Some economies are emerging as hubs for upstream inputs, such as critical minerals and energy, while others are positioning themselves as regional centres for data hosting, cloud services or the local adaptation of AI

models. Even foundational AI inputs, such as training data, offer entry points for less technologically advanced economies to engage in AI development. Many developing economies are already contributing through labour-intensive activities, including data collection, annotation and moderation; however, ensuring fair compensation and adequate labour protection remains a challenge.

**AI-enabled services show potential to create new trade opportunities, as many applications are digital and scalable.** Applications such as AI-powered content creation, telemedicine, and data analytics enable firms to scale efficiently and compete globally. While challenges remain, basic digital connectivity may allow economies with limited physical infrastructure to participate more actively in global markets. AI-enabled services create dynamic learning effects and help to accelerate structural transformation, particularly in low-income and middle-income economies.

**Trade can facilitate the diffusion of AI innovation, as economies that are more open to trade tend to experience stronger innovation spillovers.** Bilateral trade flows in digitally deliverable services are closely correlated with cross-border AI patent citations – i.e., when one patent filed to protect intellectual property (IP) rights references another, a proxy for knowledge flows because they document when one invention builds on another. WTO analysis shows that a 10 per cent increase in digitally deliverable services trade is associated with a 2.6 per cent increase in AI patent citations across borders.

## The risk of a widening digital divide

**The transformative potential of AI for trade is significant, but it is far from guaranteed.** Without targeted investment, inclusive policy frameworks and international coordination, AI could exacerbate existing divides and even create new ones, and this would undermine the development potential of AI.

**Global access to AI is highly unequal, and this limits the ability of many economies to participate in AI-driven trade.** Digital infrastructure, computing capacity, qualified workers and regulatory readiness are concentrated in a handful of economies. This imbalance is mirrored in trade-related policies: high-income and upper

middle-income economies have a much more advanced policy framework for AI and digital trade, and these economies provide significantly more financial support for AI-related production. In contrast, low-income economies have only recently begun to develop regulation regarding data flows and AI. Such disparities constrain the capacity of poorer economies to harness the potential of AI.

**AI may shift comparative advantages in ways that reinforce inequality.** AI technology favours capital- and data-intensive production, which could erode the competitiveness of economies that rely on low-skilled and low-cost labour. Meanwhile, AI development capacity remains concentrated within a limited number of firms and economies, and it may further raise returns to capital, widening existing divides. WTO simulations show that the rental rate on capital – that is, the cost of using capital inputs – rises significantly relative to wages, by about 14 percentage points. This is mainly because AI services both substitute for labour and rely heavily on capital. As a result, demand for capital increases more than demand for labour, pushing up the rental rate on capital.

**While trade can help to diffuse AI, uneven adoption risks reinforcing existing divides.** AI uptake is concentrated in large, urban, digitally connected firms. Smaller firms and less-connected regions face a range of hurdles, from infrastructure gaps to compliance costs. The 2025 WTO–ICC survey results show that only 41 per cent of small firms report using AI, compared to over 60 per cent of large firms. Among low-income and lower middle-income economies, fewer than one-third of firms use AI.

**Labour market disruptions could compound the risks of a widening divide.** AI has the potential to affect the labour market significantly, particularly in services in which digitally delivered trade has offered promising development opportunities for lower-income economies. While certain tasks, such as transcription, translation and support functions, are increasingly susceptible to automation, the overall impact on jobs will depend on how AI complements or substitutes specific tasks, and on the capacity of workers and firms to adapt. In some scenarios, AI may boost the productivity of service workers in developing economies, enhancing their global competitiveness. But without the right policies, these shifts could also narrow export opportunities or intensify reshoring pressures in advanced economies.

## The role of domestic policy in creating an enabling environment for more inclusive AI

### **AI's impact on inclusive growth depends on the design of trade and trade-related policies.**

Tariffs, export controls, services regulation, and data governance all shape the availability, affordability and diffusion of AI and AI-enabling goods and services. Uneven policy adoption across income groups risks widening structural gaps in AI readiness, especially those linked to the digital divide.

### **The new WTO AI Trade Policy Openness Index (AI-TPOI) reveals significant variation in AI-related trade policies across and within income groups.**

The AI-TPOI, compiled by WTO economists (see Annex D), captures three policy areas relevant to AI diffusion: barriers to services trade, restrictions on trade in AI-enabling goods, and limitations on cross-border data flows. On average, lower middle-income and upper middle-income economies tend to maintain the most restrictive policies. While low-income economies appear relatively more open, this may reflect limited regulatory capacity and underdeveloped digital infrastructure rather than deliberate openness. Even among economies with low tariffs, restrictive data localization requirements or export controls can inhibit access to AI tools and markets.

**Beyond openness, complementary policies also shape how trade and AI contribute to inclusive growth.** Such policies include, among others, IP protection, competition frameworks, infrastructure and energy policies, education systems and government support. These policies, however, remain mostly concentrated in high-income and upper middle-income economies.

**IP and competition policies related to AI are expanding rapidly.** The number of economies adopting at least one AI-related IP policy rose from 41 in 2017 to 140 in 2024. But significant disparities remain across income groups. In parallel, competition policy measures targeting AI have surged since the release of ChatGPT in November 2022, with 44 new measures recorded. Yet over 80 per cent were in high-income and upper middle-income economies, demonstrating again that the policy uptake is unequal.

**Making AI development more sustainable and inclusive would require increasing the already**

**substantial investments in the energy and digital infrastructure dedicated to AI development.**

Data centres already consume 1.5 per cent of global electricity, showing the importance of existing infrastructure investments, including in renewable energy, to support AI development. Yet policy activity in support of renewable energy is highly uneven. High-income economies account for 69 per cent of all global renewable energy policies, while low-income economies represent just 1.5 per cent.

**Education policy, which helps economies develop the capabilities necessary to benefit from AI, also reflects a global imbalance between higher- and lower-income economies.**

High-income and upper middle-income economies invest more in education overall, and are increasingly developing AI-specific programmes. In contrast, fewer than one third of developing economies have adopted national AI education strategies, which is likely to widen the skills gap across income groups.

**Targeted government support is increasingly playing a role in shaping AI development.**

The share of global subsidies targeting AI-related products has increased considerably since 2010, exceeding 15 per cent at its recent peak. High-income and upper middle-income economies account for over 98 per cent of these measures, and this demonstrates that there is a substantial risk of further concentration of AI capabilities.

**Without concerted action, disparities in policy action risk locking in long-term inequalities.**

The uptake of AI-targeted policies is highly uneven across income groups, with the major share of such policies being implemented by high-income and upper middle-income economies. International cooperation on such policies could help to narrow disparities, and ensure that trade remains a force for inclusive progress in the AI era.

## **The role of the WTO in supporting more inclusive approaches to trade and AI**

**International cooperation on AI is still in its early stages, and remains largely aspirational, with little attention given to trade or trade policy.** Most AI-related initiatives primarily involve high-level declarations, broad principles or voluntary guidelines that emphasize the ethical use, safety,

transparency and interoperability of AI. Most also make little or no reference to international trade, despite the fact that trade is the “oil” that keeps the AI engine running, as it enables the cross-border flow of essential inputs, from data and infrastructure to the hardware, human talent and services that power AI development and deployment.

**Greater international cooperation, and particularly stronger cooperation on AI and trade, could support wider participation in AI development and deployment.**

Trade cooperation can foster a more stable and predictable environment for AI-related investment and innovation. This can help mitigate issues such as unequal access to technologies, regulatory fragmentation and concentrated market power, that hinder broader and more affordable participation in AI development and deployment.

**So far, regional trade agreements (RTAs) have been the main avenue for advancing trade-related AI cooperation among economies.**

However, such agreements, mostly negotiated by high-income economies, remain limited in both number and scope. They typically recognize the potential of AI to support economic growth or digital transformation, with fewer identifying areas for cooperation, such as research and regulation.

**Although not specific to AI, the WTO framework already contributes to AI development and deployment by supporting innovation and enabling more open and predictable trade in relevant goods and services.**

AI development and deployment rely on access to global markets, cross-border data flows and technological diffusion, areas that are directly impacted by trade policy. In that context, several WTO agreements underpin the global AI ecosystem by lowering hardware costs through the Information Technology Agreement (ITA), promoting regulatory transparency and international standards via the Agreement on Technical Barriers to Trade (TBT), facilitating AI-related services trade under the General Agreement on Trade in Services (GATS), and supporting IP protection and technology diffusion through the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

**Beyond rules and market access, the WTO can also help broaden participation in AI-related trade through mechanisms that promote transparency, dialogue and capacity-building**

**on trade-related aspects of AI.** For example, the joint WTO-International Trade Centre (ITC)-United Nations ePing alert system, which tracks sanitary and phytosanitary (SPS) and TBT measures,<sup>6</sup> supports stakeholders in tracking trade-related AI developments. Meanwhile, regular discussions in WTO committees allow members to raise concerns, share experiences and learn from each other's regulatory approaches to AI, thereby promoting regulatory alignment. WTO-led initiatives, such as *Digital Trade for Africa*,<sup>7</sup> help developing economies build the infrastructure, regulatory capacity and skills they need to participate more effectively in the digital economy – foundations that are increasingly relevant for AI-related trade. The joint WTO Secretariat-International Trade Centre (ITC) Women Exporters in the Digital Economy (WEIDE) Fund is helping women in developing economies to trade more and better through digital tools. Recent Aid for Trade projects in areas such as transport, infrastructure and agriculture already incorporate AI, helping beneficiary economies to optimize logistics and manufacturing processes or to promote sustainable farming.

**Efforts to broaden participation in AI-related trade would also benefit from greater engagement by WTO members.** As global AI governance continues to shape up, the WTO could help to guide its development to ensure that trade supports broader access to AI, through improved market access for AI-related goods and services and greater transparency and dialogue on trade-related AI policies. For instance, market access for AI-enabling goods remains uneven, with bound tariffs reaching up to 45 per cent in some low-income economies. Broader participation in the ITA and updated GATS commitments would contribute to making AI more affordable. Striking an appropriate balance between these binding commitments – aligned with each WTO member's implementation capacity – and policy flexibility remains, however, essential to maintain the predictability that credible commitments provide, while promoting more inclusive AI outcomes. The question of AI and inclusive trade has been a key focus of discussions in some WTO bodies, in particular in the context of the Work Programme on e-Commerce and the Informal Working Group on MSMEs.

**For trade policy to help broaden economies' participation in AI, deeper collaboration of the**

**WTO with other international organizations and initiatives will be needed.** Since many trade-related AI challenges are rooted in broader policy issues, strengthening coherence between trade policy and other public policy areas is essential to address concerns such as the digital divide, market concentration, labour market impacts, and environmental sustainability. While ensuring such coherence depends on national policy choices, increased collaboration among international organizations can play a supportive role by promoting dialogue, encouraging shared approaches and facilitating the pooling of resources to tackle problems. Coordinated international efforts can thus help to support broader global participation in the AI-driven economy through more open, predictable, forward-looking and flexible trade policies.

## A moment of strategic choice

**The future impact of AI will depend on choices made today.** Whether AI becomes a force for inclusiveness both across and within economies or for division will depend on the choices made now. In order to realise its potential, investment in digital infrastructure, workers' skills and competitive ecosystems will be required, as well as domestic reform, international cooperation and institutions capable of adapting to fast-moving technological change, underpinned by a commitment to openness, inclusivity and shared prosperity.

**The WTO can play a central role in ensuring AI supports inclusive trade-led growth.** This means not only advancing trade openness and rule-making, but updating the functions of the WTO itself, promoting transparency and interoperability, and continuing to provide a trusted forum for members to align trade policy with responsible, inclusive digital transformation.

**This is a moment of strategic choice for shaping how AI will influence trade and growth.** With the right frameworks in place, supported by investment, domestic reform and international cooperation, AI could expand opportunities and strengthen the multilateral trading system. But without deliberate action to close capacity gaps, update trade rules and foster regulatory alignment, the risks of AI may be compounded, and its benefits may remain concentrated among the few.

## Endnotes

- 1 The survey will be published shortly after this report. It will be made available on the websites of the WTO and ICC.
- 2 The WTO Global Trade Model is a recursive dynamic computable general equilibrium (CGE) model, which is employed to analyse long-run technology and trade policy scenarios. A WTO staff working paper describes the details of the simulations presented in this report (Bekkers et al., 2025).
- 3 This contrasts with the 2024 WTO report on trade and AI, *Trading with Intelligence* (WTO, 2024a), which projected trade growth of 14 per cent by 2040, under a scenario of larger productivity gains and more uniform

adoption of AI across economies. This difference arises because the model used for this report incorporates additional channels of reduced operational trade costs, a highly tradable AI services sector with strong projected growth, and higher productivity growth.

- 4 Income groups in this report are based on the World Bank classification by income level for 2024–2025, available at <https://blogs.worldbank.org/en/opendata/world-bank-country-classifications-by-income-level-for-2024-2025>.
- 5 An illustrative list of AI-enabling goods is provided in Annex A.1.
- 6 See <https://www.epingalert.org/en>.
- 7 See [https://www.wto.org/english/tratop\\_e/serv\\_e/serv\\_2502202416\\_e/serv\\_2502202416\\_e.htm](https://www.wto.org/english/tratop_e/serv_e/serv_2502202416_e/serv_2502202416_e.htm).