



Turning **DIGITAL TRADE** into a Catalyst for African Development

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EXECUTIVE SUMMARY



Digitalization makes it easier and less costly to buy and sell goods and services across borders. Digital technologies reduce the cost of international trade, facilitate connections between producers and consumers around the world, and diffuse ideas. All this is transforming international trade in terms of how we trade, who trades, and what we trade. Exports of digitally delivered services—from call-center activities to computer services and from medical transcription to banking services—have almost quadrupled in value since 2005 and have grown faster than exports of goods and other services. Today, they make up more than half of global services exports and around 12 percent of total exports.

In Africa, trade in digitally delivered services trade also is growing rapidly, though its share in global trade remains small. In Morocco, Egypt, Ghana, and Madagascar, for example, growth since 2015 has exceeded the global pace, boosted by business process outsourcing and information technology. Across the continent, enhanced use of digital technologies is projected to increase digital services exports by US\$74 billion from 2023 to 2040, doubling Africa's global share.

This rapid growth creates opportunities for economic transformation as Africa's export basket expands to include new markets and products and domestic competitiveness strengthens through imports of key input services. Improved digital connectivity, coupled with a comprehensive enabling regulatory environment, has the potential to reduce trade costs by up to 25 percent. There are other benefits. Digitally delivered services offer a way to side-step some of the obstacles to trade in Africa, including outdated transport infrastructure and relatively high barriers to merchandise trade. By bringing suppliers into direct contact with customers, digital trade fosters inclusiveness, benefiting especially MSMEs, women, and youth. Three out of four firms trading exclusively through e-commerce in Africa are owned by women.

Harnessing the benefits of digital trade requires a supportive ecosystem. Connectivity, skills, electronic payments, customs and logistics, and an enabling policy framework are essential components. Africa's connectivity infrastructure, though still lagging behind the world's front-runners, has advanced greatly in the last decade and now connects almost half the continent. Nonetheless, major efforts are still needed, in particular to upgrade network speed and reliability. In Burundi, for example, downloading a one-gigabyte file such as a small database or medium-sized software application like Microsoft Word takes about half an hour, compared with half a minute in Singapore.

The strong complementarity between components of the digital ecosystem needs to inform policy action. Gaps in the regulatory and policy framework are weighing on the use of digital technologies for productive purposes. It is therefore critically important that advances in connectivity infrastructure proceed in parallel with policy and regulatory reforms to ensure that modern technologies can be leveraged for their growth and developmental potential. Policymakers should also increase their engagement in regional and international digital

trade processes to harness their complementarity with domestic reforms.

The international community, including the World Bank Group and the WTO, is playing a key role in helping Africa overcome these challenges. For example, the World Bank's Digital Economy Initiative for Africa (DE4A), in support of the African Union's Digital Transformation Strategy, aims to get every individual, business, and government in Africa digitally enabled by 2030. To that end, the World Bank has set up or increased loans for 17 countries since July 2021, with over US\$3.2 billion in commitments. Beyond connectivity, the Bank provides support to improve skills and payments infrastructure and strengthen institutions and regulations, often under comprehensive programs that address these various issues in parallel.

The World Trade Organization (WTO) plays a role through its body of rules and commitments, which fosters predictability, provides an opportunity to anchor

enabling policies, and guarantees market access for digital trade. The WTO's work on digital trade, including under the e-commerce Work Program and the Joint Statement Initiative on electronic commerce, also offers opportunities for African countries to benchmark and strengthen their regulatory frameworks. There is ample scope for the World Bank and the WTO to deepen their cooperation to support African countries in leveraging digital trade as a tool for growth and development.

This note sets out concrete next steps for World Bank-WTO cooperation on digital trade in Africa. Working together, the two organizations intend to conduct needs assessments to detect gaps in digital trade frameworks and identify possible policy action and World-Bank financed interventions to close those gaps. As part of the needs assessment, the World Bank and the WTO plan to hold policy dialogues with officials and other stakeholders to help strengthen the participation of African countries in ongoing work on digital trade at the WTO.

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INTRODUCTION

Digitalization makes it easier and less costly to buy and sell goods and services across borders. Digital technologies reduce the cost of engaging in international trade, allow direct connections between producers and consumers around the world, help diffuse ideas and technologies, and facilitate the co-ordination of global value chains (GVCs). All this affects how we trade, who trades, and what we trade. For example, services delivered remotely, including over digital platforms (or “digitally-delivered services”), have become an increasingly important component of overall trade. The WTO estimates that global exports of digitally delivered services have almost quadrupled in value since 2005. They rose at an average rate of 8.1 percent per year from 2005 to 2022, outpacing goods (5.6 percent) and other services exports (4.2 percent). At the end of 2022, digitally delivered services totaled US\$3.82 trillion, or 54 percent of total global services exports¹ and 12 percent of total goods and services exports.

The digitalization of international trade looks set to continue as digital innovation advances and a growing number of governments build programs to support digitalization. As remote work becomes widespread after the COVID-19 pandemic, more firms in rich countries look set to import intermediate services for tasks such as accounting, graphic design, and software engineering. Digital trade in sectors such as telemedicine is likely to grow to fill the needs of an ageing population in the advanced economies and an increasing work force in geographically remote locations.

The digitalization of trade is creating fresh opportunities to boost growth, create better jobs, and foster more inclusive economies. Trade has been a driver of growth and cross-country income convergence and has lifted hundreds of millions of people out of poverty. But some countries and people have been left behind. And since the 2008 financial crisis, its growth has plateaued, raising questions about whether trade still offers developing countries a clear path to progress. Developing countries, especially in Africa, face the prospect of slower advances in living standards and reduced opportunities unless they can find ways to harness digital technologies to promote trade.

This note examines the opportunities and challenges that the rise of digital trade presents for Africa. This joint policy note by the World Bank and the secretariat of the World Trade Organization is motivated by a shared view that the rise of digital trade offers significant opportunities for African countries to boost growth, create better jobs, and reduce poverty. The note reviews the main trends in digital trade on the continent and discusses how it can support economic growth and development. It then focuses on the determinants of digital trade and the challenges African countries face. The conclusion discusses how the international community is supporting African countries’ efforts to overcome challenges and how the World Bank and the WTO can deepen their collaboration to help African countries reap the benefits of digital trade.

¹ Measured on a Balance-of-Payments basis.

This note defines digital trade as including both digitally ordered and/or digitally delivered goods and services. This is the definition adopted by the statistical Handbook on Measuring Digital Trade. Official data for digitally ordered trade are sparse and not comparable across countries. Statistics on online sales do not typically distinguish between domestic and international trade. WTO estimates on exports of digitally delivered services provide a measure of digitally delivered trade (WTO 2023). In the WTO, the term used is “electronic commerce,” which is defined under the relevant Work Program as “the production, distribution, marketing, sale or delivery of goods and services by electronic means” and is well in line with the Handbook’s notion of digital trade. This note uses the terms digital trade and electronic commerce interchangeably.

African countries stand to gain from digital trade, but more investment and better policies are needed.

Connectivity infrastructure, though still lagging, has advanced greatly in the last decade and now covers almost half the continent. It is critically important that such advances go hand in hand with policy and regulatory reforms to ensure that digital communications are affordable, citizens have the necessary digital and entrepreneurial skills, and businesses can leverage those opportunities. Trade policy can play a key role by providing a framework that fosters predictability and promotes access to global digital markets while advancing broader public policy goals.

DIGITAL TRADE AS A NEW SOURCE OF GROWTH AND DEVELOPMENT

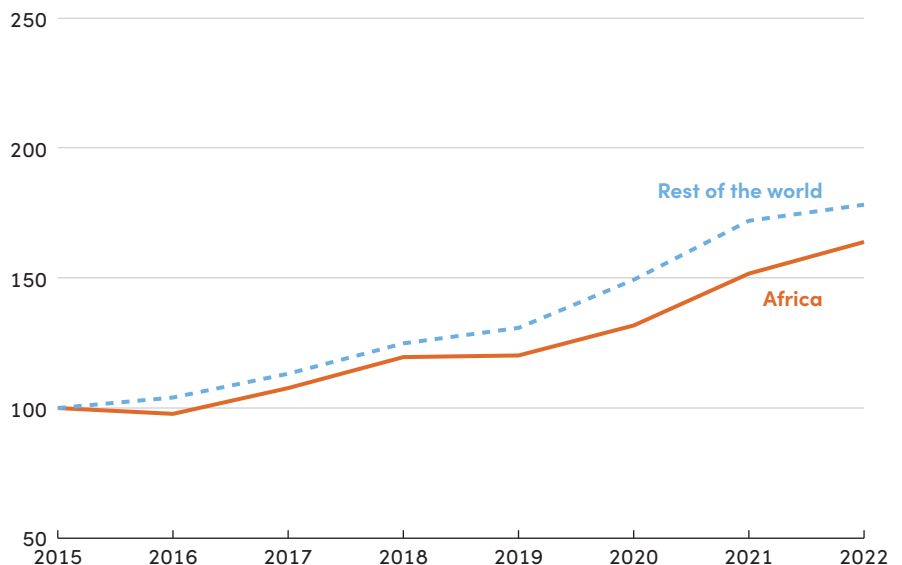
- Although Africa represents a low percentage of global digital trade, digitally delivered services in Africa are growing fast relative to trade in goods and non-digitally delivered services.
- Digital trade can act as an engine of growth by expanding export basket to include new markets and product, and by strengthening domestic competitiveness through imports of key input services.
- Africa has considerable potential to boost digital trade by improving digital infrastructure and regulations.
- By avoiding intermediaries and bringing suppliers into direct contact with their customers, digital trade can foster inclusiveness, benefiting especially MSMEs, youth, and women.

1. Trends in digital trade

Africa represents a small share of global trade in digitally delivered services. In 2022, Africa accounted for just 0.9 percent of world exports of these services. This is lower than the continent's roughly 3 percent share of global goods exports and of GDP. On average, Africa's exports of digitally delivered services have increased by 7.3 percent per year since 2015 (just below the global average of 8.6 percent). Africa's growth rate was slower compared with the Middle East's (11.2 percent) and developing Asia's (12.5 percent), and it was in line with growth in South and Central America and the Caribbean (7.3 percent).

CHART 1 Growth of digitally delivered services in Africa has lagged behind the rest of the world.

(Exports, 2015–2022. Index 2015 = 100)



Source: WTO Global Trade Outlook 2023.

Nonetheless, there are positive signs:

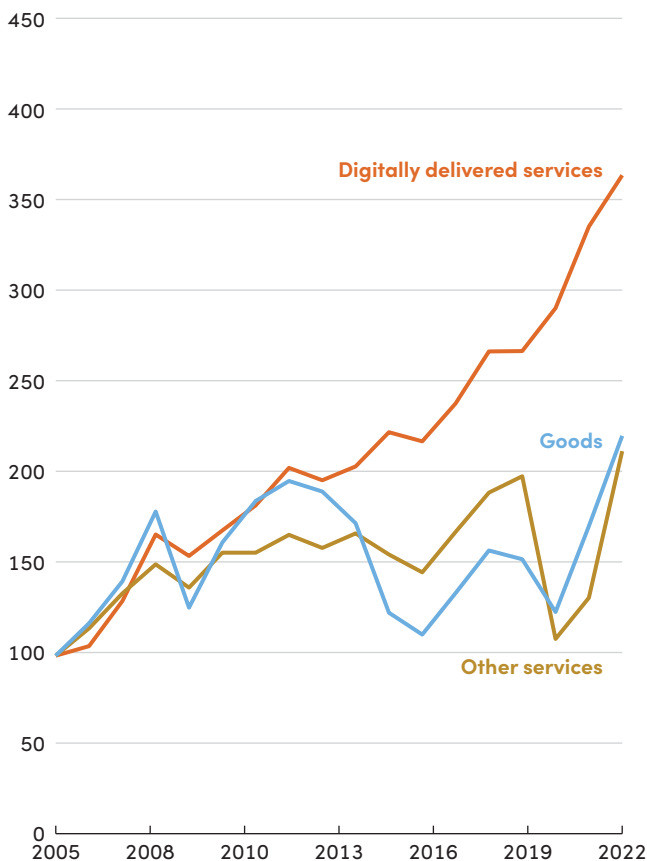
- **Exports of digitally delivered services are accelerating.** Africa's exports of digitally delivered services grew by 8 percent in 2022, double the rate of the rest of the world, to reach close to US\$33 billion (Chart 1).
- **Exports of digitally delivered services have been growing faster than trade in goods and other services.** While Africa's exports of digitally delivered services have increased by 7.9 percent on average per year since 2005, its exports of goods have increased by 4.7 percent (Chart 2). Moreover, while

Africa's share in global exports of digitally delivered services has remained constant, its share of goods trade has fallen from 3.4 percent in 2010 to 2.8 percent in 2022.

- **Export growth is concentrated in a small number of countries.** Three countries (Ghana, Morocco, and South Africa) were responsible for more than half of the region's exports of digitally delivered services in 2022. In these countries and Madagascar, growth since 2015 has exceeded that of the rest of the world, led by business process outsourcing (BPO) and IT services (Chart 3).

CHART 2 Africa's exports of digitally delivered services have grown faster than exports of goods and other services.

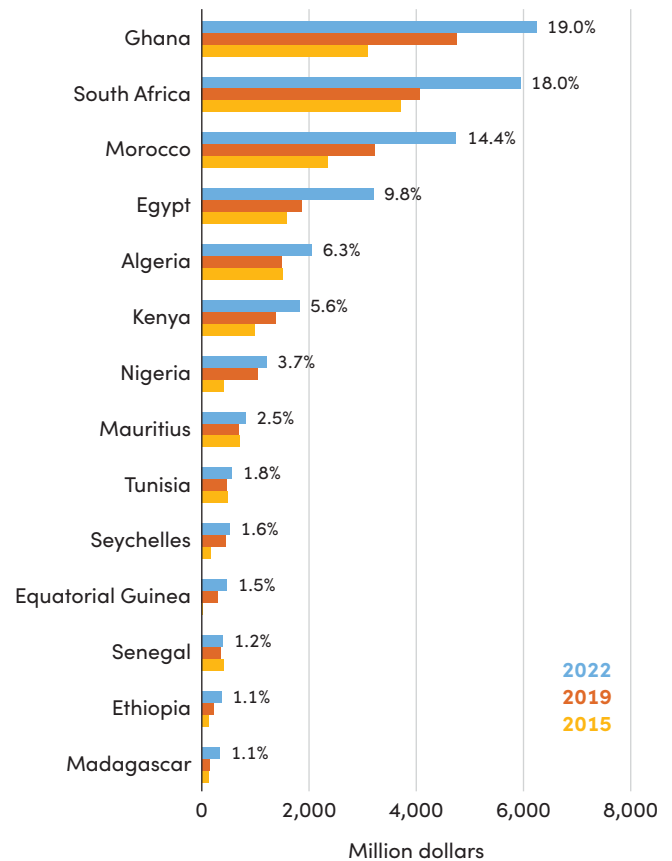
(Exports, 2005–2022. Index 2005 = 100)



Source: WTO estimates.

CHART 3 A handful of African countries dominate digital exports.

(Leading exporters of digitally delivered services in Africa, millions of dollars and share in the region's exports)



Source: WTO estimates.

BOX 1 Ghana and Morocco: Africa's emerging digital trade success stories

Ghana is the largest exporter of digitally delivered services in Africa, with exports worth US\$6.2 billion in 2022, and a 19 percent share in the region. According to WTO estimates, Ghana's exports have been rising by 30 percent on average per year since 2005, exceeding growth in the rest of Africa (6.6 percent).

In 2022, business, professional, and technical services, which include BPO, accounted for 77 percent of total exports of digitally delivered services. Ghana's large pool of English-speaking workers attracted foreign investment in the sector. In 2019, there were over 20 registered BPO companies and more than 50 innovation hubs.²

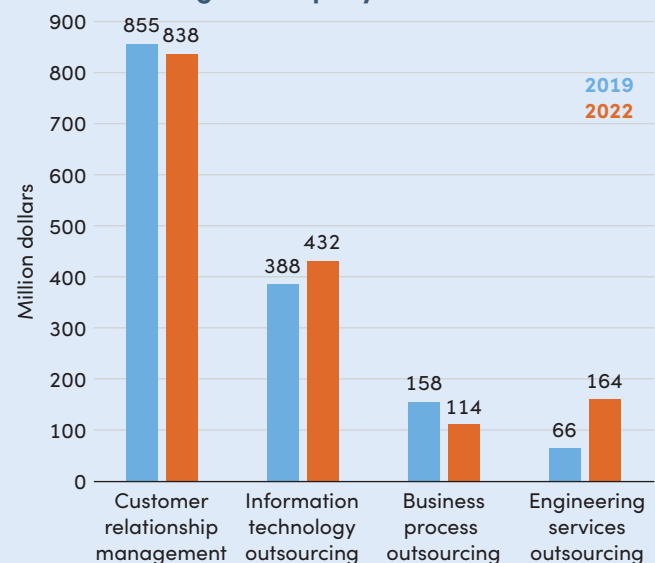
While still low in value terms, Ghana's exports of computer and information services have grown at a rapid pace over the last few years. From 2019 to 2022, digitally delivered computer services exports increased more than fivefold to US\$31 million, while information services exports, which include database services, grew by 88 percent to US\$ 11 million. Several global tech companies—such as the American Tower Corporation, Google, IBM, Oracle, and Uber—are present in the country. A vibrant IT sector emerged with companies competing globally in software and applications platforms for everything from finance and payments to agriculture and medical services.

Ghana's success in digital exports—built on a foundation of strong policies, regulatory measures, and legal frameworks—ensures that consumers are protected and fosters a stable business environment. The country's telecommunication infrastructure is well-developed by regional standards. The government has implemented programs to improve digital literacy, technical training, and entrepreneurship. This focus on human capital development has yielded a pool of talented professionals who can contribute to growth and innovation.

Morocco's exports of digitally delivered services grew at an average annual rate of 9 percent from 2005 to 2022. Business, professional, and technical services are the largest sectors, followed by telecommunications and computer services. Engineering outsourcing—such as software development, electronics design, mechanical engineering, and civil engineering—is thriving, growing by 35 percent per year from 2019 to 2022 (Chart B1).

The success of this industry can be attributed to a reliable telecom infrastructure, with high-speed Internet and a skilled workforce in numerous IT fields, including network development, software design, and computer modelling. Morocco's strategic geographic location, cultural and linguistic assets, lower cost, and favorable tax provisions make it an attractive destination for business process outsourcing.³

CHART B1 Morocco's engineering outsourcing services have grown rapidly.



Source: Office des Changes, Morocco.

² GhanaDE4ALOWRes.pdf (worldbank.org).

³ Pitch_Engineering.pdf (morocconow.com).

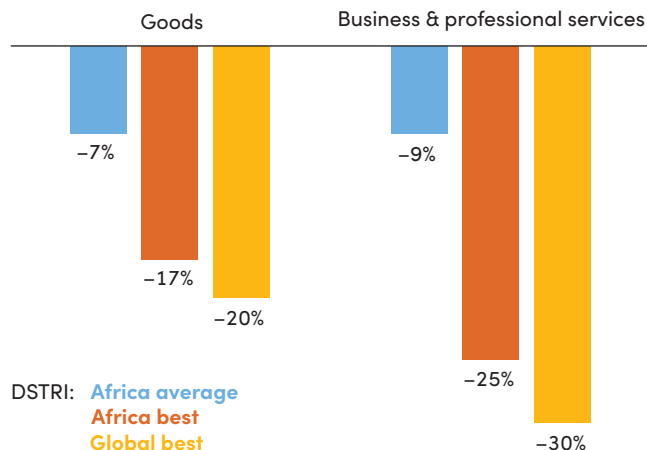
2. How digital trade helps Africa's economic development

Trade boosts economic growth, and so does digital trade. Trade improves resource allocation, allowing countries to take advantage of economies of scale, and it fosters innovation, technological diffusion, and human capital accumulation. While empirical evidence on the positive impact of trade on growth has focused on trade in goods, there is a growing body of evidence that services and services trade are key drivers of productivity, competitiveness, and rising living standards, and that the ability to supply, access and export efficient, affordable, and innovative services is central to economic development (WTO and World Bank, 2023).

Digital trade offers new areas of comparative advantage. It diminishes the importance of transport infrastructure, which has put a break on Africa's participation in trade, as a source of comparative advantage. At the same time, the quality of digital infrastructure, especially the availability of a reliable, comprehensive, and affordable high-speed broadband network, will increasingly become a central factor for competitiveness in the digital age. Similarly, as the regulation of the domestic labor-market regulation becomes less important for comparative advantage due to the ability to source services globally, the regulation of data flows will become a key driver of trade in digital-intensive sectors, along with regulations on issues such as privacy and personal data protection.

Improving Africa's digital infrastructure and the digital regulatory environment will increase trade by reducing costs. Estimates obtained using the WTO Trade Cost Index show that improving digital connectivity reduces costs both in goods and services trade, especially for business and professional services. Importantly, the

CHART 4 Improving digital infrastructure and regulation reduces trade costs in Africa.⁴



Note: The figure shows the estimated average reduction in trade costs in Africa in a scenario where all countries improve their mobile broadband access at least to the level South Africa (the country with the best access in Africa). The three columns show the estimates depending on the level of the Digital Services Trade Restrictiveness Index (DSTRI). WTO estimates based on the WTO Trade Cost Index methodology (<http://tradecosts.wto.org/>).

reduction in costs is even greater in an open regulatory environment. If all of Africa improved its mobile broadband connectivity to the level of South Africa, which has the continent's best mobile broadband access, average trade costs would fall by 7 percent in goods and 9 percent in business and professional services. And if African countries also improved their regulatory environment to that of the best in Africa, trade costs would fall by 17 and 25 percent, respectively (see Chart 4).

The potential gains of digitalization for Africa may be significant. In a scenario in which productivity grows and trade costs fall because of the enhanced use of digital technologies, African regions increase their exports of digitally deliverable services and their share

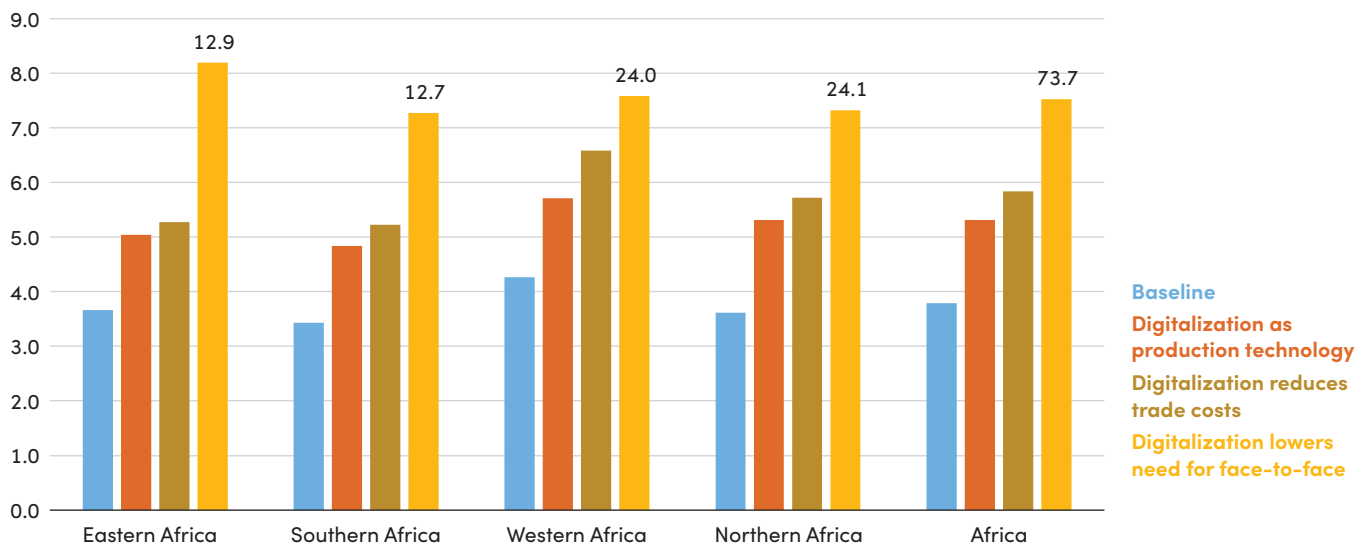
⁴The study analyses trade cost determinants using data for 2014–2018. Digital connectivity is measured as the number of active mobile broadband subscriptions per capita (data from ITU), taking the minimum between the importer and the exporter. Quality of digital trade regulation is measured as the component “infrastructure and connectivity” of the Digital Services Trade Restrictiveness Index (data from OECD). Partial equilibrium trade costs are estimated with data on 61 countries sourced from 2021 OECD TiVA database, following the methodology proposed by Egger et al. (2021). Estimates of the impact on Africa are out-of-sample predictions for 13 African countries.

in global trade of those services, according to simulations using the WTO Global Trade Model.⁵ Chart 5 shows the projected average annual growth in real exports of digitally deliverable services for the African regions for the baseline and three cumulative scenarios on digitalization. Beyond the baseline (which only takes into account GDP trends), the figure shows projections for three scenarios: (i) when digitalization is assumed

only to affect production, (ii) when it is assumed to also reduce trade costs by improving logistics, facilitating border crossing and communication, and (iii) when digitalization also reduces the need for face-to-face communication.⁶ The results show that when all trends are taken into account, digitalization has the potential to increase African exports of services by approximately US\$74 billion from 2023 to 2040 (over 7 percent a year).

CHART 5 Exports of digitally delivered services are expected to grow fast.

(Projected annual growth rates; total increases from 2023 to 2040 in billions of dollars are shown above the last bar.)



Source: Simulations with the WTO Global Trade Model.

Notes: The figure displays the projected export growth in digitally deliverable services (insurance, finance, communication, ICT services, and other business services) for four scenarios. The Baseline scenario only includes trends in GDP. The scenario “Digitalization as production technology” accounts for robotization and “servicification” of production. The scenario “Digitalization reduces trade costs” accounts for trade costs reducing effect of digitalization through trade facilitation, improved logistics, lower communication costs and for online sales. The scenario “Digitalization lowers need for face-to-face” accounts for the stronger effect of digitalization on face-to-face intensive sectors. See footnote 6 for more details on the scenarios.

⁵ “Digitally deliverable services” and “digitally delivered services” cover the same services sectors in the IMF-OECD-UNCTAD-WTO Handbook on Measuring Trade (second edition –Table 4.1) but the former includes services supplied via GATS modes 1, 2 and 4, whereas the latter cover those supplied exclusively via mode 1.

⁶ *Details on scenarios:* Five trends related to new technologies are included in the projections. First, robotization leading to a reallocation of tasks from labor and capital plus productivity growth; second, “servicification” of the production process leading to a larger demand for ICT services; third, digitalization leading to falling trade costs through four channels (improved customs procedures; improved logistics efficiency; reduced negative impact of language differences; reduced impact of bad contract and credit environments through blockchain and other digital forms of finance); fourth, the shift to online sales (e-commerce), which leads to a reduction in trade costs since trade costs on online sales are lower than on offline sales; fifth, reduced trade costs because of a falling importance of physical face-to-face interaction.

The size of the shocks related to robotization vary by sector and region, depending on an indicator of digital readiness. “Servicification” and the rise in online sales do not vary systematically by region. Falling trade costs related to new technologies feature a convergence assumption with countries converging to the 75 percentile of best performing regions. Finally, decreasing trade costs associated with the reduced need for physical presence depends on the level of broadband connectivity of a region. The assumption is that countries with low connectivity improve their connectivity to that of the 75th percentile.

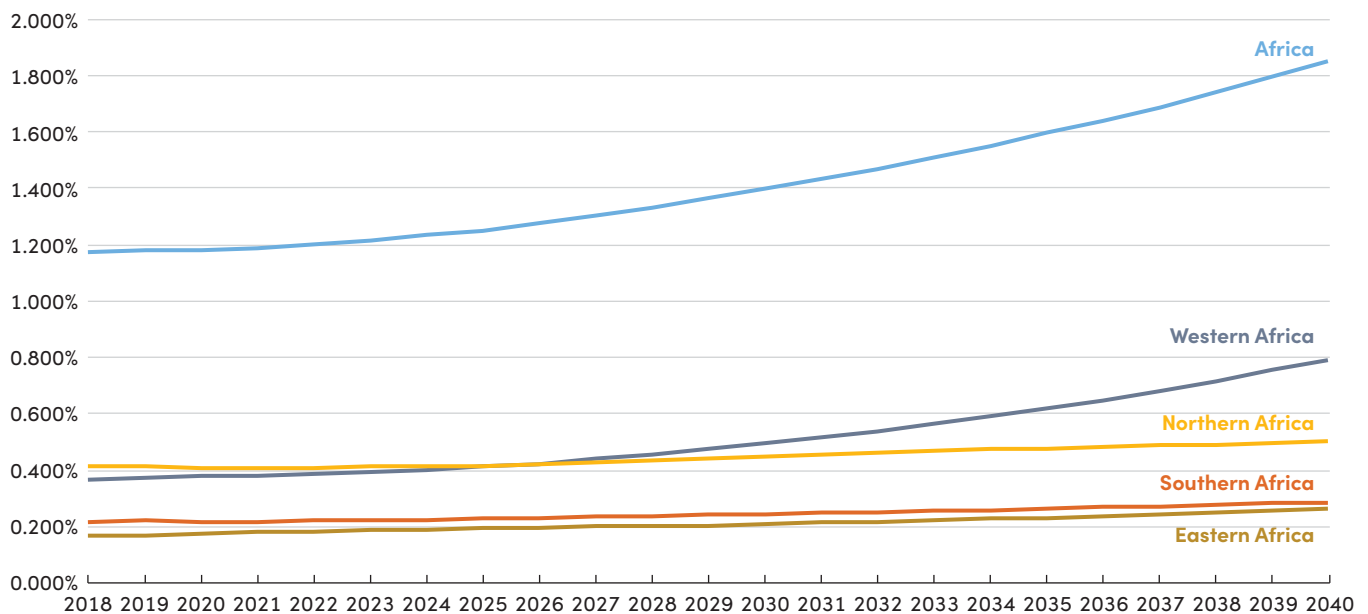
Chart 6 shows that the share of African regions in global trade of digitally deliverable services is projected to rise from 1.2 percent in 2023 to 1.9 percent in 2040.⁷ The increase is largest in Western Africa, driven by more scope to reallocate resources from fossil fuel extraction to other sectors with an ambitious digitalization scenario. In South Africa, a quarter-million people already work in global business services, more than double the number employed in the automotive sector. Of these, some 50 000 already service off-shore demand, a number growing by around 24 percent a year, making global business services exports one of the fastest-growing job categories in South Africa (Genesis Analytics, 2018).

Digital trade can stimulate economic growth in Africa in the following ways:

First, digital trade can help Africa export more to existing markets and enter new markets. By taking advantage of economies of scale that come with access to a regional and global digital marketplace, African countries can generate revenues to invest in human capital, infrastructure, and institutions — all of which help propel economic and employment growth.

Digital trade also creates opportunities to increase offline trade of goods through improvements in the trade environment. For example, online consumers can track their orders online, use feedback from other

CHART 6 The share of Africa in global trade in digitally deliverable services is projected to increase.



Source: Simulations with the WTO Global Trade Model.

Notes: The figure displays the projected share of different African regions in digitally deliverable services (insurance, finance, communication, ICT services, and other business services) for a scenario where digitalization affect production technologies trade costs and the need for face-to-face communication. For details about the scenario, see footnote 6.

⁷The share for 2023 is based on projections starting from the latest version of the GTAP Data Base, Version 11 (2017). Due to limitations in the data employed for the simulations, the definition of digitally deliverable services employed in the projections does not precisely follow the definition in the Handbook on Measuring Digital Trade employed for the historical data reported. For example, the sector “Other business services”, which cannot be further split in the simulation data, includes also services not digitally delivered. Furthermore, other sectors classified as digitally deliverable in the Handbook such as health, education, and recreational services were not included as separate sectors in the simulations.

customers about product quality, and compare prices across markets. This can increase demand for African products by increasing transparency and trust in cross-border transactions. On the supply side, firms can use social media to reach a wider audience.

Second, digital trade fosters economic diversification by making more products tradable across borders. More diversified economies are more resilient and grow faster. Some African economies rely heavily on exports of natural resources or commodities, making them vulnerable to price volatility. Other economies depend heavily on tourism, which can be disrupted by natural disasters or civil unrest. By removing the need for face-to-face interaction, digital technologies create new ways of delivering services, some of which have become tradable across borders and have opened up new business opportunities. Business services such as accounting, advertising, and IT services are a case in point. In Morocco, for example, software development, electronics design, mechanical engineering, and civil engineering are among the areas where engineering outsourcing is thriving (Box 1).

Third, imports of digitally delivered services such as business and financial services can increase the competitiveness of African firms in international markets. For example, a small agricultural business in Africa that produces and sells crops to local markets can use online platforms not just to diversify its customer base but also to access new sources of funding. Specifically, smallholders can use crowdfunding sites to access financing from investors interested in supporting sustainable agriculture, making it possible to fund new projects, expand operations, and improve efficiency in production processes. Moreover, mobile-based payment systems can facilitate transactions with customers and suppliers, providing greater convenience and security in financial transactions.

Fourth, some research has shown that thanks to tracking technologies, digital trade can increase government revenue. The use of shipment and goods tracking technology provides opportunities for developing-country governments to better monitor international trade. For example, technology can be used to prevent

the “diversion” of export goods. Exemptions from taxes and excise duties on exports often lead traders to divert goods meant for foreign markets into domestic markets and falsely claim tax benefits. A study looking at the Kenyan export market found that tracking goods shipments not only increased tax revenues but also increased efficiency for businesses by reducing turn-around time for trucks (Siror et al., 2010).

3. How digital trade benefits women, young people and small businesses

Digital trade can deliver particularly large benefits to small businesses, youth and women, thus fostering a more inclusive growth. Promoting gender equality and empowering women has been shown to boost economic growth through greater labor force participation, improved productivity, and enhanced innovation (World Bank, 2012).

Women are relatively more present online than offline. There is some empirical evidence to suggest that women benefit more from digital trade than men. A survey by the International Trade Centre (ITC) shows that the share of firms owned by women doubles when moving from traditional offline trade to cross-border e-commerce. In Africa, three out of four firms trading exclusively through e-commerce are owned by women (ITC, 2017). Women are also relatively more present in online marketplaces. In Upwork, an online marketplace for freelance service providers, 44 percent of workers are women, compared with an average of 25 percent of the non-agricultural economy globally (World Bank, 2016). Airbnb estimates that more than 1 million women host on Airbnb, making up 55 percent of its global host community (Airbnb, 2017).

E-commerce platforms, online work platforms, and online payments are especially empowering to women’s participation in trade. These platforms lower the time and financial and mobility constraints women face. E-commerce enables women to run their businesses while managing household obligations and to reach a larger market than they could offline. In addition,

digital solutions reduce searching costs between buyers and sellers and remove the need for face-to-face interaction, which allows women to overcome the traditionally male-dominant trade network. Technology-enabled crowdfunding platforms give women access to trade finance (World Bank and WTO, 2020). An example of such online payment platforms is M-Pesa. Launched in 2007 by Vodafone and Safaricom, M-Pesa is a Kenyan mobile phone-based money transfer, payments, and micro-financing service. It has expanded to Tanzania, Mozambique, the Democratic Republic of Congo, Lesotho, Ghana, and Egypt and has reached over 52 million customers, mostly in rural communities (Vodafone, 2021).

There is evidence that emerging e-commerce in Africa is fostering inclusiveness by creating jobs and opportunities for SMEs, women and young people.

Forecasts indicate that e-commerce has the potential to create 3 million new jobs across the continent by 2025 (South Africa Institute of International Affairs, 2022). E-commerce can also play an important role in fostering gender equality by allowing women to circumvent entrenched social norms and physical and capital constraints to sell their products online. It can enhance social inclusiveness by helping SMEs grow, especially those in less developed regions. Soko, for example, is a women-led platform that offers jewelry handmade by Kenyan artisans, most of the them women, shipped directly to consumers around the world (Business Insider, 2020). The Anou Cooperative in Morocco started offering handmade crafts through a global marketplace and later leveraging their platform to expand into community-based tourism. In the South Africa e-commerce sector, Takealot employs more than 2,000 people, with a significant share in low-skilled in warehousing and delivery jobs (World Bank, 2023). Another example is Jumia. The Nigerian headquartered e-commerce platform operates in eight countries with 11,700 full and part-time delivery associates and 414 tech employees (Jumia, 2021). Moreover, 33.4 percent of Jumia's workforce and 22 percent of tech employees are women (Jumia, 2021).

Digital trade benefits young people, who are more familiar with digital technologies. Connectivity plays

a key role in ensuring equal access to information, education, and job opportunities for young people, who can apply their digital skills to work from anywhere in the world. This is particularly beneficial for young people in geographically remote areas, especially when transportation costs are high. Young people can also use social media to build their networks and collaborate with others around the world. Young entrepreneurs can reach a global audience and sell their products or services online. For instance, an artist can record a song using a basic microphone and inexpensive software, promote it on YouTube or Spotify, and distribute it on iTunes for a relatively low price, while self-publishing platforms such as Kindle or Lulu offer an alternative to the traditional book publishing model (Waldfoegel, 2017).

Moreover, with the rise of online education platforms, young people can learn new skills and gain knowledge from anywhere in the world.

The ease with which books and documents can be translated provides easier access to education for young people who lack language skills. African edtech platforms are already enhancing access to learning opportunities. For example, Eneza Education offers learning and revision material via basic feature phones; more than 6 million learners in Kenya, Ghana, and Ivory Coast saw a 23 percent improvement in academic performance after 9 months (World Bank, 2020).

Although small firms trade less online than large ones, they are relatively more present online than offline.

SMEs struggle to keep up with technological change, lagging behind larger firms in online buying and selling due to limited resources and fewer IT specialists. However, EU data show that SMEs have a relatively stronger online presence, and the disparity between small and large firms in e-sales participation is smaller (WTR, 2016, 2018).

Online markets have several advantages over offline markets for small business.

First, they significantly reduce trade costs, such as those resulting from acquiring information; these costs, often fixed, disproportionately burden SMEs (Fontagne et al. 2020). Second, online markets are less capital intensive. E-traders do not need a physical presence abroad to advertise and sell

their products. Platforms such as Shopify, Magento, and WooCommerce provide affordable services for MSMEs to set up online stores. And online marketplaces such as Takealot, Etsy, Yaga, Bid or Buy, and Hello Pretty provide platforms for start-ups to list their products for a commission that is much lower than that usually charged by physical retailers. This lower need for capital favors SMEs, especially in Africa and other developing regions where financial markets are less developed.

It also means that online retailing can serve as a way to get market validation and sustainable cashflow before expanding to brick-and mortar retailing. Third, product lines in which SMEs dominate, such as gifts and craftwork, attract a greater share of total demand in online trade (WTR, 2018). Fourth, with the development of online platforms, even smaller firms can directly participate in international trade without going through large wholesalers and retailers.

THE DETERMINANTS FOR DIGITAL TRADE IN AFRICA

Connectivity, skills, electronic payments, customs and logistics, and an enabling policy framework are essential components of the ecosystem.

Digital infrastructure has advanced greatly in recent years, but complementary policies are needed to ensure that access to digital communications translates into technology adoption for productive purposes.

Domestic and international regulations that facilitate technology adoption by firms reduce costs of doing businesses and are a springboard for digital trade.

The benefits of digital transformation are greater for those who have the ecosystem for it to flourish.

While most countries, at any level of development, have experienced their benefits, digital technologies are only an effective engine of growth when conditions are created for their wide adoption and productive use. A solid digital connectivity infrastructure is necessary for digital trade. Access to digital communications alone doesn't create businesses opportunities. Also required are digital skills and entrepreneurship, a framework for electronic cross-border payments, customs and logistics systems, and a regulatory framework that fosters the productive use of digital communications at the domestic and international levels.

1. Connectivity infrastructure

Globally, poor digital connectivity remains the first hurdle for the expansion of digital trade.

As noted by the World Development Report 2016, the digital revolution has bypassed most of the world's people. An estimated 5.3 billion people, or 66 percent of the world's population, can connect to the internet, double the number 10 years ago. Yet 2.7 billion people, or one third of the global population, remain offline, most of them in low- and low-middle income countries. That poses a colossal challenge to achieving under the Sustainable Development Goal of "universal and meaningful connectivity by 2030. Digital connectivity reaches less than half the rural population, as opposed to over 80 percent in the cities (ITU 2022).

Africa remains behind in internet access and services.

Digital connectivity infrastructure is growing unevenly. Africa, especially Sub-Saharan Africa, is getting connected at a pace and connection speeds that risk leaving large parts of their communities on

the sidelines. South Africa, the country with the fastest fixed broadband median connection in the continent, has speeds of 41.20 Mbps, placing it in the 96th position worldwide; Singapore, the global leader, enjoys median speeds of more than 230 Mbps (Ookla, 2023). Regarding mobile broadband, 39 African countries have median speeds lower than the 10 Mbps (Cable.co.uk, 2022) considered necessary for consumers to “fully participate in a digital society” by the UK telecoms regulator (Ofcom, 2016). Low connection speeds make it harder to attract digital businesses, further widening the digital gap. Sub-Saharan Africa, the Middle East, and North African countries, for instance, count less than 800 secure internet servers per million people, behind Latin America and the Caribbean (1,969 servers), East Asia and Pacific (3,500), and North America (130,000).

Africa’s connectivity shortage is compounded by limited access to reliable electricity. In West and Central Africa, only three countries are on track to give every one of their people access to electricity by 2030. At this slow pace, 263 million people in the region will be left without electricity in 10 years. West Africa has one of the lowest rates of electricity access in the world; only about 42 percent of the total population, and 8 percent of rural residents, have access to electricity. Measures to make utilities financially viable, such as integrating national electricity grids to other systems in the region so they can benefit from the region’s abundance of clean energy sources, would reduce costs and expand electrification. Opening electricity markets to private-sector investments and innovations, such as solar energy and battery storage, would help. Burkina Faso, for instance, has leveraged the transformative impact of solar energy and battery storage. With support from the World Bank, the country is deploying solar energy to power its national grid and to mini-grids and individual household systems. Solar power with battery storage in Burkina Faso is competitive with other technologies, and its government was able to attract private-sector investment to support the technology (Puliti, 2022).

Africa’s large gap in digital connectivity and infrastructure limits its ability to engage fully in digital trade. In Burundi, downloading a 1-gigabyte file such as a 1-hour TV show, a small database, or a medium-

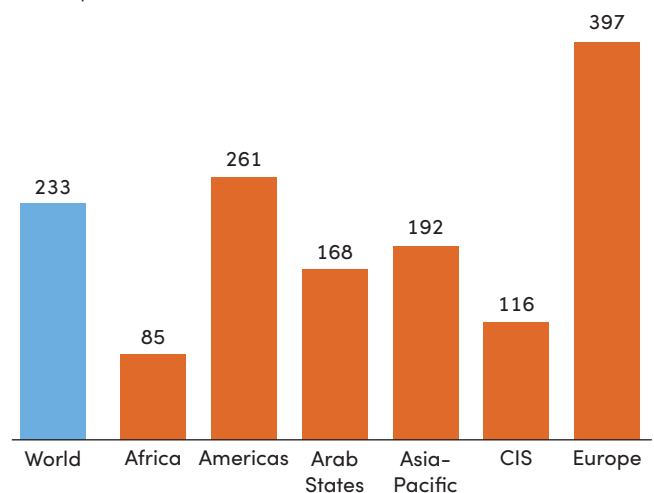
sized software application like Microsoft Word takes about half an hour, assuming the connection is stable and there is no network congestion or other problems. In Singapore, it takes about half a minute. This digital divide limits the types of services that can be bought and sold online in Africa, hindering the growth of digital trade. Chart 7 shows the low participation of African countries in the use of global digital communications. Making the internet universally accessible and affordable, with a special focus on Sub-Saharan Africa, remains a global priority if digital communications and digital trade are to become global tools for development and inclusion.

While much remains to be done, digital connectivity has grown faster in Africa than in any other region.

The proportion of Africans using the Internet increased from barely 0.1 percent in 2005 to 40 percent in 2022 (ITU, 2020, 2022). The deployment of submarine cables from both private, and public-private efforts has played a key role in this process. In 2009 only 16 submarine cables reached the continent, with 38 landings along the Mediterranean, Red Sea, and Atlantic waters. In less than 10 years, 26 cables were added, for a total of 79 cable landings, including along the Indian Ocean, ensuring that every African coastal country except Eritrea benefitted from a direct connection (Miller, 2017).

CHART 7 Africa lags behind other regions in International bandwidth.

(kbit/s per Internet user, 2022)



Source: ITU 2022.

However, complementary policies are needed to foster the adoption of digital technologies in production.

While internet availability has strong causal impacts on jobs, the presence of digital communications alone is not enough to ensure uptake. While 84 percent of people on average across Sub-Saharan Africa live in areas where 3G service is available, and 54 percent have some 4G mobile internet service, only 22 percent were using mobile internet services as of the end of 2021 (Begazo et al. 2023).

Affordability remains a key constraint to the adoption of digital communications in Africa, not least due to limited competition.

While both mobile and fixed broadband remain beyond the affordability target (Chart 8), fixed broadband use for businesses purposes remains particularly expensive at more than eight times the affordability benchmark. One key problem in effectively addressing affordability issues is that prevailing market structures do not yet enable enough competition in Africa. Markets are concentrated. Monopolies and duopolies, including by SOEs, still exist in many African countries, driving up connectivity costs (Begazo et al., 2023).

African countries have guaranteed a limited degree of market openness for their telecom markets at the multilateral level. As Chart 9 illustrates, the extent of liberalization that African countries have bound in their WTO telecommunication services commitments is about half of that scheduled by the entire WTO Membership. For the four ways that services are traded (the “modes of supply” as defined by the WTO)⁸, Africa’s commitments guarantee a significantly lower level of access overall.

Moreover, African countries represent just 12 of the 106 Members that have subscribed to disciplines providing for competition and enhanced transparency in the telecom sector, including on interconnection,

spectrum allocation, and anti-competitive practices, such as those featured in the WTO Telecom Reference Paper.

Demand-side interventions to increase internet adoption and usage are crucial for expanding the productive use of digital communications.

Introducing regulations and programs to create subsidized social or low-cost data plans (e.g., low “friends and family” tariffs or targeted vouchers for data services) and measures to facilitate device financing or access to devices helps expand internet use and grow the market to make further investments worthwhile. To increase use of digital technologies by businesses, it will be essential to provide incentives financed through earmarked funds, obligations on operators, and universal service funds. Policies fostering the advancement of digital technologies, such as innovation policies and regulations facilitating access and sharing of data are essential to increase use of digital technologies by businesses (Begazo et al. 2023).

2. Digital skills and entrepreneurship

Digitalization offers both risks and opportunities for the workers. A survey by the World Economic Forum found that while 43 percent of businesses surveyed indicate that they were set to reduce their workforce due to technology integration, 41 percent planned to expand their use of contractors for task-specialized work, and 34 percent planned to expand their workforce due to technology integration (World Economic Forum, 2020). The new jobs created by digitalization, however, require digital skills that weren’t needed earlier. These skills are indispensable to work and trade in the 21st century.

The digital skills gap is nowhere more pronounced than in Africa. Based on data from LinkedIn, a global

⁸ The WTO’s General Agreement on Trade in Services (GATS) set out four ways (or modes) in which a service can be supplied internationally: mode 1 describes “cross-border trade” (e.g. through the internet); mode 2 describes consumption abroad” (e.g. through tourism); mode 3 describes “commercial presence” of an enterprise (e.g. through foreign direct investment); and mode 4 describes the “movement of natural persons” (e.g. through temporary labor mobility).

BOX 2 Hard and Soft: A comprehensive approach to digital integration in Eastern Africa

The World Bank's Eastern Africa Regional Digital Integration project (EA-RDIP) (2023–2028 for “Phase 1”) seeks to foster regional digital integration in Eastern Africa addressing various determinants of digital trade in parallel, including “hard” connectivity infrastructure and “soft” institutions, regulations, and building capacity.

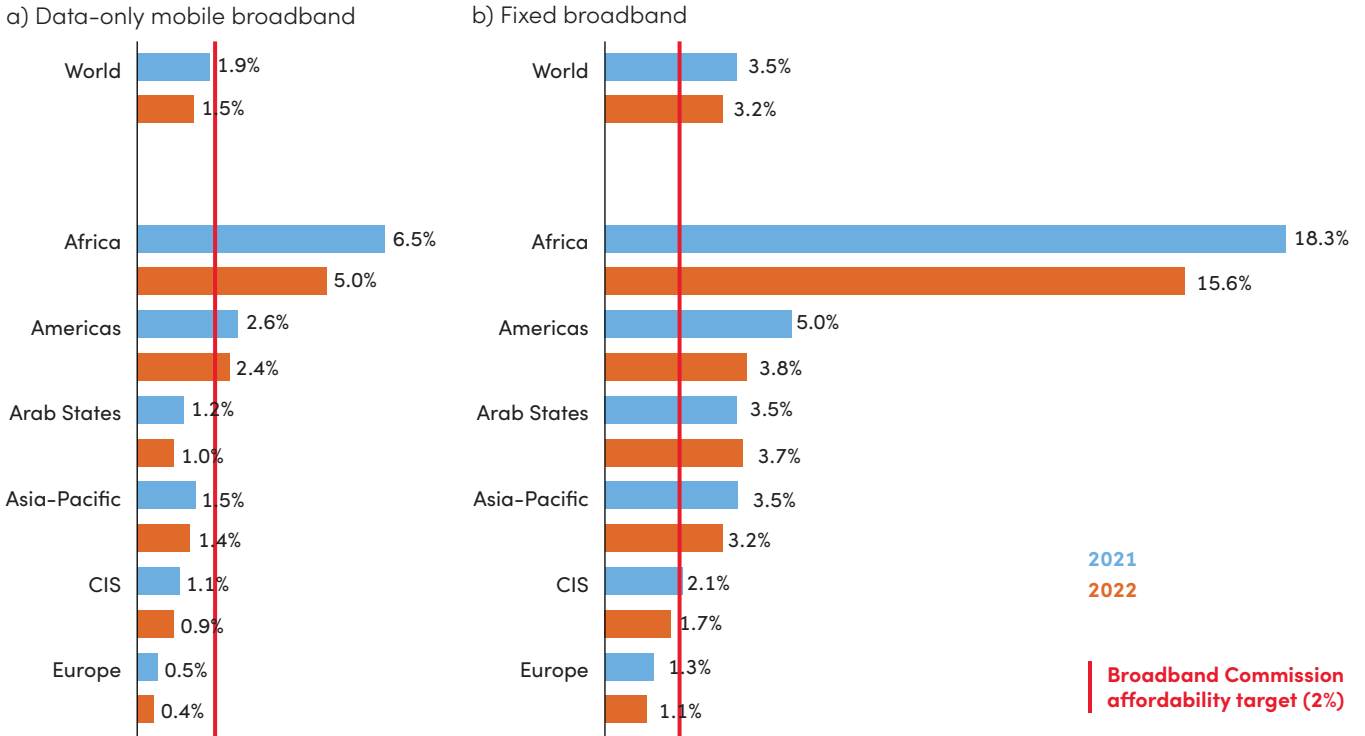
Phase 1 provides support to two countries, Somalia and South Sudan, and two regional economic organizations, the Eastern Africa Community (EAC) and the Intergovernmental Authority on Development (IGAD) for a total grant of US\$172 Million. EA-RDIP is designed around three distinct but interconnected components that together can form the cornerstone of a single digital market.

- Component 1 on “single connectivity market” seeks to ensure **physical connectivity across borders and remove regulatory barriers for regional telecom infrastructure** and services deployment. Activities under this component support the deployment of upwards of 7,000 km of fiber network in Somalia and South Sudan to bridge key missing cross-border and backbone fiber links and connect rural and borderland areas, where the commercial incentive for last-mile network expansion is insufficient to attract private investment. The component will also provide enabling policy, legal and regulatory support, and capacity building to stimulate broadband market development and harmonization at the national and regional levels.
- Component 2 on a “single data market” seeks to **enable affordable, secure, and seamless data management practices to increase cross-border data flows**. The project will focus on adopting common frameworks for data protection and governance, reducing barriers for data sharing within and across borders, and promoting cross-border data interoperability, including through the establishment a regional mechanism for governing cross-border data flows within the region and with the rest of the world. The project will also strengthen cybersecurity and incident response capabilities in the region by strengthening basic national frameworks and through coordination at the regional level.
- Component 3 on a “single online market” will **improve the conditions for digital trade across borders in Eastern Africa**. A key activity focus on facilitating cross-border payments and integrating the electronic payment systems across the region, through the implementation of guidelines for the interoperability of financial data and payments across the region. Another activity will focus on facilitating cross-border contracts within the region and other trading partners through the development of a regional framework for electronic signatures.

A raft of other related projects also supports the EA-RDIP's goal of digital regional integration. For instance, Kenya Digital Economy Acceleration Project (KDEAP) follows a similar structure and proposes complementary activities at the national level. In addition, KDEAP features a strong component to improve digital skills, provide for last mile connectivity, and update the learning program of a network of Kenyan Universities.

CHART 8 Digital communications affordability.

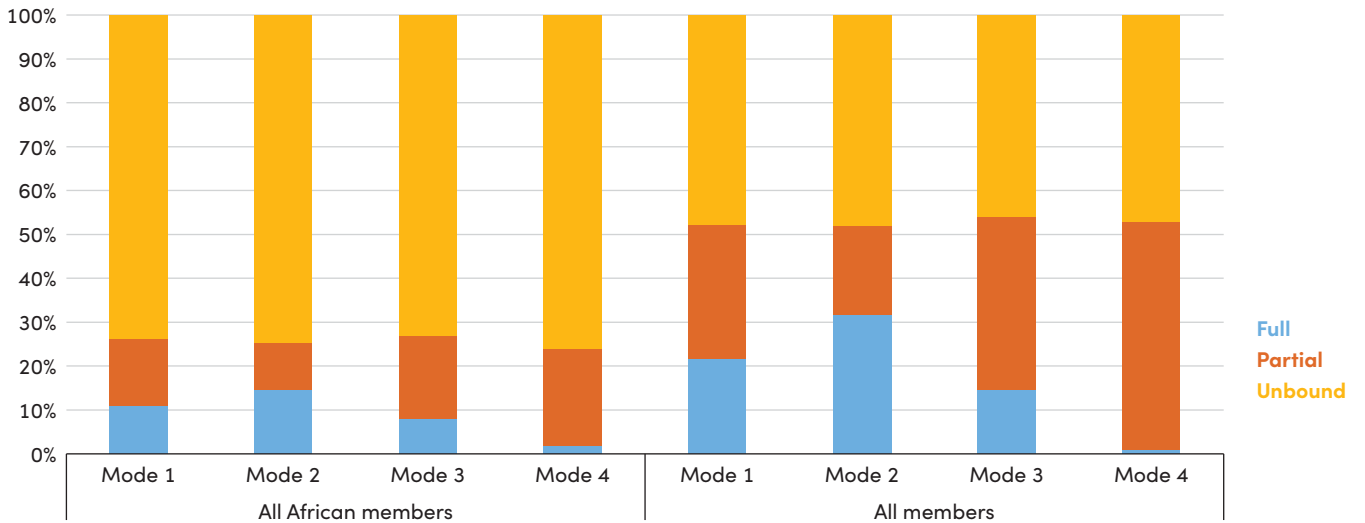
(prices as % of GNI per capita)



Source: ITU 2022.

CHART 9 African WTO Members guarantee less access to their telecoms markets than other members.

(Average level of access)



Source: WTO Secretariat (2023).

Note: Mode 1 describes “cross-border trade” (e.g. through the internet); mode 2 describes consumption abroad” (e.g. through tourism); mode 3 describes “commercial presence” of an enterprise (e.g. through foreign direct investment); and mode 4 describes the “movement of natural persons” (e.g. through temporary labor mobility).

employment focused platform, Choi et al (2020) find that Sub-Saharan African workers have a lower level of digital skills than workers in other regions, even among the small portion of the labor force that uses LinkedIn, which constitutes, on average, 4 percent of the labor force among the 27 Sub-Saharan African countries reviewed. In North America, by contrast, 70 percent of the labor force uses the platform (Chart 10).

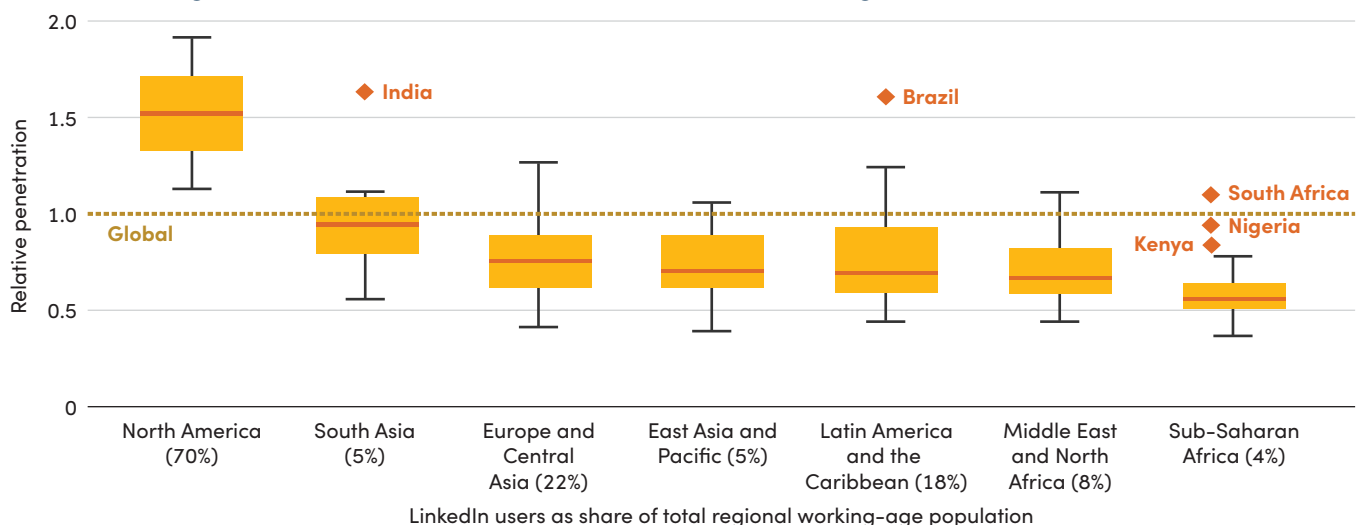
Major digital training and education programs will be needed. Governments throughout the continent have adopted digital strategies (e.g., Kenya’s Digital Economy Blueprint, Egypt’s National Artificial Intelligence Strategy, and the Digital Mauritius 2030 Strategic Plan) that include digital skills as a key pillar. A study focused on Côte d’Ivoire, Kenya, Mozambique, Nigeria, and Rwanda, expects that by 2030, about 57 million jobs will require digital skills in all five countries, about 70 percent of them requiring foundational digital literacy skills for general generic occupations across all sectors of the economy and not from narrowly defined ICT professions. In addition, about 2 million more jobs are expected to arise in the IT and digital sector. Developing foundational and digital literacy as well as advanced e-business skills is expected to demand over 100 million training opportunities across the five Sub-Saharan African countries. In all of Sub-Saharan Africa, those figures

grow to about 230 million jobs that will require digital skills by 2030 and almost 650 million training opportunities (World Bank and IFC, 2022).

Governments should help prepare their youth for the digital era, but they should also act on the short term.

Investing in human capital remains the priority to develop the intellectual and social skills necessary for the digital era. Three types of skills are increasingly important in this context: advanced cognitive skills such as complex problem-solving; socio-behavioral skills such as teamwork; and skill combinations that are predictive of adaptability, such as reasoning and self-efficacy. Building these skills requires strong human capital foundations and lifelong learning, but it especially calls for strengthening early childhood education (World Bank, 2019b). In the short run, however, governments should also ensure that adults can benefit from the digital transformation. Policy options for adult education revolve around building a learning culture among firms and individuals; removing time and financial constraints to training participation; tackling unequal access to training based on employment status; and encouraging firms to train groups at risk (OECD 2020). To be effective, adult education must also be closely aligned with labor market needs by integrating private stakeholders in the design and implementation of training programs.

CHART 10 Digital skills in Sub-Saharan Africa relative to other regions.



Source: Choi et al 2020.

Digital platforms have had good traction in facilitating digital skills development in Africa. Digemy is a gamified e-learning solution that uses algorithms to assess and close knowledge gaps and provides a tailored and accelerated learning journey for each user.⁹ Founded in South Africa, Digemy has supported over 400,000 learners in over 40 countries. AltSchool is a Rwandan edtech platform that enables young people to learn the in-demand skills in 12 months. And Utiva, launched in 2018, is a Nigerian platform that helps people develop digital skills. It has reached more than 30,000 professionals as of 2023.¹⁰

3. Electronic payments

Electronic payments are the foundation for modern trade. Credit cards, online banking, mobile money, and electronic funds transfers are used in transactions large and small. At least 76 percent of adults in the world have an account with a bank, financial institution, or a mobile money provider, and 33 percent of adults in Sub-Saharan Africa have mobile money accounts. For some countries—such as Uganda—over 50 percent of adults with a bank account rely on a mobile money account (World Bank, 2022). The absence of effective electronic payments systems makes remote transactions, especially across borders, virtually impossible, although some domestic e-commerce can develop through cash-on-delivery and other in-person interactions.

Making payments across different regulatory systems causes costly delays. For international transactions, intermediaries help convert currency, process payments through existing regulations, and deposit them in electronic accounts. When the payee and payer's intermediaries work through diverging regulations, or when financial data are not immediately interoperable between the entities involved, transactions become slow

and costly, limiting the opportunities for digital trade to expand. This, in turn, causes the intermediaries to raise charges on transactions (UN, 2021).

Regulatory frameworks for electronic payments that interact efficiently across borders bolster trade. Interoperability between payment systems internationally is needed. Regulations to improve communications between electronic payment systems can hasten cross-border transfers. In addition, harmonizing electronic payment systems' regulations offers the added benefit of increasing consumer confidence. Regulatory systems that promote greater efficiency and consumer trust in electronic payments can boost cross border trade by improving access the international market.

Electronic payment platforms have enabled Africa to make big leaps in financial inclusion, ultimately making it easier for SMEs to make and receive payments. In South Africa, Yoco provides convenient and affordable payment solutions to SMEs, and competitors such as Ikhoka and SureSwipe have emerged. Launched in 2015, Yoco had over 200,000 SMEs as customers as of 2023.¹¹ Elsewhere in the continent, Paystack is a Nigerian-founded electronic payment platform that enables more than 200,000 SMEs accept payments from global clients.¹²

4. Customs and logistics for e-commerce

As digital trade increases in quantity and speed, customs procedures and logistics that help customers receive their goods have a pivotal role in the future trade. To move products across borders, traders must comply with customs procedures, many of which still require physical paperwork. In addition, logistics for transport must be thoroughly prepared to account for timelines and movement by air, sea, and land. Landlocked

⁹ <https://www.digemy.com/>.

¹⁰ <https://www.utiva.io/>.

¹¹ <https://www.yoco.com/za/about/>.

¹² <https://paystack.com/>.

developing countries—a quarter of African nations—are especially affected because they need additional modes of transport that can cause delays in transit corridors. As both customs procedures and logistics are required for cross-border trade, any change to their timeframes can affect trade.

Delayed customs procedures increase costs of trade by hindering the movement of goods and causing logistics difficulties. Delays at customs increase global trade costs by an average of 5 to 6 percent cost (WTO 2018). Africa is the continent with the highest average import dwell times; with most of its countries average more than eight days¹³. Of 11 countries with the longest import dwell times, African countries account for 10 (LPI). Moreover, long dwell times correlate with low logistics performance, which can increase delays further (LPI). Removing obstacles in customs procedures and improving transport infrastructure generates quicker timeframes and thus lowers trade costs.

Digitalization of border procedures helps reduce the average cost for cross-border trade and will likely increase the volume. Electronic Data Interchange (EDI) systems allow the electronic transfer of customs documents, and Single Window Systems (SWS) create an electronic single point of entry for all customs procedures, thereby speeding up the processing of goods and services. By developing regulations that target a decrease in time spent at the border, countries will foster trade growth and reduce costs. Some African authorities have introduced digital platforms for more efficient customs checks. Examples include the Kenyan Revenue Authority's M-service App and the South African Revenue Authority's Customs Trader Portal.

Customs can also support e-commerce through specific, simplified, border procedures. Goods sold through e-commerce platforms differ from regular cross-border shipments in that they are often shipped in individual

parcels rather than transported in bulk. Customs can adopt a specific channel to process these parcels with fewer and less complex requirements that are more easily met by small traders. One mechanism used frequently by customs agencies is a streamlined customs clearance procedure that enables traders to use a simpler customs declaration document. The Common Market for Eastern and Southern Africa (COMESA) provides an example. It has offered a simplified customs clearance procedure for its member countries—the COMESA Simplified Trade Regime (STR)—that small-scale traders use to facilitate their import and export documents. The STR allows faster clearance times at border posts, reduced clearance costs, and increased predictability of duties levied. It is meant to be used by small-scale cross-border traders exporting goods valued at US\$1,000 or less per consignment (Huria, 2019).

An effective framework for logistics, from border to last mile, is essential for leveraging e-commerce for global trade. A solid, nationwide logistics network that can reach traders and consumers across rural or urban environments is necessary for parcel trade to take place. For last-mile delivery, e-commerce platforms have taken different approaches to the underlying logistics around the world, from reliance on outsourced courier services to making in-house logistics and order fulfilment their main services offer (see Erisman, 2018). One aspect often overlooked in these private solutions to last-mile logistics is the cross-border shipment of parcels, which requires not only a physical logistics network, but also the capacity of vendors to conclude the transaction and prepare their goods in a manner fit for international transit, complete with invoice and customs declaration, product classifications, tariffs, restricted goods, etc. E-commerce, logistics, and business-management platforms such as VDL Fulfillment (in Ghana), Khula (in South Africa) and Renda (in Nigeria) help SMEs perform some these tasks.

¹³ Figures based on the World Bank Logistics Performance Index. The LPI is a tool created to measure performance on trade logistics based on a worldwide survey of international logistics operators as well as granular high frequency information on maritime shipping and container tracking, postal and air freight activities. Available at <https://lpi.worldbank.org/>.

5. Policies and regulations

An enabling regulatory environment is an essential component of the ecosystem for digital trade. For starters, a conducive business environment, based on transparent and pro-competitive policies, is a necessary component not only of digital transformation, but of economic regulation more broadly. Laws and regulations that ensure easy entry and exit of firms, and an open trade regime that exposes companies to foreign competition and investment, play a fundamental role not only in allowing businesses to access digital technologies, but also in motivating them to leverage such tools for greater competitiveness (World Bank, 2019).

In addition, some policies and regulation emerge as key determinants of digital trade. An internationally recognized regime on electronic documents and signatures provides important regulatory tools for remote transactions, especially valuable for the conclusion of B2B contracts, including across borders. Regulations are also essential to strengthening trust in digital markets and bringing new actors to digital transactions by ensuring that consumer rights are protected, personal information is safe and private, and new technologies such as automated or AI-based decisions are fair, non-discriminatory, and respectful of human values. Finally, regulations are also needed to bring certainty and predictability to digital markets, for instance, in establishing the conditions for transmitting data across borders.

Many African countries lack a comprehensive enabling regulatory environment for digital trade. While in recent years a number of African countries have increased efforts to adopt regulation for digital trade, especially on digital signatures, data protection, and cybersecurity, the main regulatory challenge remains the absence of a comprehensive framework that provides effective rules on key challenges. A scoring of regulations on digital trade in the continent finds that only South Africa lands in the fourth quintile of “regulatory readiness” for digital trade, which suggests a comprehensive framework that is still missing some elements,

such as trust-enhancing disciplines against spam and rules on paperless trade (Chart 11a.). On the contrary, 13 of the 26 African countries reviewed are in bottom two quintiles, lacking pillars such as personal data protection and rules on cross-border data flows. Overall, major work is necessary to build a comprehensive regulatory framework that promotes digital transactions while fostering trust in digital markets.

Regulations on data are at the heart of digital trade governance. Restrictions on cross-border data flows can also burden production processes and trade and the productivity of local companies using digital technologies, particularly in the context of global value chains. Swedish manufacturing firms have reported that data localization requirements and restrictions on the cross-border outflows of data hinder the setup and operation of their global production networks. The challenge for policy makers is thus to promote the sharing and transfer of data in a manner that supports the economic benefits of digital trade while ensuring that sensitive information remains secure and the relevant regulations on personal data protection are respected (NBT, 2015; World Bank, 2021).

Several African countries lack regulations on cross-border data transfers. Data can be freely transferred between most countries in Africa, often provided that the transfer meets certain conditions for the protection of personal data. However, for about half the 26 reviewed sample, this open regime is the result of the lack a regulation on cross-border data transfers, rather than a specific policy and regulatory choice (World Bank, 2021). On the other hand, five countries (Chart 11b) have introduced substantial restrictions on the transfer of data, requiring that a copy of personal data be kept in servers within that jurisdiction.

A harmonized enabling regulatory framework can foster digital trade, especially within the continent. The general scarcity of regulation on digital trade in Africa presents a challenge—and an opportunity. As countries advance in parallel to build enabling frameworks for digital transactions, they may join forces to develop convergent rules that operate similarly across

CONCLUSIONS AND WAY AHEAD

IV

- African countries have much to gain from digital trade, and efforts to establish an enabling ecosystem will magnify the gains.
- The international community is providing support to African countries in digital trade.
- The World Bank Group supports policy, investment, and capacity building across the key areas of digital trade, including connectivity, skills, payments infrastructure, and regulations.
- The WTO plays a role through its body of rules and ongoing work on digital trade, which offers opportunities to benchmark and strengthen regulatory frameworks.
- There is ample scope for the World Bank and the WTO to deepen their cooperation to support African countries' efforts to reap the benefits of digital trade.

1. Policy implications

Drawing on a range of existing studies and practical experience, this analysis offers valuable lessons for digital trade in Africa.

For starters, digital trade offers new opportunities to boost trade-based growth for African countries. Most African countries have yet to engage substantially in digital trade, and the continent's contribution to global digital trade remains very low. However, digitally delivered services are the fastest growing segment of Africa's exports, showing that both governments and the business community are paying increasing attention to digital markets as a channel for expanding international trade.

Digital trade offers additional opportunities for SMEs, women, and the youth, thus adding inclusiveness to growth. It acts as an engine of growth by expanding and diversifying the export basket and by strengthening domestic competitiveness. It also creates opportunities for women and youth by allowing them to avoid costly intermediaries. Ventures like Soko and Anou Cooperative leverage the global reach of digital platforms to connect small manufacturers and service suppliers with international markets.

However, poor connectivity, and, increasingly, regulatory weaknesses are limiting Africa's ability to engage in global digital markets. While digital connectivity has much improved in the last decade, with fiber optic landings now deployed in all but one African coastal country, further progress is necessary, particularly in rural areas and in terms of connection speed. Yet, even where connectivity is available, the adoption of digital technology for businesses remains

low. Complementary regulations are necessary to ensure an enabling ecosystem for digital business.

Steps are needed in several policy areas to foster the uptake of digital technologies for trade:

- **Connectivity regulation:** Access to digital connectivity remains hampered by high costs. The cost of fixed broadband connections—the ones needed for business engagement, especially for digitally delivered services—is more than seven times above the affordability threshold. Increasing competition by adopting an open and non-discriminatory framework for telecom services would help reduce costs. Furthermore, demand-side policies to subsidize low-cost social data plans and measures to facilitate access to communications equipment, including by SMEs, would reduce users' costs and boost demand, incentivizing further investments in connectivity. Additional public-support policies targeting digital adoption by firms could also include targeted partial credit guarantees, matching grants, and vouchers for the adoption of technologies and needed capabilities.
- **Digital skills and entrepreneurship:** A significant effort to upgrade digital skills and literacy, particularly in Sub-Saharan Africa, is needed to meet the expected demand. In addition to increased attention to familiarity with science, technology, engineering, and mathematics (STEM), education programs should focus on developing cognitive and socio-behavioral skills, especially in early childhood. Continuing education for adults should also be advanced by promoting business-led training programs and by removing temporal and financial constraints to participation in training, tackling unequal access to training based on employment status, and encouraging firms to train at-risk groups. Policymakers should also embrace the role of edtech platforms, which have proven effective in expanding digital skills, like South Africa's Digemy and Rwanda's AltSchool. This means considering the impact of restrictions on imports of digitally delivered services and also recognizing and promoting online education programs.
- **Electronic payments:** Cross-border payments present a challenge for trade across the continent, especially for retail transactions such as those typically associated with digital trade. Regulations that promote interoperability between national payment systems would facilitate cross-border transactions, boosting the integration of digital markets in the region. Regulation that recognizes and allows the entry of new actors and new business models, such as Nigeria's Paystack or M-Pesa's cross-border payment framework, in the electronic payment ecosystem, would provide another valuable tool for international payments.
- **Customs and logistics:** Digitalization of border process, which allows traders to submit documentation and payments through dedicated digital platforms, is critical to reducing trade costs. In addition, dedicated simplified channels for parcel trade, with fewer documentary and payments requirements, would support the development of integrated digital markets for goods as consumers use regional digital marketplaces to buy goods that are not available domestically. These initiatives should be complemented with policies to support the expansion of last-mile delivery services, ranging from increasing domestic competition in the courier market to expanding postal addresses.
- **Policies and regulations:** Digital trade thrives in regulatory regime that provides supportive, effective, and clear solutions to the policy challenges presented by digital markets. Enabling regulation for international trade should include rules on internationally recognized electronic documents and signatures; strong consumer protection disciplines, including rules on transparency; dispute resolution and redress that are suitable to cross-border transactions; and a solid framework for the protection of individual privacy. Also needed is a governance system that allows for cross-border data flows, especially of privately collected data, while ensuring compliance with essential domestic and international safeguards. Most countries in Africa have yet to adopt laws and regulations on digital trade, which opens the opportunity to regional and continental cooperation with a view to adopting

mutually compatible frameworks that support the expansion of digital markets. Regional and global initiatives, including in trade fora, provide opportunities to agree on common principles and advance toward integrated digital markets.

Although policymakers and businesses face major efforts in tackling the various policy bases for digital trade, most African governments have already taken steps to adopt a supportive framework, as reflected not only in various domestic laws and regulations, but also in regional initiatives such as the EAC E-commerce Strategy, adopted in July 2022, which captures most of these key policies.

2. How can international cooperation help?

The international community is playing an important role in supporting African countries in meeting these challenges. The World Bank Group established the Digital Economy for Africa (DE4A) Initiative,¹⁴ aiming at getting every individual, business, and government in Africa digitally enabled by 2030, in support of the African Union's Digital Transformation Strategy. The Initiative follows a comprehensive approach to developing a vibrant, safe, and inclusive digital economy. It combines the development of infrastructure for connectivity with the construction of digital platforms for access to finance and markets. It thus creates markets for entrepreneurs and digital skills while building regulatory frameworks that address emerging risks such as competition, privacy, and security. In its first 12 months of operation (2020–2021), the DE4A program launched 35 technical assistance projects across the continent and five (reimbursable and non-reimbursable) lending operations totaling US\$300 million.

Connectivity has been a major area of focus for World Bank infrastructure investments. Traditionally, World Bank support on digital development has focused on expanding connectivity infrastructure. These

multi-million-dollar projects included providing access to submarine cables or pre-purchase of internet bandwidth, terrestrial infrastructure to extend connectivity from coasts to underserved areas, and foundational support to government uptake of internet use and provision of eGovernment services. The World Bank has been increasingly adopting a regional perspective to these projects, as reflected in Chart 12, to foster integration of backbone networks.

The World Bank offers various types of support related to digital economy and digital trade (Chart 13).

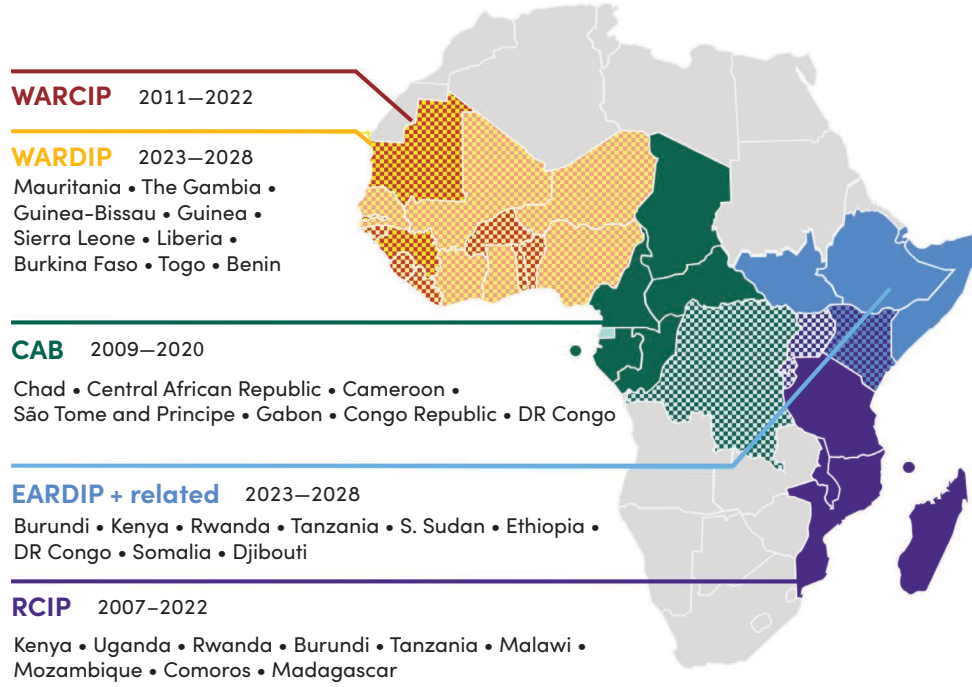
These programs range from technical assistance projects, typically self-funded or through multi-donor trust funds, to broad lending operations. For example, at the request of Kenya, World Bank experts have provided training and background analysis to government officials engaged in trade talks with the United States, which are likely to include provisions on digital trade. Similarly, the World Bank provided Morocco, the chair of the e-commerce negotiations under the African Continental Free Trade Agreement (AfCFTA), with a detailed background analysis of approaches and disciplines on digital trade, including specific flexibilities that recognize the different degrees of progress on digital trade in the continent. On the other hand, lending operations, particularly those focused on connectivity, typically entail a primary goal of expanding and improving digital infrastructure and, increasingly, policy advisory and improvement on “soft infrastructure” (institutional capacity) to reap the benefits of digital access. Currently, 12 Sub-Saharan African countries have investment operations that tackle key challenges to digital trade, from connectivity to skills and electronic payments.

Strengthening digital skills is a common component of World Bank projects in Africa.

On the understanding that improving the conditions for usage is as important as expanding digital connectivity, most World Bank digital-related projects in the continent include a component on strengthening digital skills. The Rwanda Digital Acceleration Project, for instance, seeks to close

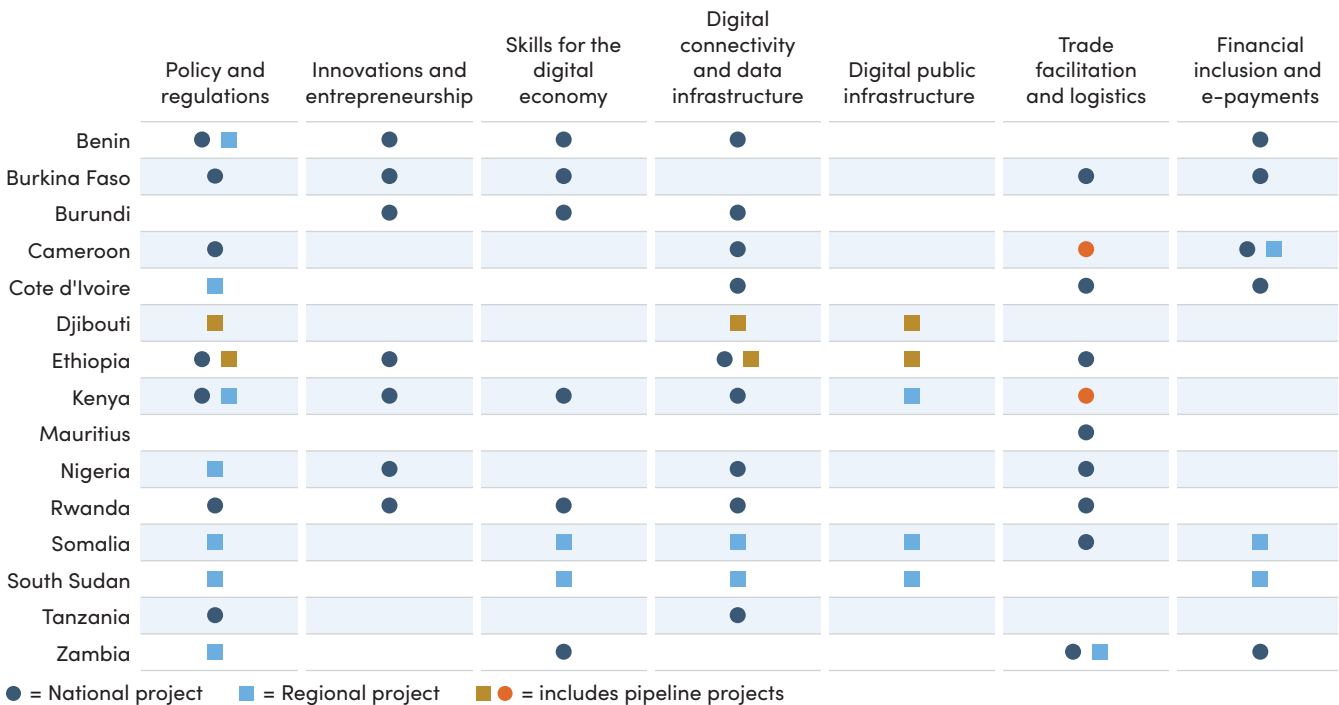
¹⁴ <https://www.worldbank.org/en/programs/all-africa-digital-transformation>.

CHART 12 Regional connectivity has been a major focus of the World Banks Africa.



Source: World Bank.

CHART 13 Many WBG investment projects address digital trade challenges.



Source: World Bank.

infrastructure gaps in last-mile connectivity and expand business usage of digital telecommunications. To this end, it provides US\$30 million to strengthen the digital entrepreneurship and talent base, including through performance-based grants for digital ecosystem firms. Another US\$7 million is going toward strengthening digital skills programs in the Rwandan Coding Academy, which has doubled its student intake in the first year of the project.

The World Bank supports the development of financial regulations and institutions in Africa and elsewhere.

Through a combination of financing and technical assistance, the World Bank has supported efforts to build or strengthen national payment systems, including in Burkina Faso, Mozambique, Sierra Leone, Kenya, Somalia, Comoros, and Liberia. The WBG also supports talks on ways to improve cross-border payments through the African Union, the African Association of Central Banks (AACB), Smart Africa, and various Regional Economic Commissions. Options being evaluated include interlinking regional payment systems and launching new payment platforms like Afriexim bank's PAPSS. In addition, the WBG has invested directly in African firms that facilitate electronic payments. For examples, in 2013 the International Finance Corporation (IFC), a unit of the WBG, invested US\$6 million in Fawry, helping the start-up grow into Egypt's first digital "unicorn" and main electronic payments platform. It now employs 1,600 people and handles more than 2.5 million transactions a day (IFC, 2019).

Other international organizations also work to strengthen the engagement of African countries in digital trade.

While development banks have the unique capacity to finance multi-million-dollar investment projects, other organizations also offer valuable assistance within their specific mandates. For instance, the Universal Postal Union (UPU), in partnership with international organizations or national governments, has implemented an "Easy Export" program that relies on postal office networks to assist vendors in preparing parcels for international shipment. Morocco is among the countries that have benefitted from this support. Similar last-mile solutions can also integrate with online platforms and other elements, such

as payments, as is the case of South Africa's partnership with the UPU (Logistics Update Africa, 18 Feb 2020). Enabling and accelerating digital transformation is at the heart of ITU's work on the African continent. A set of recently approved Africa Initiatives for the period 2023–2025 aims to help countries address the existing policy and regulatory challenges and formulate strategies to encourage the development and use of digital technologies in various sectors and foster innovation (ITU, 2023). UNCTAD's work on eTrade Readiness Assessments provides a snapshot of the digital trade ecosystem in developing countries, including several in Africa, and helps identify priority actions and develop synergies and programs between beneficiary countries and development partners to implement relevant recommendations (UNCTAD, 2023).

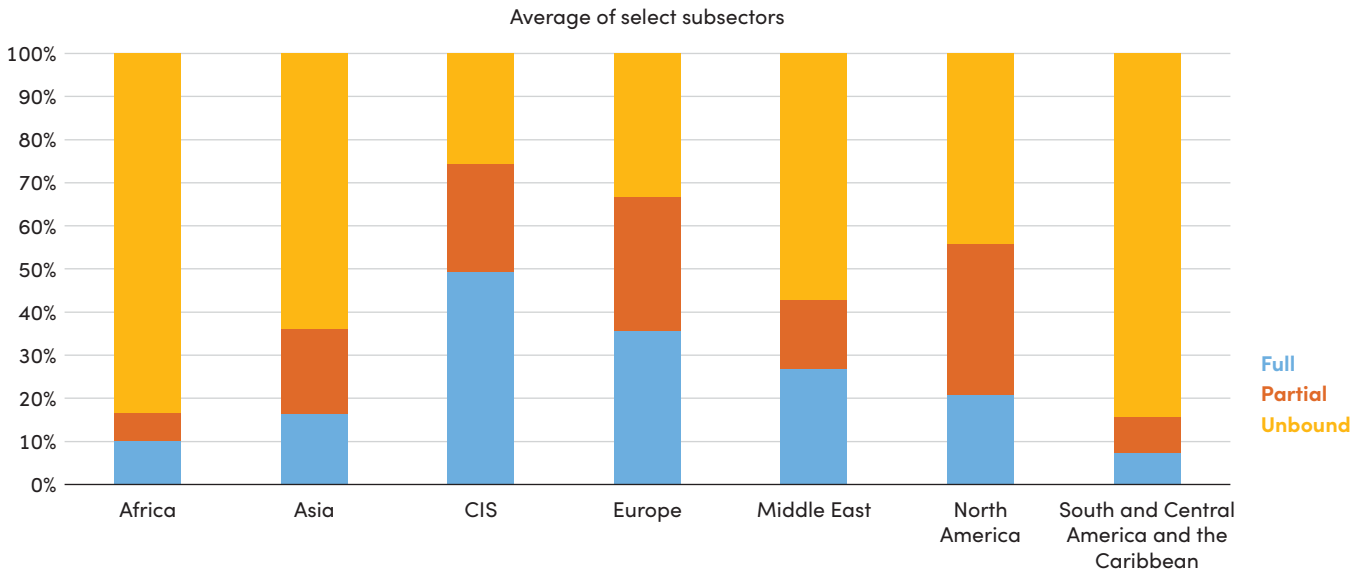
The WTO plays a particular role given the relevance of its rules on digital trade.

WTO Agreements do not distinguish between the different technological means through which a product may be traded. Thus, starting with services, the critical backbone for digital trade, measures affecting services traded electronically are subject to the provisions of the General Agreement on Trade in Services (GATS). As most GATS disciplines apply only to services for which liberalization commitments have been undertaken, the most advantageous conditions for trade in digitally delivered services are achieved when WTO members adopt commitments that are as open as possible.

The fact that most WTO services commitments date from the mid-1990s and only provide for limited access guarantees represents a missed opportunity for digital trade.

As Chart 14 illustrates, the level of GATS market opening commitments for digitally delivered services remains shallow. Although actual conditions on the ground tend to be more liberal than the commitments undertaken, the fact that these access conditions are not guaranteed by WTO bindings offers no predictability against trade-restrictive policy reversals. Deeper GATS commitments would guarantee greater stability and have a positive impact on trade.

WTO rules are also relevant in other contexts, including for trade in goods marketed, purchased and/or paid

CHART 14 The level of WTO commitments for digitally delivered services is relatively low.

Source: WTO Secretariat (2023).

for online but delivered physically across borders.¹⁵

The Trade Facilitation Agreement provides for electronic ways of expediting and facilitating government procedures by, inter alia, encouraging WTO Members to accept paper or electronic copies of pertinent trade documents. The Information Technology Agreement eliminates tariffs on IT products that are critical components of the physical infrastructure of digital trade. The standards for the protection and enforcement of intellectual property rights, set out in the Agreement on Trade-Related Aspects of Intellectual Property Rights, extend to products traded online and online commercial activities more generally. Furthermore, the Trade Policy Review Mechanism promotes the transparency, and understanding, of WTO Members' trade policies and practices related to digital trade. Finally, since 1998, WTO Members have agreed upon, and repeatedly renewed, a temporary standstill on the imposition of customs duties on electronic transmissions, known as the "Moratorium."

At the WTO, work on digital trade is picking up pace, offering additional opportunities to benchmark

and strengthen Africa's regulatory frameworks. For example, multilateral WTO discussions under the Work Programme on Electronic Commerce have intensified following the Decision adopted at the 12th Ministerial Conference (MC) in 2022 and provide a platform for experience-sharing and mutual learning. They have considered issues such as consumer protection, the digital divide, legal and regulatory frameworks, digital trade facilitation, digital industrialization, and the Moratorium, which was also extended until the 13th MC.

Additional topics are being deliberated under the WTO's Joint Statement Initiative (JSI) negotiations on e-commerce.

The 89 Members participating in the JSI hold the view that responding to the changing nature of trade requires upgrading existing WTO rules. So far, these Members, which include seven African countries (Benin, Burkina Faso, Cameroon, Cote d'Ivoire, Kenya, Mauritius and Nigeria), have converged on a dozen new disciplines and are currently occupied in intense discussions on several other provisions, including on data flows. Participating members are also considering

¹⁵ Some WTO Members hold the view that goods that have been digitised and are now transmitted cross-border electronically (e.g. e-books) are goods, while others hold the view that they are services.

how best to incorporate special and differential treatment into a potential agreement, along with the need to address some of the capacity constraints faced by developing and Least Developed Countries (See Box 3 for greater details).

Two other WTO JSIs have concluded negotiations on disciplines that could help countries enhance participation in digital trade. The disciplines on services domestic regulation agreed by 69 Members facilitate authorization procedures that businesses engaged in digital trade may have to comply with before supplying their services in various jurisdictions. The recently completed text of the Agreement on Investment Facilitation for Development, negotiated among 110 Members, aims to improve the investment and business climate and make it easier for investors to conduct their day-to-day business and expand their operations. It would also help attract more and higher-quality investment in

digital connectivity infrastructure. The continent's participation in these two JSIs is uneven, with two African countries (Nigeria and Mauritius) party to the services domestic regulation outcome and 22 participating in the JSI on investment facilitation.¹⁶

The WTO also offers training and technical assistance to strengthen African policymakers' awareness and understanding of the disciplines applicable to digital trade. Over the 2019 to 2022 period, African countries have, together with Middle Eastern ones, been the top beneficiaries of WTO technical assistance (TA) focused on electronic commerce. And the region's interest in further technical assistance related to digital trade is on a steep rise, including as it relates to measurement of trade flows that are digitally ordered or delivered. In the context of planning for WTO training activities for 2024-25, a recent survey indicated that, out of the 87 beneficiaries that expressed an interest in receiving technical assistance,

BOX 3 The WTO Joint Statement Initiative on electronic commerce

At the 11th WTO Ministerial Conference in December 2017, a like-minded group of 71 WTO Members issued a joint statement initiating exploratory work towards future WTO negotiations on trade-related aspects of electronic commerce. In January 2019, an expanded group of 76 Members confirmed their intention to commence these negotiations. They agreed to "seek to achieve a high standard outcome that builds on existing WTO agreements and frameworks with the participation of as many WTO members as possible". The group of participating Members has grown to include 89 economies as of July 2023.

The JSI negotiations are based on Members' textual proposals, and the working modalities are open, inclusive and transparent. The issues being negotiated are grouped under five main broad themes: enabling electronic commerce, openness and electronic commerce, trust and e-commerce, cross-cutting issues and telecommunications.

Momentum is continuing to build. In December 2022, the three Members co-convening the initiative, Australia, Japan and Singapore, issued a streamlined, consolidated text with convergence on 10 articles (paperless trading, electronic contracts, electronic authentication and electronic signatures, unsolicited commercial electronic messages, online consumer protection, open government data, open internet access, transparency, cybersecurity, and electronic transactions frameworks). Further progress has been achieved since, and discussions are also advancing on data-related issues such as cross-border data flows and data localization. The participants are working toward substantial conclusion of the negotiations by the end of 2023.

¹⁶ Benin; Burundi; Cabo Verde; Central African Republic; Chad; Congo; Djibouti; Gabon; The Gambia; Guinea; Guinea-Bissau; Liberia; Mauritania; Mauritius; Morocco; Nigeria; Seychelles; Sierra Leone; Togo; Uganda; Zambia and Zimbabwe.

e-commerce was identified as a priority by 70 WTO Members, of which nearly half were from Africa. Digital connectivity is also an established theme of the WTO-led Aid-for-Trade initiative, and together with e-commerce, an area where financing is flourishing, including in the form of public-private partnerships.

There is ample room for African countries to use trade negotiations to anchor their own efforts to increase their participation in digital trade. For example, by making commitments in multilateral and regional agreements, governments can lock in policies for increased competition that can open the door to new providers and greater investment in connectivity, thus expanding digital communications and making them more affordable. Making these commitments in the context of a trade negotiation can also help rally support against domestic opposition to reforms by securing market access in other sectors of economic interest for the country.¹⁷

Multilateral and regional trade fora offer a prime opportunity for advancing on the convergence of regulation. Trade negotiations offer the opportunity to agree on key principles and approaches on the regulatory framework for digital trade. By committing to common policy guidelines, policymakers ensure that as rule-making advances in each country, it does so in a manner that facilitates cross-border transactions while minimizing the costs to traders and consumers. These efforts should build on the many ongoing regulatory convergence initiatives between African countries and their development partners. The EU, for instance, is supporting the African Union in the development of a continental strategy for the digital economy, with the ultimate goal of establishing a single digital market for Africa. The World Bank is also focusing on regional projects that foster mutually compatible regulatory solutions for the countries involved. For example, the East Africa Community (EAC), with support from the World Bank, seeks to foster the adoption among its Member States of an EAC Governance Mechanism for Cross-Border Data, which would allow certified

EAC businesses to share data with each other without obstacles or burdensome requirements (Box 2).

Deepening Africa's regional and internal policy commitments should be part of a coherent and ambitious strategy for digital trade promotion in the region. For example, under the AfCFTA framework, countries have embarked on negotiations on trade in services, including telecommunications, which create opportunities to use services trade commitments to introduce or increase competition in domestic telecommunications markets. Of especial significance is the Digital Trade Protocol currently under negotiation. It is expected to include disciplines on cross-border data flows, one of the issues of greatest significance for digital trade.¹⁸

The World Bank and the WTO cooperate closely on a wide-ranging agenda, which includes issues related to digital trade. Most cooperation of relevance to digital trade has so far been in the form of joint knowledge products, including a report on the role of services trade in promoting sustainable growth and economic diversification (WTO and World Bank, 2023). The two institutions have also worked together to map services policies and regulations in 54 African economies. The resulting data tool will help benchmark services trade policies and improve understanding of the interaction between services policy reforms and export competitiveness in Africa, while also helping African governments better define their trade negotiating strategies and implementation of liberalization commitments and domestic policy changes.

The World Bank and WTO could be further leverage these synergies to support efforts in African countries to seize digital trade opportunities. As outlined in this policy brief, an adequate regulatory framework is key for the digital infrastructure to be put to productive use, and for the employment and growth effects of digital trade to be fully harnessed. Technical assistance and capacity building activities delivered jointly by the World Bank and the WTO could support African countries' efforts to develop an enabling regulatory

¹⁷ See also [wto.org/english/res_e/booksp_e/00_wtr19_e.pdf](https://www.wto.org/english/res_e/booksp_e/00_wtr19_e.pdf).

¹⁸ AfCFTA State Parties currently negotiating Protocol on Digital Trade | Namibia Economist.

environment for digital trade. Building on and complementing existing efforts by the international community, including UNCTAD's recent e-trade readiness assessments, the World Bank and the WTO are ready to jointly undertake "digital trade needs assessments" (DTNA) — in-depth analyses of the domestic policy and regulatory framework for digital trade in light of international good practices.

Consultations with domestic stakeholders and civil society would set the foundations for concerted assistance and support. By engaging in policy dialogues with relevant government officials and other partners in capitals, the DTNA would foster greater domestic inter-agency coordination, not least by helping officials develop a more holistic approach to digital trade policymaking. It would also enable the identification of specific hard and soft infrastructure gaps and provide

the basis for the collaborative design of policy actions and World-Bank-financed support programs aimed at remedying the gaps detected.

Joint work would start with pilot countries and be progressively extended and collectively assessed. The plan is for policy dialogues to be piloted with a couple of interested countries and subsequently refined and leveraged into templates to be applied to other countries on demand. Targeted policy dialogues between World Bank and WTO experts and public officials from across ministries and agencies responsible for digital trade issues could provide an additional, complementary source of sustained support for the participation of African countries in international work and initiatives on digital trade. Beneficiaries would collectively take stock of the work undertaken and its main outcomes at a high-level event that would also consider of next steps.

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