

## CHAPTER 2

# SETTING THE SCENE

*Contributed by the World Trade Organization*

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**Abstract:** *This chapter surveys the responses submitted by developing countries, least developed countries, bilateral and multilateral donors, regional economic communities and south-south partners to the 2017 aid-for-trade monitoring and evaluation exercise. The 2017 exercise examines action to address physical connectivity constraints and reduce trade costs, in particular through national and regional actions to implement the WTO Trade Facilitation Agreement. It also extends consideration of trade costs into the area of digital connectivity, network infrastructure and service markets. A picture of concerted action--by governments, development partners and the private sector-- to promote trade, inclusiveness and connectivity for sustainable development emerges from this analysis.*

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## INTRODUCTION

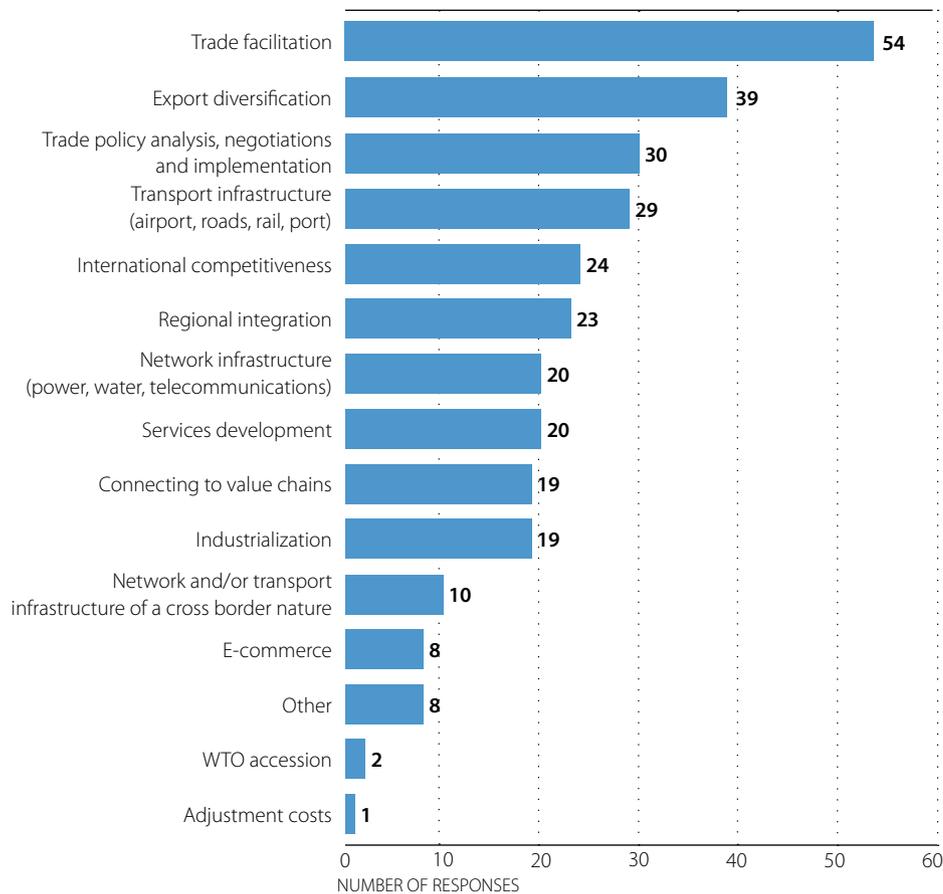
Entry into force of the World Trade Organization (WTO) Trade Facilitation Agreement (TFA) is a landmark, both for the WTO and for collective action to reduce trade costs. A key message that emerged from the 2015 edition of the *Aid-for-Trade at a Glance* publication (OECD-WTO, 2015) was that high trade costs inhibit numerous developing countries from fully exploiting the market access opportunities created by the multilateral trading system. The TFA gives policymakers a powerful tool to reduce physical trade costs. The analysis in this 2017 edition of the publication extends consideration of trade costs into the area of e-commerce.

### Reducing physical trade costs

The WTO's 2015 *World Trade Report* (WTR) estimates that developing countries have the most to gain from swift and full implementation of the TFA. Full implementation of the TFA could reduce trade costs by an average of 14.3%, and by more than 16%, for many African countries and LDCs (WTO, 2015).

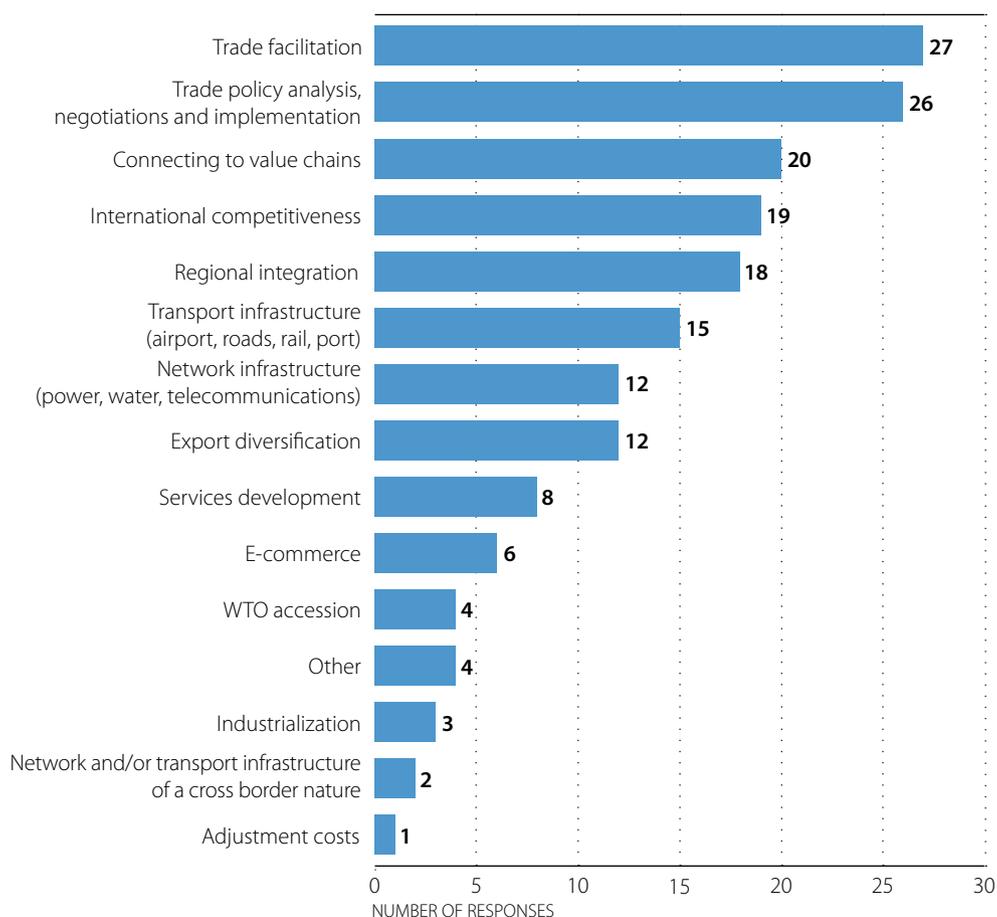
Trade facilitation ranks high among developing countries' aid-for-trade priorities (Figure 2.1). Of the 63 developing country respondents to the 2017 aid-for-trade monitoring exercise, 54 (84%) state that trade facilitation has risen to the top of the list of their aid-for-trade priorities. Among donor respondents, a similar story emerges: 27 out of 42 submissions (65%) indicated that trade facilitation is a priority in their aid-for-trade programming (Figure 2.2).

**Figure 2.1. Developing country aid-for-trade priorities**



Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).

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**Figure 2.2. Donor aid-for-trade priorities**

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).  
 StatLink  <http://dx.doi.org/10.1787/888933525550>

Furthermore, the partner country questionnaire responses suggest that trade facilitation is being integrated (i.e. mainstreamed) as a priority in national and regional development policy frameworks.<sup>1</sup> Trade facilitation was noted as a priority in the national development strategies of 85% of the respondents - up from 45% in 2015. Trade facilitation also was reflected as a priority in regional trade agreements by a growing number of respondents: 55% compared to 32% in 2015.

The 2017 aid-for-trade monitoring exercise further highlights that a majority of developing countries (46 out of the 64 replies from developing countries) have a broad conception of trade facilitation that extends also to transport facilitation. The responses to the 2017 aid-for-trade monitoring exercise outline a range of activities being undertaken by developing countries and LDCs, including with support from development partners, to improve trade connectivity by addressing trade facilitation issues. These efforts are being undertaken at the national, regional and multilateral level. It is also clear from the 2017 aid-for-trade monitoring exercise that digital connectivity exerts a growing influence on trade, as well as on efforts to reduce trade costs. The Asia-Pacific Economic Co-operation (APEC) Connectivity Blueprint is a case in point (Box 2.1).

**Box 2.1. The APEC Connectivity Blueprint**

APEC leaders define connectivity under three distinct pillars: 1) physical connectivity that improves supply chain performance by connecting and integrating logistics, transport, energy and telecommunications infrastructure; 2) institutional connectivity that advances regulatory and procedural co-operation among economies; and 3) people-to-people connectivity that enhances interaction, mobility and joint endeavours. The table below expands on these elements of connectivity agreed in the 2014 Asia-Pacific Economic Cooperation Leaders' Declaration.

<b>Physical connectivity</b>	<p>Expand trade routes and corridors and strengthen regional quality transportation networks.</p> <p>Advance cross-border energy networks and interconnections.</p> <p>Achieve universal and high-speed broadband access.</p> <p>Develop and improve well-designed, sustainable, and resilient infrastructure by implementing, at the outset, a multi-year plan on infrastructure development and investment.</p>
<b>Institutional connectivity</b>	<p>Advance logistics and transport facilitation.</p> <p>Enhance regulatory coherence and co-operation and strengthen the implementation of good regulatory practices.</p> <p>Advance APEC's agenda on structural reform.</p> <p>Modernize trade-related as well as customs and border agencies, including by progressing the development of Single Windows</p> <p>Promote cross-border financial cooperation.</p> <p>Expand the application of a safe and trusted ICT and e-commerce environment, especially in the area of electronic documents exchange including electronic means of authentication and improved security methods</p>
<b>People-to-people connectivity</b>	<p>Advance work on cross-border education, science, technology and innovation, and services</p> <p>Expand the facilitation of movement of tourists, business people, professionals and workers, women and youth</p>

*Source: APEC (2015).*

**DIGITAL CONNECTIVITY ADDS A NEW DIMENSION TO THE GLOBAL ECONOMY**

Digital networks are leading trade into a new generation of connectivity. Global trade has evolved in numerous physical dimensions: road, maritime (including inland waterways), rail and air. Successive transport revolutions have extended the physical distances over which goods, services and ideas can be traded, expanding the volume and value of global commerce. Global value chains have emerged to organise sourcing, production and sale on the basis of complex webs of trade, with tasks separated into intermediate stages (OECD-WTO, 2012). The value chains that now characterise the global economy depend on the reach of integrated transport infrastructure networks to function.<sup>2</sup> Global value chains also rely on digital connectivity, and count on digital networks to help co-ordinate production stages and to deliver an increasing range of tasks within value chains.

Digital networks interlink with transport systems, just as transport networks themselves intertwine, often in a physical sense. For example, as part of the pilot phase of the World Economic Forum's Internet for All program (WEF, 2016a), fibre optic cables will be laid alongside transport infrastructure on the Northern Transit and Transport Corridor connecting Kenya, Uganda, Rwanda, and South Sudan (WEF, 2016a). Transport networks have adopted and increasingly integrate digital technologies into their operations. Digital networks provide the communications backbone on which other

### Box 2.2. The digital connectivity challenges of landlocked countries

Geographical factors put landlocked developing countries (LLDCs) at a disadvantage in the development process, as they incur substantially higher transport and other trade transaction costs compared to coastal countries. The higher trading costs for the LLDCs emanate from factors associated with the physical infrastructure of the major transit routes for their traded goods, such as poor and inadequate roads, and the often long distances from sea ports. The costs associated with the soft infrastructure behind administrative border-crossing procedures, transit procedures, logistics and regulatory and legal systems for permitting passage of traded goods across borders also represent challenges.

The International Telecommunications Union (ITU) ICT Development Index (IDI) highlights similar problems in digital connectivity. When compared to transit in other developed countries, the LLDCs have lower scores on the aggregate IDI. The LLDCs also have the lowest IDI scores in the sub-index for access, which measures ICT infrastructure readiness--a basic requirement for using and benefiting from ICTs. The LLDCs have limited access to ICT infrastructure, including fixed and mobile telephony, Internet and broadband. One important reason for the lower LLDC IDI scores has to do with infrastructure gaps for broadband services and intraregional connectivity to undersea cables. A big challenge is the investment required for ICT infrastructure passing through neighbouring and coastal countries to access international networks that reduce commercial interest in investing in ICT infrastructure due to the high cost. There is also a need for more strategic approaches to infrastructure sharing; there are many instances of operators building parallel infrastructure on the same routes, thus making it more expensive for the end users who ultimately assume the cost of these investments through end user pricing

*Source:* ITU-UNOHRLLS (2013), "Enhancing ICT development and connectivity for the Landlocked Developing Countries".

transport systems function. For example, transport and logistics suppliers have been early adopters of tracking systems and intra-corporate communications mechanisms, to increase efficiency and reduce costs. An order placed at an online platform hosted in North America may initiate a delivery process that begins with the movement of cargo in Asia, destined for a final consumer residing in Europe and intermediated by logistical systems with global reach. Digital networks also rely on other backbone infrastructure networks, most notably electricity grids. Digital signals cannot be sent without electricity. Landlocked developing countries face challenges with physical as well as digital connectivity (Box 2.2).

**Digital connectivity is not only about the backbone network for communications. Digital networks enable a growing array of services to be delivered directly across online platforms. Some services, such as remote health services or distance education, can now be performed using digital networks. For example, the growing area of e-health includes services such as health management information systems, tele-medicine, electronic medical records, clinical decision support and patient portals. In its 2015 report, the Broadband Commission argues that mobile phones offer the potential to revolutionise healthcare** (ITU-UNESCO, 2015).

Payment systems are another example of how digital networks enable trade. Telenor submitted a case story explaining how in Pakistan the Easypasia mobile-phone banking service is being used in the Punjab and Sindh provinces to disburse educational stipends to some 750 000 young girls, encouraging their educational participation and achievement (*OECD-WTO aid-for-trade monitoring exercise 2017*, Private sector case story 33). Digital payments have brought down the cost of disbursing the stipends--a cost that in the past sometimes exceeded the amount of the stipend itself.<sup>3</sup>

Payment systems were the issue most frequently covered by national digital or e-Commerce strategies among the developing countries that responded to the AFT M&E exercise.<sup>4</sup> Mauritius identified e-payment as a facilitator in its e-government Strategy 2013-2017. The African Development Bank described how mobile banking and mobile money services have already had a major impact on the economy of Kenya; they also are starting to make serious inroads in West Africa, where mobile phones are ubiquitous but bank accounts are scarce (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 15). USAID explained how a mobile money project run by the Reserve Bank of

Malawi, the World Bank and the local banking sector had trained nearly 10 000 people in digital and financial literacy, increasing the number of mobile money transactions in Malawi from 582 000 per quarter in 2013 to more than 16 million in 2016. Mobile wallets have increased from 200 000 in 2012 to more than 2.5 million today in Malawi (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 147).

The 2017 aid-for-trade monitoring exercise highlights how digital connectivity is infusing an ever broader range of government policy areas. Only 10 of the 63 developing country respondents to the aid-for-trade self-assessment questionnaire stated that their government did not provide e-government services. Some 50 governments responded that their administrations provided e-government forms and application downloads, while 36 respondents highlighted the use of electronic payments. Bangladesh highlighted its “a2i” (described as a public service innovation laboratory), whose primary goal is to ensure easy, affordable and reliable access to quality public services. It is also interesting to note the results reported in another case story regarding the social returns from moving government services online in Bangladesh. There, using cost-benefit research and analysis, the Copenhagen Consensus and BRAC (a non-governmental organisation) reported returns of 663 takas for every taka invested in moving government procurement online (*OECD-WTO aid-for-trade monitoring exercise 2017*, Academia and NGOs case story 89).

**The use of electronic methods for government procurement enhances transparency, compliance, and quality and improves the efficiency and effectiveness of public administration, which is a critical driver of economic development. In 2012, the government of Nepal, Asian Development Bank, United Kingdom and European Union partnered to fully digitise Nepal’s public procurement system. In December 2015, the government of Nepal approved the rollout of a comprehensive national e-GP system** (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 96).

Transport and ICT networks have facilitated the emergence of global value chains in merchandise goods. Digital networks are now encouraging similar fragmentation in services value chains. Approaches for outsourcing business process are being applied to generate digital input for local and international businesses. A case story from Digital Divide Data explains how these services can be generated in a socially responsible way. The company encourages its employees to complete their higher education while at the same time gaining work experience, thus propelling hundreds of families out of poverty. Since 2001, Digital Divide Data’s program has increased lifetime earnings for youth in Cambodia, Kenya and Laos by a projected total of more than USD 300 million. The services Digital Divide Data offers include data analytics for the soccer industry, including such high profile clubs as Arsenal FC (*OECD-WTO aid-for-trade monitoring exercise 2017*, Private sector case story 152).

**Services can now be fragmented across national borders, through collaborative processes, and delivered via digital platforms as never before** (OECD-WTO, 2016).

The *World Development Report 2016* discusses in detail the contribution of digital technologies: they help businesses to become more productive, people to find greater job opportunities, and governments deliver better services to all. By reducing information costs, digital technologies lower the costs of economic and social transactions for firms, individuals and the public sector (Box 2.3). They promote innovation and boost efficiency as existing activities and services become cheaper, quicker and more convenient. They also increase inclusion as people gain access to services that were previously out of reach (World Bank, 2016). The World Economic Forum goes further, suggesting that the world is entering a “fourth industrial revolution”, as electronics and information technology produce a fusion of technologies that is blurring the lines among the physical, digital, and biological spheres (WEF, 2016b).

**A large body of evidence has now been amassed that affordable and effective broadband connectivity is a vital enabler of economic growth, social inclusion and environmental protection. Broadband Commission** (ITU-UNESCO, 2015).

### Box 2.3. Overview of key economic efficiency gains from digital connectivity

#### UNCTAD and OECD (Chapter 3)

Data flows and digitalisation of services, and in particular logistic services, can reduce the costs of physical delivery in remote areas. Across borders, they can support efficient customs services and the implementation of the WTO Trade Facilitation Agreement.

#### WTO (Chapter 4)

- Advances in telecommunications and related services have led to enhanced “tradability” of services, which has expanded export opportunities. Efficient telecommunications services have made it profitable to outsource, easier to manage and operate global value chains, and possible to develop e-government initiatives. As a result, telecom networks reduce trade costs for the exchange of both goods and services.
- Telecommunications and ICT services, combined with innovation, regulatory adaptation, and trade openness in the financial services sector, have made possible significant advances in payment solutions, particularly payments over the Internet and mobile services. This has contributed to greater financial inclusion.

#### ITU (Chapter 5)

- High-speed, affordable broadband connectivity to the Internet holds widely recognised promise for social and economic development. Technological advances in areas such as the Internet of Things and artificial intelligence, combined with hyper-connectivity, are leading to an increasing variety of services and applications becoming available to serve economic, social, and entertainment needs.

#### World Bank (Chapter 6)

- The use of digital technology can facilitate participation in trade by improving access to information and reducing rent-seeking behaviour by middlemen or others.
- Use of e-commerce platforms or other technology can help disseminate best practices, for example in the provision of agricultural extension services, which can contribute to productivity increases.
- Digital technology can facilitate better access to market information and productivity-boosting inputs, help improve competition in transport and distribution services, and help farmers sell directly to consumers, especially higher value-added products.

#### UNCTAD (Chapter 7)

- The application of ICT can reduce transaction costs and enable the remote delivery of more goods and services.
- Access to ICT platforms and devices may enable a seller in a developing country to reach more potential customers in domestic as well as foreign markets, in a more targeted way, and often at lower cost than through traditional channels.
- Suppliers that rely more on e-commerce may be able to see reduced delivery costs, especially for electronically-provided content.

#### Enhanced Integrated Framework (Chapter 9)

- Mobile phones and their increased affordability have improved networking conditions for LDC traders, with benefits that include easy exchange of price and product information.
- Traders can finance trades without cash or access to bank accounts, via SMS and mobile phone banking, reducing transaction costs for producers, traders and consumers alike.
- The advantages resulting from information access also reach policy makers and regulators in the LDCs. Access to information is critical for planning and implementing trade-enabling policies.

#### Business for eTrade Development (Chapter 10)

The Internet enables developing country firm to trade more, and to optimise their trade – streamline logistics, gain foreign market intelligence, pay and transact quickly and securely, access financing and comply with trade rules.

Discussion of the trade implications of digital connectivity has a long history at WTO (Box 2.4). In September 1998, the WTO General Council adopted a Work Programme on Electronic Commerce (WT/L/274). For the purposes of the work programme, “the term ‘electronic commerce’ is understood to mean the production, distribution, marketing, sale or delivery of goods and services by electronic means.” Intentionally broad, the definition employed by the WTO reflects what has come to be known as the “digital economy”. This definition aims to permit the inclusion of every possible aspect of trade influenced by ICTs, whether digitally supplied or digitally enabled, and every possibly relevant aspect of WTO agreements, whether related to goods, services or intellectual property. The terms e-commerce, e-trade, digital trade and online trade commonly refer to aspects of this broad phenomenon. At times, statistical work or research has sought to make finer distinctions for analytical purposes; in such cases, specific definitions need to be taken into account.

**The digital economy now permeates countless aspects of the global economy, impacting sectors as varied as banking, retail, energy, transportation, education, publication, media and health. Information and communication technologies are transforming the ways social interactions and personal relationships are conducted, with fixed, mobile and broadcast networks converging, and devices and objects increasingly connected to form the Internet of Things (OECD, 2015).**

#### Box 2.4. The definition and measurement puzzle

The Universal Postal Union (UPU), the United Nations Conference on Trade and Development (UNCTAD), the OECD and the WTO established a collaborative project to measure cross-border e-commerce transactions. A complementary line of work has been pursued by UNCTAD in its partnership work on Measuring ICT for Development. Under its G20 Presidency, Germany has tasked the UN Interagency Task Force on International Trade Statistics to develop proposals for efficient reporting systems.

The most common reply by developing country respondents to statistical questions on e-commerce (e.g. on the share of e-commerce in total trade, the percentage of goods exported and imported through this channel and the growth of e-commerce) was that there was no data or no capacity available to estimate these. Where estimates of growth were provided, they were not supported by source references. The conclusion that emerges from the responses to the 2017 aid-for-trade monitoring exercise is that many governments recognise the opportunities represented by digital connectivity, but face policy and planning difficulties resulting from a lack of data, notably in relation to digital trade and how it is permeating their economies.

#### Comments on data to support digital trade policies

Currently there is limited data on e-commerce transaction and there is also a capacity challenge in the analysis to capture the data on e-commerce. **The Gambia**

Currently this type of information has not been collected. **Saint Vincent and the Grenadines**

There has been no formal survey done on the e-commerce and the numbers related to it. **Sri Lanka**

Customs data does not separate between exports and imports done through traditional way and those completed by e-commerce. **Yemen**

Electronic commerce is at a very embryonic stage, however the government is aware of the importance of e-commerce and is looking to promote it. **Burkina Faso**

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/)

## TRADE COSTS AND DIGITAL CONNECTIVITY

Digital connectivity promises significant reductions in trade costs for digitally-enabled services, as compared to their analogue equivalents. The same is true for goods. In part this is due to the fact that digital delivery fees are not related to distance. The cost of transmitting a data file on a computer network is the same when the file is being transferred between two computers in the same office as it is between two computers at opposite ends of the globe. In contrast, physical delivery fees are not only related to size (i.e. the weight and dimensions of the goods being delivered), but to other physical characteristics as well (e.g. perishability, toxicity, mode of transport and distance).

Trade costs relating to the digital purchase of goods and services can be significantly lower than those accruing to physical delivery. In addition to transportation costs, a range of behind-the-border, at-the-border and beyond-the-border factors add further costs to the physical delivery of goods. For digitally-purchased goods that need to be delivered physically, there are also a series of offline trade costs that can be prohibitive for firms and consumers in developing countries, reducing their ability to break into e-commerce.

Many services can be transmitted at limited or close to zero cost over digital networks (*OECD-WTO aid-for-trade monitoring exercise 2017*, Private sector case story 47). Trade costs in this sense relate to the availability, affordability and capacity of the digital network connection. The United Nations (UN) 2030 Agenda for Sustainable Development (A/RES/70/1) Sustainable Development Goal (SDG) 9 includes targets for Internet access and networks—targets that complement other objectives agreed by the World Summit on the Information Society and Broadband Commission.

**High-speed broadband Internet is transforming everything from health care, business and government services to education, disaster management and the social life of Tongans. Asian Development Bank** (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 97)

The digital divide can also be considered a market access issue. Without an available, affordable digital connection, offline people and businesses have no access to the global market of goods, services and know-how available on the Internet. An available, affordable digital connection, therefore, can be considered the price of market access to digital trade. Table 2.1 gives an overview of the digital inclusion targets agreed in the context of the 2030 Agenda for Sustainable Development, the World Summit on the Information Society and the Broadband Commission.

**This digital divide limits the production and dissemination of knowledge, exacerbates economic backwardness and dangerously intensifies the lack of understanding between peoples. Cuba, Ecuador, Nicaragua** (WT/GC/W/635)

**More than half of the world's population is still offline. The majority of this offline population includes people who live in rural areas and are poor, female and illiterate. The main reasons for people not using the Internet include inequalities in income and education, the lack of infrastructure and relevant online content and services, as well as the high relative costs of access and usage** (ITU, 2017).

**A large percentage of the world's population remains offline. Closing this mobile coverage gap is not a technical challenge. It is primarily an economic challenge. GSM Association** (*OECD-WTO aid-for-trade monitoring exercise 2017*, Private sector case story 47)

Historically efforts have focused on supply-side constraints; the shift to address demand-side barriers is just now taking place (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 39). Infrastructure for digital connectivity is a necessary pre-condition, but is not sufficient to ensure connectivity—other factors also need to be in place. Mobile financial services are a case in point. Such services require a cash-in, cash-out infrastructure, usually accomplished through a network of “agents” (e.g. retailers, merchants, post offices), who make it possible to turn cash into

**Table 2.1. Digital inclusion targets<sup>5</sup>**

2030 Agenda for Sustainable Development	Broadband Commission for Sustainable Development
<b>SDG 9(c)</b>	<b>Goal 2</b> Inclusiveness: Bridge the digital divide and provide broadband for all
<b>Target</b> Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.	<b>Target 2.2.</b> A. In the developing world, 50% of individuals should be using the Internet by 2020. B. In the least developed countries (LDCs), 20% of individuals should be using the Internet by 2020.
<b>Indicator:</b> Proportion of population covered by a mobile network.	<b>Target 2.3.</b> A. The affordability gap between developed and developing countries should be reduced by 40% by 2020. B. Broadband services should cost no more than 5% of average monthly income in developing countries by 2020.

Sources: UNDESA (2016) *Sustainable Knowledge Platform*, United Nations Department for Economic and Social Affairs <https://sustainabledevelopment.un.org/sdg9>; Broadband Commission for Sustainable Development, [www.broadbandcommission.org/publications/Pages/default.aspx](http://www.broadbandcommission.org/publications/Pages/default.aspx)

electronic value (and vice versa). A host of supporting services, such as credit information and collateral registration, are also necessary. This ecosystem provides the opportunity to expand trade in many different services, such as deposit-taking; lending; payment and money transmission; credit reference and analysis; financial intermediation and advice; insurance; and telecommunications and ICT-related services. Mobile payment services depend on the deployment of these ecosystems not only within national boundaries, but also across borders (WTO, 2016a). Domestic regulation is the building block that underpins these ecosystems.

The 2017 aid-for-trade monitoring exercise highlights that digital payment systems are increasingly present at the national level. Among the 63 developing country respondents to the 2017 aid-for-trade monitoring and evaluation exercise, 25 indicated that consumers use mobile phones for domestic remittances and to transfer funds for payment at the national level. Of these, 22 respondents indicated that the necessary ecosystems exist for international payments to be made across borders.

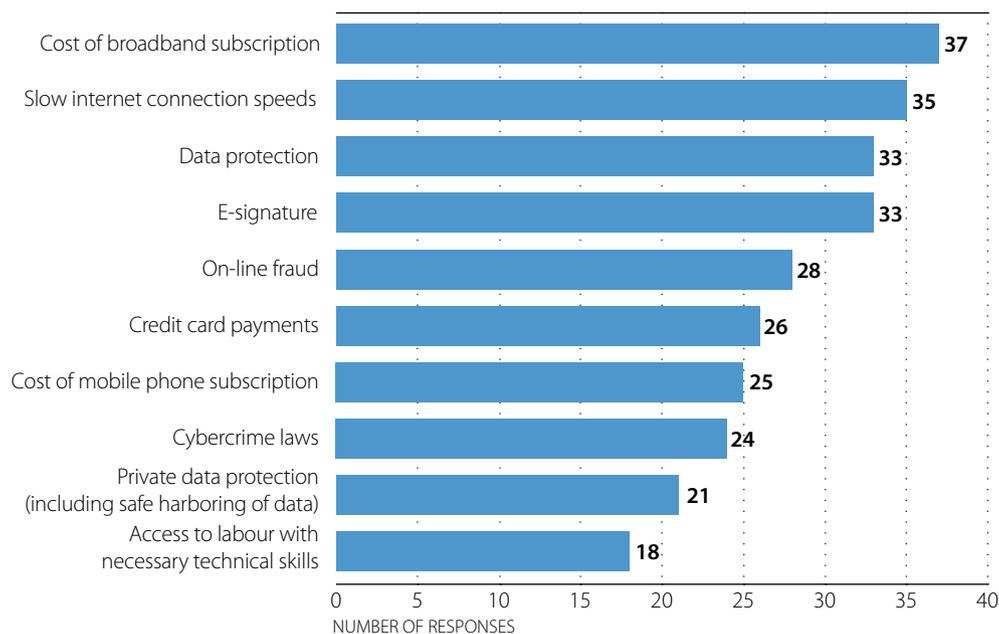
**Mobile phone operators are able to transfer funds across borders upon satisfying regulatory arrangements and conditions. Malawi**

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).

Other issues affecting the demand for digital connectivity are coming into sharper focus, including issues such as usable content, language, ICT skills and regulatory issues affecting the market where the service is consumed (e.g. regulations governing Internet access, domestic regulation of services, intellectual property rules and consumer protection laws).

The 2017 aid-for-trade monitoring exercise surveyed the views of developing country governments as to the issues enterprises and consumers face in accessing and using Internet services (Figure 2.3). Availability and affordability issues rank at the top, but are also supplemented by demand-side issues, such as those related to the perceived risk of online fraud, cybercrime, private data protection and the ability to use credit cards for payments—all factors that can serve to dampen demand. These issues also point to some of the potential downside risks to digital connectivity.

**Figure 2.3. Top ten issues enterprises and consumers face in accessing and using Internet services, as cited by developing country governments**



Note: Numbers refer to the number of governments citing the issues as a concern in the self-assessment questionnaire

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).

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### Comments on Internet connectivity issues

The electronic signature law was recently approved but not yet implemented. **El Salvador**

No or slow connection. **Guinea Bissau**

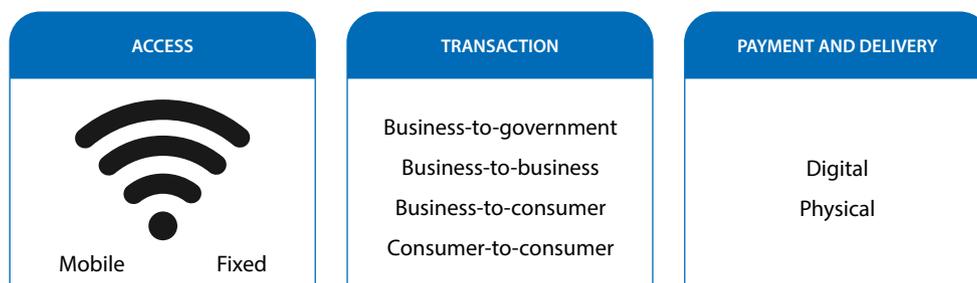
High cost of Internet. **Papua New Guinea**

Access to information outside of major cities. **Peru**

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).

Figure 2.4 below highlights the pathways for e-commerce transactions, distinguishing between four main forms of transaction and two main modes of delivery. A variety of issues influence the demand for transactions, payment and delivery. As is the case for mobile payments, many of these issues are strongly related to national regulatory environments.

**Figure 2.4. E-commerce access, transaction, payment and delivery pathways**



Digital delivery of services and the digital purchase of goods significantly reduce trade costs. In contrast, physical delivery costs emerge strongly as a factor limiting e-commerce participation for micro, small and medium enterprises (MSMEs; Figure 2.5). Offline costs are primarily related to shipping, with a particular emphasis on the high cost of small parcel shipments.

**Figure 2.5. Top ten export challenges faced by micro, small and medium enterprises in relation to cross-border e-commerce transactions**



Note: Numbers refer to the number of governments citing these issues as a concern in the self-assessment questionnaire.

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).

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### Comments on export challenges

**Most companies in electronic commerce and, in the economy in general, use a simplified regime that does not allow exporting. Colombia**

**Our SMEs are basically hindered by the accessibility to a global e-commerce platform to sell their goods. Pakistan**

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).

Issuance and acceptance of sanitary and phytosanitary (SPS) certificates ranks high among the problem areas cited by respondent governments. Electronic SPS certification promises to reduce transactions costs whilst improving compliance rates, reducing the opportunities for fraud that the current paper-based system offers, and thereby facilitating safe trade.

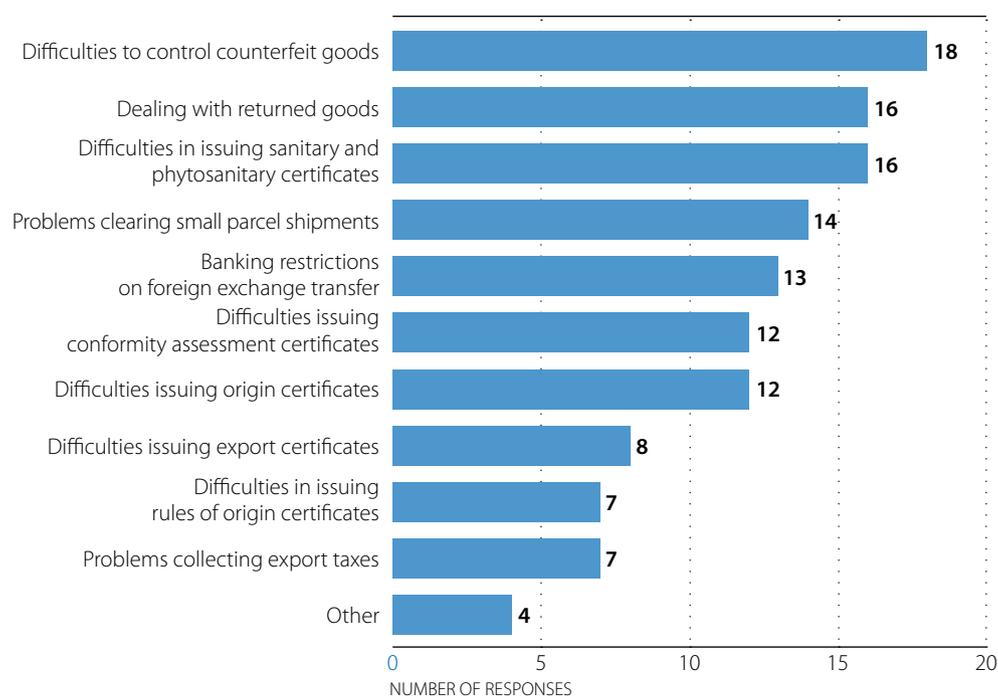
A case story submitted by the Standards and Trade Development Facility highlights how the introduction of electronic certificates has offered the opportunity to automate business processes related to SPS issuance and processing requirements, including request for certificates, scheduling of inspections (including through the automated use of risk assessment), payment of fees and integration into customs inspection processes. E-cert enables SPS authorities to store and access data that is important for determining records of compliance, which are the basis for the design of authorised operator schemes (OECD-WTO aid-for-trade monitoring exercise 2017, Public sector case story 84). A World Bank case story

in Central America highlights how a regional ICT system is facilitating recognition of sanitary registrations. The project is expected to reduce the time, cost, and number of documents needed for sanitary registration by 25%, generating estimated private sector savings of USD 17 million within three years of its completion. The system will also contribute to regional economic integration and accelerate growth (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 101).

When online orders of goods result in offline physical flows, a range of trade costs kick in, related to factors that stretch from distance-related transport costs to customs and other border agency compliance issues (Box 2.5). A dichotomy arises here. The digital networks on which trade operates depend on analogue regulatory systems (e.g. customs and other border clearance systems that require hard copies of official certification, versus digital documentation). One key conclusion of the 2016 World Development Report is that “To get the most out of the digital revolution, countries also need to work on the ‘analogue’ complements.” (World Bank, 2016). These analogue complements were identified by the World Bank as including: “strengthening regulations that ensure competition among businesses, by adapting workers’ skills to the demands of the new economy, and by ensuring that institutions are accountable” (World Bank, 2016). It emerges clearly from the 2017 aid-for-trade monitoring exercise that one of the analogue complements that needs addressing is the ability of customs and other border agencies to manage the physical clearance of e-commerce trade (Figure 2.6).

**In 2010, Sierra Leone replaced its manual customs clearance system with the Automated System for Customs Data, leading to a substantial decline in average processing and clearance times. However, the day-to-day operation of the system remains frequently affected by the unreliability of Internet connectivity and electricity supply.** (WTO, 2017)

**Figure 2.6. Challenges the online purchase of goods presents to customs and other border authorities**



Note: Numbers refer to the number of governments citing the issues as a concern in the self-assessment questionnaire

Source: *OECD-WTO aid-for-trade monitoring exercise (2017)*, [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).

StatLink  <http://dx.doi.org/10.1787/888933525607>

### Comments on customs issues

With regards to the application of a customs de minimis threshold, this poses a challenge due to the under-invoicing of merchandise goods. The threshold established in Dominica is 150 Eastern Caribbean dollars. **Dominica**

Determining the actual value of the product is problematic. **Zambia**

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/)

At the 2015 Global Review of Aid for Trade, Maersk highlighted that the movement of a container of flowers sent from Kenya to Holland required more than 200 paper documents to be able to reach its destination. Maersk suggested that digital infrastructure built on the Internet—in a cloud in which all of this information could be accessed and shared—would make it much simpler. Pursuing cloud-based ICT solutions to border clearance issues, however, supposes the free flow of data among parties in different legal jurisdictions, which in turn may require action in areas such as data ownership, data protection and restrictions on data use.

#### Box 2.5. Cross-border e-commerce problems reported by customs officials in Central Asia

##### **Coping with the volume of flows resulting from increases in the frequency of small parcel shipments.**

Customs officials in Uzbekistan and other Central Asian states using paper-based customs systems have been overwhelmed by large inflows of small shipments. Single window facilities can address this problem. Azerbaijan has established a national single window; Kazakhstan, the Kyrgyz Republic, Tajikistan and Uzbekistan are developing theirs; and Afghanistan, Kazakhstan, and Turkmenistan are implementing UNCTAD's Automated System for Customs Data (ASYCUDA).

**Uncertainty about how to estimate risks for small parcels.** Increased import volumes also pose risk assessment problems: how new global rules on anti-terrorism and anti-money laundering should be applied to small parcel shipments is not always clear.

**Confusion about how to assess duties.** When assessing customs duties based on the method of parcel delivery rather than the nature of the traded good, traditional postal services benefit from preferences enshrined in decades-old international agreements, while those delivering by express service providers do not.

Source: Asian Development Bank, *OECD-WTO aid-for-trade monitoring exercise (2017)*, Public sector case story 124, [www.oecd.org/aidfortrade/casestories/casestories-2017/CS-124-Asian-Development-Bank-A-snapshot-of-e-commerce-in-Central-Asia.pdf](http://www.oecd.org/aidfortrade/casestories/casestories-2017/CS-124-Asian-Development-Bank-A-snapshot-of-e-commerce-in-Central-Asia.pdf)

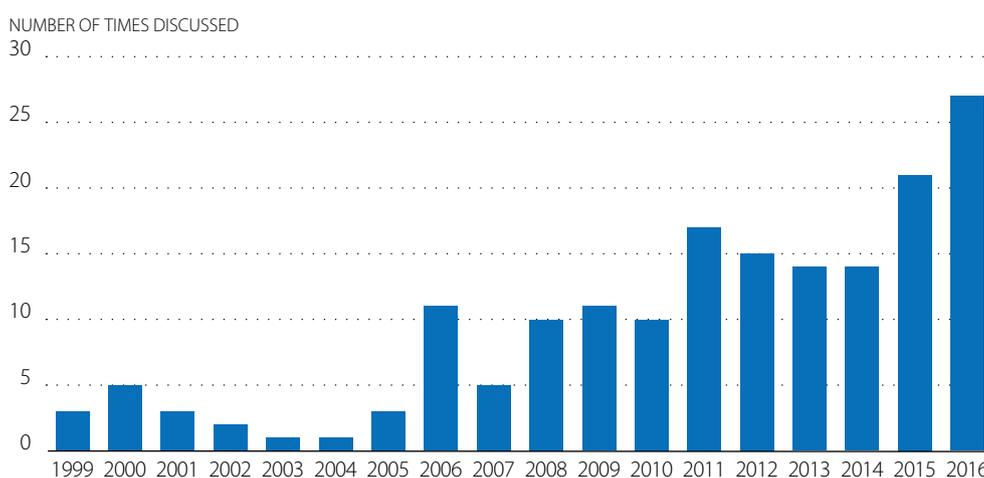
It is interesting to note that private sector engagement is helping to find solutions to e-commerce trade cost issues. The United Parcel Service (UPS) submitted a case story relating how it is working with USAID to empower MSMEs in the Association of Southeast Asian Nations (ASEAN) region. In 2013, UPS training for MSMEs focused on the technical know-how they needed to navigate shipping and logistics hurdles and to use e-commerce to reach new markets. After early successes, UPS saw the potential of the program and expanded it to include collaboration with USAID, as well as the United States-ASEAN Business Council and several of its member companies. The resulting US-ASEAN Business Alliance for Competitive SMEs has trained more than 4 600 businesses from all ASEAN countries.

A case story from Trini Trolley, an online shopping platform in the Caribbean that has been in operation since 2009, highlights how finding solutions to digital trade costs can unlock local commercial value (*OECD-WTO aid-for-trade monitoring exercise 2017*, Private sector case story 85). Prior to the existence of Trini Trolley, there was no online shopping facility in the Caribbean. Orders from international companies had long delivery times and high costs, and customers experienced difficulties with returns; some international firms even refused to ship to the Caribbean. (This case story is covered in more depth in Chapter 10.)

Digital trade costs can also arise in regard to standards. Standards ensure, among other things, that products can “connect” or talk to each other. But when standards are incompatible, or when conformity procedures do not match, the cost of doing business rises, both domestically and across national borders. A growing number of trade concerns of this nature are being raised at the WTO Committee on Technical Barriers to Trade (TBT Committee). Measures to address them involve computers, servers and network components, mobile phones, mobile network standards and information security requirements, among others.

For example, in November 2016 concerns were raised about regulations to ensure ICT security, fourth-generation long-term evolution (4G/LTE) technologies in smartphones, and conformity assessment procedures for electronics and IT goods.<sup>6</sup> Figure 2.7 highlights trade concerns that have been raised in the TBT Committee.

**Figure 2.7. Frequency of ICT-related concerns raised in the WTO TBT Committee**



Source: WTO Secretariat

StatLink  <http://dx.doi.org/10.1787/888933525626>

The International Telecommunication Union (ITU) Standardization Sector adopts recommendations (ITU T-Recs) on how telecommunication networks should operate. Over 4000 T-Recs are in force on fundamental components of today’s ICTs. The United Nations Commission on Trade Law (UNCITRAL) has also developed a network of rules relating to e-commerce/electronic contracts, covering the use and recognition of electronic signatures, the use of electronic communication in international contracts, and legislative text on the principles of non-discrimination, technology neutrality and functional equivalence in electronic commerce.

The intellectual property rights (IPR) system facilitates various ways of trading in physical goods and services using electronic means. The system enables the electronic flow of data and information necessary for e-commerce to function. In the digital world of the Internet, IPR conventions, such as trademarks to identify market products and services, copyrights covering the software running websites and apps, and agreements defining usage rights (i.e. licences), allow traded goods to move digitally; their significance has increased appreciably. IPRs already play a significant role in offline trade, channelling and framing commercial information and proprietorship.<sup>7</sup>

Under the territoriality principle, IP rights may differ considerably in their scope between different Members (and may even be absent altogether).<sup>8</sup> This patchwork of distinct national international property rights regulations poses challenges for the protection and enforcement of IPRs on the Internet, a global medium that straddles different jurisdictions. The extent of intellectual property rights coverage and their enforcement among different members may vary significantly; enforcement action by a rights owner can in many cases involve costly multi-jurisdictional litigation and other procedures before numerous national authorities. As intellectual property has traditionally been regulated, administered and enforced on a territorial basis, the “borderless” nature of the Internet can raise trade costs in both registering and enforcing intellectual property rights in the context of global networks.

Figure 2.8 provides a checklist of factors essential for connectivity and participation in digital trade networks. Addressing each of these issues implies costs. The figure offers a useful checklist of digital connectivity issues--both from a cost and an inclusion perspective.

**Figure 2.8. Preconditions for participation**



Source: Simon Lacey (Huawei) and Usman Ahmed (Paypal).

## TACKLING DIGITAL TRADE COSTS

The ITU has been promoting connectivity since its inception, starting with efforts to support wireless telegraphy (ITU, 2016). More recently, the ITU has been at the forefront of efforts to bridge the digital divide ever since the term was coined in the 1990s. An important milestone here is the World Summit on the Information Society (WSIS). The 2003 Geneva phase of the WSIS resulted in a Declaration and Action Plan that, among other things, called for the development of national e-strategies. The 2005 Tunis Declaration followed up on this by focusing on financial mechanisms to bridge the digital divide and on Internet governance questions.

**Taking into consideration the leading role of governments in partnership with other stakeholders in implementing the WSIS outcomes, including the Geneva Plan of Action, at the national level, we encourage those governments that have not yet done so to elaborate, as appropriate, comprehensive, forward-looking and sustainable national e-strategies, including ICT strategies and sectoral e-strategies as appropriate, as an integral part of national development plans and poverty reduction strategies, as soon as possible and before 2010 (WSIS, 2005).**

A series of regional summits has complemented the WSIS process under the ITU's Connect the World program. The aims of these summits is to mobilise human, financial, and technical resources for the implementation of the WSIS connectivity targets. Five regional summits have been convened to date: the Connect Africa Summit (Rwanda, 2007), the Connect CIS Summit (Minsk, 2009), the Connect Arab Summit (Doha, 2012), the Connect Americas Summit (Panama, 2012), and the Connect Asia-Pacific Summit (Bangkok, 2013). A case story submitted by the African Development Bank (AfDB) highlights how a total of USD 55 billion has been pledged for the development of the infrastructure and services necessary to achieve the targets agreed at the Connect Africa Summit. It also describes the AfDB's activities in support of international fibre connectivity, national backbone initiatives, policy and regulation, and e-applications (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 16).

The establishment in 2010 of the Broadband Commission for Digital Development marked a further milestone in global connectivity efforts.<sup>9</sup> A joint initiative of the ITU and the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Broadband Commission unites government leaders, top industry executives, thought leaders, policy pioneers, international agencies and organisations concerned with development around five core targets: making

broadband universal; making broadband affordable; connecting homes to broadband; getting people online; and achieving gender equality in access to broadband. A key target of this initiative was that by 2015 all countries would have a national broadband policy or strategy, or would include broadband in their universal access/service definition.

### Comments on progress in national e-strategies

**163 national e-strategies had been developed by 2011.** (ITU, 2011)

**151 national broadband plans had been developed by 2016.** (ITU/UNESCO, 2016)

A third milestone in the ITU's efforts to promote connectivity is the ITU Connect 2020 Agenda for Global Telecommunication/ICT Development (ITU, 2014). The Agenda's four goals are:

1. to enable and foster access to and increased use of telecommunications/ICT (growth)
2. to bridge the digital divide and provide broadband for all (inclusiveness)
3. to manage the challenges resulting from telecommunications/ICT development (sustainability)
4. to lead, improve, and adapt to the changing telecommunications/ICT environment (innovation and partnership).

Affiliated targets include:

- 55% of households worldwide should have access to the Internet by 2020
- 60% of individuals worldwide should be using the Internet by 2020.
- Worldwide telecommunications/ICT should be 40% more affordable by 2020.
- In the LDCs, 15% of households should have access to the Internet by 2020.

A total of 107 national statements on policy commitments were given at the ITU Plenipotentiary Conference, held from 20 October to 7 November 2014, in Busan, Korea (Box 2.6).

#### Box 2.6. Selected national policy commitments made at the ITU Plenipotentiary Conference in 2014

The Cambodian ICT Master Plan 2020 and the National Master Plan of Science and Technology 2014-2020 were officially announced in August and in October respectively. Five priority projects have been identified in the Cambodian ICT Master Plan, such as e-government framework developed since 2004, cybersecurity, e-education, e-commerce and e-tourism. **Cambodia**

With regard to the goals and related targets to be achieved by 2020, in the upcoming five years Ethiopia aims to foster people's access to ICT. Mobile penetration will reach 100% from the current 30%. Similarly 50% of households' will have fast, broad and reliable Internet connectivity. **Ethiopia**

We are currently deploying optical fibre networks to connect all of the inland provinces, and we hope that over 1600 kilometres of optical fibre cable will be connected through co-operation between our government, the World Bank, and the European Investment Bank. **Mauritania**

We are designing regional optical fibre networks, which will link to the national network, and which will allow us to provide broadband in 21 regions, connecting many districts and several thousand localities reaching 4 million inhabitants, and we will build many more kilometres before 2027. **Peru**

Source: ITU (2014), "On the road to implement the Connect 2020 Agenda", [www.itu.int/en/connect2020/Documents/pp14-connect2020-commitments.pdf](http://www.itu.int/en/connect2020/Documents/pp14-connect2020-commitments.pdf).

The 2017 aid-for-trade monitoring exercise highlights how national e-strategies and broadband plans are being used to make digital connectivity available and affordable, and to create the necessary enabling environment for digital trade. The monitoring exercise responses did not highlight any relationship between income level and the deployment of such national plans. Of the 33 respondents that cited national e-commerce or digital-related strategies, 15 are LDCs and 16 are middle income countries. Box 2.7 highlights actions reported by the Democratic Republic of Congo, Côte d'Ivoire and Myanmar in the monitoring exercise.

### Box 2.7. Overview of selected national actions to support digital connectivity

**Democratic Republic of Congo (DRC):** In 2002, the government adopted a framework law that sought to separate regulation, regulatory and operational functions so as to stimulate competitiveness in telecommunications and postal services. The framework law entrusted regulation to the Post and Telecommunication Regulatory Authority of Congo. In 2009, the DRC adopted a sectoral policy: the Development of the Telecommunications and ICT Sector Strategy in the DRC. This document was the reference framework for government action in the period 2010-2015. These laws are being revised pending the adoption of the new law on e-trade in the DRC. At this stage, e-commerce in the DRC is still at an embryonic stage.

**Côte d'Ivoire:** An e-commerce ecosystem is beginning to take shape in Côte d'Ivoire. National regulatory reforms have been adopted to drive and regulate electronic transactions, including laws to protect personal data, protect consumers, and fight cybercrime. The government has created a Ministry of Posts and Digital Economy, and has opened an academic institution that focuses on new technologies. E-commerce is gradually taking hold and online businesses are tapping into burgeoning consumer demand. Nevertheless, the growth of e-commerce is still limited by issues such as limited logistics and payment services, and high costs for electricity and broadband. The government recognises these challenges and has launched an ICT development initiative targeting infrastructure, accessibility of services, development of national expertise and implementation of a technological free-zone.

**Myanmar:** In 2012, Myanmar began reforming its telecommunications. In 2013, it enacted a new Telecommunications Act that provided for: the expansion of the telecommunications network and the sector's development; the establishment of types of licenses and basic rules on interconnection, competition and dispute resolution; the creation of an independent regulator (the Myanmar Telecommunications Commission); and the establishment of the overall government policy on private sector participation in the sector (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 113). Liberalisation facilitated the entry of two competing mobile operators—Ooredoo and Telenor—entered the market in 2014. This in turn led to a significant decrease in the cost of a SIM card: from USD 150 in 2013 to USD 1.50 in 2015. By the end of 2014, GSMA reported that there were 11.7 million mobile connections, with a year-on-year growth of 25%, making Myanmar one of the fastest growing markets in the world (*OECD-WTO aid-for-trade monitoring exercise 2017*, Academia and NGOs case story 05).

Web content is also increasing in the Myanmar language thanks to efforts such as Bindez, a start-up that connects Myanmar people worldwide with information and content in their own language. This provides a solution to a challenge that has faced many countries coming online in the past few decades: how to make their countries' languages talk with computers (*OECD-WTO aid-for-trade monitoring exercise 2017*, Private sector case story 48).

Source: *OECD-WTO aid-for-trade monitoring exercise (2017)*, [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).

In 2007, Sri Lanka's information technology (IT) and business process management (BPM) sectors agreed a ten-year plan to generate annual export revenues of USD 1 billion and employ more than 80 000 people. These targets have been surpassed and IT is now Sri Lanka's fifth largest export earning sector. A new vision for 2022 has been developed with the following targets: growing revenue to USD 5 billion and creating 200 000 jobs. Sri Lanka's goal is to move up the value chain, shifting from a focus on cost to one based on value. For this purpose, the IT sector has constructed its strategy around three targets: 1) building capacity by tripling the number of IT graduates by 2020 (there were only 6 000 graduates in IT and related fields in 2015); 2) innovating by encouraging the creation of 1 000 start-ups and promoting links between academia and the private sector; and 3) fostering regional development by taking the IT/BPM industry to the regions, promoting linkages with universities.

The 2017 aid-for-trade monitoring exercise highlights action being taken by a variety of respondent countries to promote digital connectivity (Box 2.7). It makes it clear, however, that there is great disparity among respondents in terms of starting points and progress in implementing these strategies. Looking across its developing country members, the Asian Development Bank (ADB) notes that:

**Some countries have the necessary policies and legislative framework already in place, but very slow implementation progress; others have formulated their policies but are still awaiting adoption; some have IT or ICT plans that are not implemented.**

(*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 115)

An ADB case story suggests that within the Central Asian Regional Economic Corridor, countries are implementing facilitating legislation at different speeds, grouping the countries based on their progress. The countries in the first group—including Azerbaijan, the People’s Republic of China (hereafter China), Kazakhstan, and Pakistan—have complete legal coverage of cybercrime; nearly all have data and privacy protection laws, with China including consumer protection as well. The countries in the second group have laws in two or fewer of the four major legislative areas. All countries have at least a draft law on electronic transactions. There is, however, no evidence that any country, aside from China, has implemented consumer protection legislation. In Turkmenistan and the Kyrgyz Republic, government officials report that consumer trust remains low, a factor that limits e-commerce growth. By contrast, in Azerbaijan e-commerce and public trust have grown since 2009 thanks to the passing of legislation on information safety and related issues. For Tajikistan, the WTO accession process has helped to promote the legal transparency that facilitates e-commerce (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 124).

#### **Action on e-commerce and digital-related strategies**

**E-commerce sectoral cyber strategy adopted in 2013 by the Government. Burkina Faso**

**There is a Draft strategy for e-government which takes into consideration e-commerce. Dominica**

**Mali has adopted a national policy document and a strategic plan to develop ICTs in 2004.**

**In 2010, a sector-wide development policy for e-commerce was created. Mali**

**The draft National ICT Strategic Plan 2016-2020 also creates the conducive environment for e-commerce to flourish in Mauritius. Mauritius**

**Senegal strategy entitled “2025 Digital Senegal” is currently being drafted. Senegal**

**National ICT Strategy expired in 2015. We are currently in the process of developing a new strategy.**

**Saint Vincent and the Grenadines**

*Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).*

The 2017 aid-for-trade monitoring exercise also highlights various regional initiatives to promote digital connectivity (Box 2.8). Issues covered in Asian regional frameworks include plans to facilitate the establishment of mutual recognition of digital signatures, intellectual property protection, personal data and consumer protection, alternative dispute resolution for electronic transactions, ICT training and education, ICT rural community development, and infrastructure development for postal services within the region.<sup>10</sup> Some regions have ICT or e-strategies integrated into other development objectives or plans, for example agriculture and rural development, public health, financial services, and environment and natural disaster management.

### Box 2.8. Overview of selected regional actions to support digital connectivity

In the **Association of Southeast Asian Nations (ASEAN)**, an e-task force is charged with the development of a broad and comprehensive action plan for an ASEAN e-space, as well as the development of competencies to compete in the global information economy through the establishment of an information infrastructure. The task force will examine the physical, legal, logistical, social, and economic infrastructure needed.

**The Asia-Pacific Economic Co-operation (APEC)** recently launched a wide-ranging agenda that outlines programs designed to use advances in IT to boost productivity and stimulate growth, and to extend basic services to the community. The action agenda includes ways of promoting the right policy environment and build capacity to create a framework to strengthen markets, e-commerce, knowledge and skills development, and providing affordable and efficient access to communications and the Internet. APEC supports the development of distance learning and IT capacities as core competencies for teaching and learning, and for extending health and medical services. (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 124)

**The Economic Community of West African States (ECOWAS)** Vision 2020 seeks to harmonise telecommunication policies in order to benefit from the digital economy. Over 2013-2014 and with the support of UNCTAD, ECOWAS conducted two online training sessions and three regional workshops that trained 315 policy and law makers on the legal aspects of e-commerce. Areas identified for further legislative harmonisation included: electronic transactions, data protection, computer crime, consumer protection, online content and domain names (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 59).

## BRIDGING THE DIGITAL TRADE POLICY DIVIDE

The 2017 aid-for-trade monitoring exercise highlights action by many developing countries and LDCs to promote digital connectivity. It also points to a possible “digital trade policy divide” (Box 2.9). Of the 63 respondents to the monitoring exercise, 33 stated that they did not have an e-commerce or other digital-related strategy. Comparison of these answers, however, with the statistics collected by the ITU on national e-strategies and broadband strategies suggests a different picture. All 63 partner country respondents have either an e-strategy or broadband strategy or both. Why the divergence in results? One explanatory factor may be terminology. Some respondents may not have considered their national ICT or broadband strategies to qualify as e-commerce or other digital-related strategies, as phrased in the questionnaire for the monitoring exercise. Others may have decided not to reference a national strategy that may have expired or was in the process of being updated.

### Box 2.9. Digital enablement to bridge the digital divide

A paradox in the digital divide, as outlined by Huawei (2015), is that while it is narrowing, at the same time it is deepening. The worldwide development of digital networks, coupled with the increasing affordability of ICTs, has contributed to bringing more and more people within range of a phone signal (87% of the world population and 55% for 3G networks). However, 1 billion people remain disconnected from any form of telecommunications; 3 billion lack access to broadband Internet; and in developing countries, only three out of ten people use the Internet, compared to eight out of ten in developed countries. The exponential increase in connections, sensors, devices, data, video and analytics is set to deliver advances in agriculture and health, and to reinforce economies, contribute to protecting the environment and improve transportation. Further sophistication in technology means that the analogue complements necessary for the digital economy to operate are now becoming more necessary than ever. Putting these analogue complements into place can be achieved by supporting users, implementing sound policies and lowering the costs of access. Huawei refers to these actions “digital enablement solutions”. They argue that they need to run on market principles: built for scale and industrialisation, and valuing all income levels. The value generated would benefit all, not solely in financial terms, but in benefits across people and communities.

Source: Huawei (2015), “Connecting the Future, Digital Enablement, Bridging the Digital Gap to Connect People and Society” [www.huawei.com/minisite/digital-enablement/download/Digital+Enablement\\_ENGLISH+online.pdf](http://www.huawei.com/minisite/digital-enablement/download/Digital+Enablement_ENGLISH+online.pdf)

However, another possible explanation for the inconsistency in the responses to the 2017 aid-for-trade monitoring exercise as compared to the ITU figures on national e-strategies and broadband plans may lie in the extent to which national co-ordination mechanisms do or do not exist. Twenty-one of the 63 respondents reported having national co-ordination mechanisms. The aid-for-trade monitoring results did not suggest the systematic participation of national ministries of trade in these mechanisms; rather, only 10 of the 21 respondents cited the presence of trade ministries in national co-ordination mechanisms.<sup>11</sup>

The 2017 aid-for-trade monitoring exercise results also lead to the conclusion that the private sector is not systematically present in co-ordination mechanisms. Pakistan was a notable exception; the government's self-assessment reply noted the presence of the private sector in national digital co-ordination mechanisms and indicated that the e-commerce policy unit within the ministry of commerce consults with relevant agencies, as well as with representatives of leading private sector e-commerce enterprises. Likewise, Uganda noted that its ICT Sector Working Group included representation from both the private sector and government.

### Box 2.10. Trade policy and the availability—and affordability—of digital connections

"Reduce the cost of mobile phones and ICT devices. Governments must work to reform tax and patent regimes so that ICT device costs can come down. They will also need to incentivize the private sector to develop high quality, low-cost smartphones"... "Getting everyone online requires balanced policies that address demand as well as supply; regulation as well as competition; fixed-line as well as mobile broadband; public access as well as individual subscriptions. Government ministers and others must spearhead efforts to convene all actors and develop a clear, coherent plan for sequencing reforms and stimulating the investments needed to enable reduced costs and wider access. Donors and aid agencies must come to the party with financial and practical support." Alliance for Affordable Internet (*OECD-WTO aid-for-trade monitoring exercise 2017, Academia and NGOs case story 2*).

"Substantial challenges still exist in the development of technology neutral and convergent licensing regimes, promotion of competition, establishment of fair interconnection rules and tariffs, management of resources such as radio frequency spectrum and numbers, design and execution of universal access strategies and the enforcement of standards. Policy and regulatory intervention that abolish exclusivity on market entry, reduce license fees and simplify licensing procedures as well as those promoting open, transparent and non-discriminatory access to the networks are the foundation for improved national and regional broadband networks. Besides, most member countries face challenges in new policy areas in particular those pertinent to electronic transaction and cyber security." African Development Bank (*OECD-WTO aid-for-trade monitoring exercise 2017, Public sector case story 16*)

Despite the vast opportunities presented by a digital economy, Asia has yet to overcome challenges to fully realise its potential to harness e-commerce for sustainable development. In addition to the absence of national legislation to support cross-border e-commerce, developing countries in Asia face barriers related to poor ICT infrastructure, trade facilitation and logistics, e-payments, and inadequate skills development. National strategies to understand the underpinnings of e-commerce are also lacking in many countries. Even as Asia's developing countries further strengthen their capacity for e-commerce, most of them face institutional issues, such as complicated border clearance procedures and red tape, and disharmonised customs requirements between states hinder intra-regional trade. Market related risks—such as fraud, costs of adaptation, and a risk of crowding out—also serve as barriers to entry. Asian Development Bank (*OECD-WTO aid-for-trade monitoring exercise 2017, Public sector case story 124*)

The cost of computers and telecommunications remain generally high, because of insufficient liberalisation and deregulation of markets, and years of chronic underinvestment. Asian Development Bank (*OECD-WTO aid-for-trade monitoring exercise 2017, Public sector case story 116*)

As regards affordability, 57% of the world population currently cannot afford the Internet, because the costs of end-user devices, services, access and ancillary costs (including usage and device taxes) are still too high for many. Broadband Commission (*OECD-WTO aid-for-trade monitoring exercise 2017, Public sector case story 41*)

Aid-for-trade support can help governments establish co-ordination mechanisms. El Salvador noted that support from USAID helped to ensure co-operation on e-commerce questions with a diverse range of stakeholders, including the Salvadoran Chamber of Tourism, the Innovation and Quality Directorate, the National Science and Technology Council and the Ministry of Tourism.

The importance of the trade dimension to digital connectivity questions was highlighted by a case story from Australia outlining co-operation with the World Intellectual Property Organization to create an enabling environment for increased domestic innovation, inward investment and technology transfer. Other case stories from the African Development Bank, the Asian Development Bank and the Alliance for Affordable Internet highlight the influence that trade ministries can play in ensuring available, affordable digital connections. Box 2.10 brings together some of the insights from these cases stories.

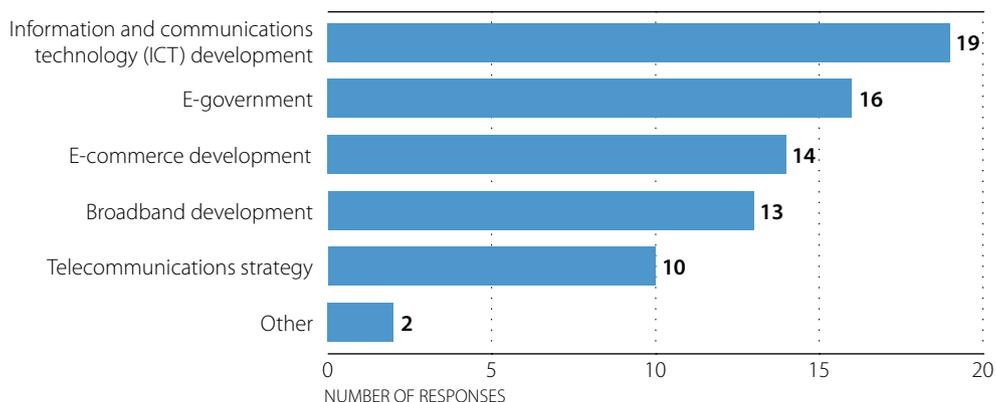
Australia offers an example of a donor that is supporting efforts to address the affordability and availability of digital connectivity through telecommunications reform. Australia's response to the self-assessment questionnaire highlights how in Indonesia, it has provided specialist advice to enable the country to award radio spectrum for 3G mobile telephony and Internet services in the most transparent and economic way possible. This resulted in an auction from which government secured over USD 700 million in revenue and one of the fastest roll-outs of 3G services in the world. Similarly, in Vanuatu Australia helped to introduce private sector competition and independent regulation, expanding mobile coverage from 20% of the population in 2007 to 85% in 2009. The prices of handsets dropped from USD 100 to USD 25 and monthly Internet access rates dropped from USD 200 to USD 60.

## AID FOR TRADE CAN PROMOTE DIGITAL CONNECTIVITY

Of the 40 donor respondents to the 2017 aid-for-trade monitoring exercise, 25 noted that e-commerce or digital issues featured in their in-country dialogues with partner countries and regional partners. Figure 2.9 provides an overview of the relative importance of specific focus areas for donor support (ICT development, e-government, e-commerce, broadband, telecommunications and other). Figure 2.10 provides more detailed information on the type of support offered.

Research by the OECD suggests that aid-for-trade support (disbursements) to promote digital connectivity averages between USD 650 million and USD 700 million annually, with the largest share (34%) financing telecommunication projects, followed by investment in information and telecommunication technology (21%), policy and management (17%) and finally research and development (10%).

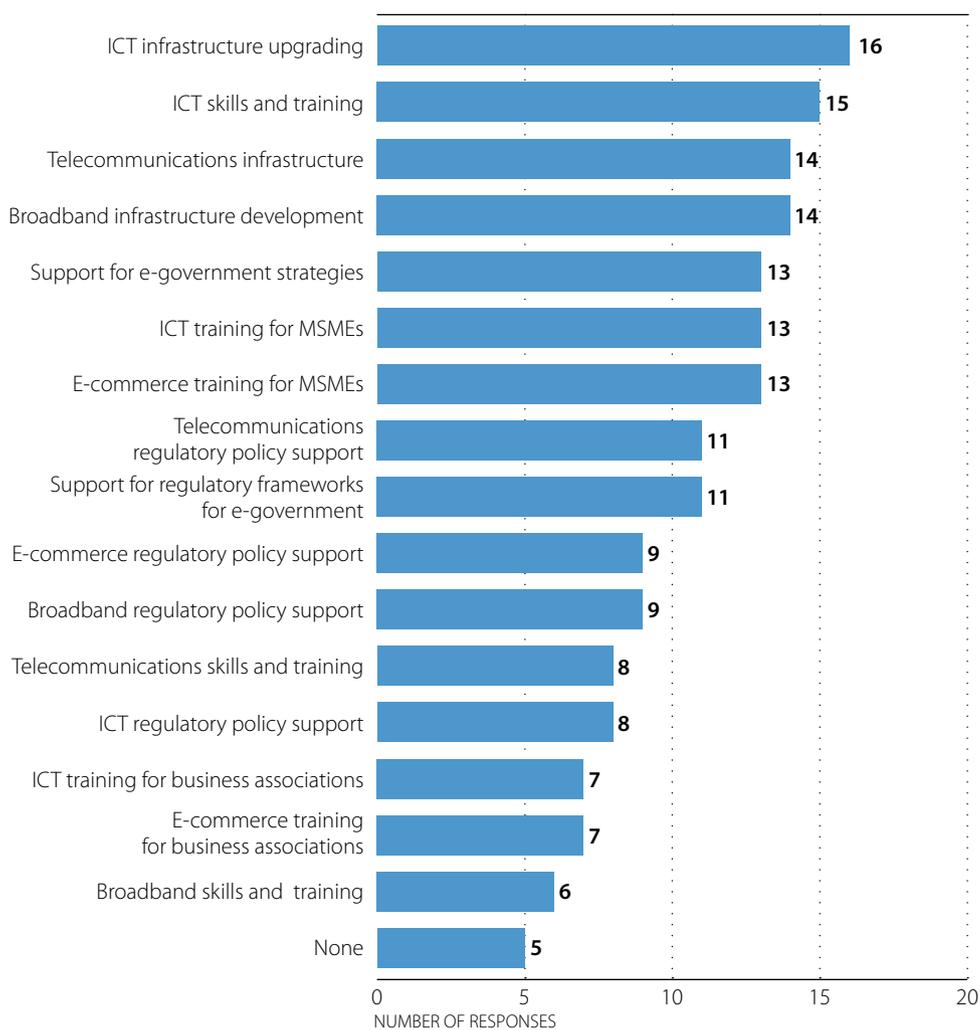
**Figure 2.9. Focus areas of donor support for digital connectivity**



Note: Numbers indicate the total number of responses for each focus area.

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).

StatLink  <http://dx.doi.org/10.1787/888933525645>

**Figure 2.10. Types of support offered to promote digital connectivity**

Note: Numbers indicate the total number of responses for each type of support.

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).

StatLink  <http://dx.doi.org/10.1787/888933525664>

The 2017 monitoring exercise suggests that demand for aid-for-trade support in this area is growing, and expected to rise further. Among the donor respondents, 11 highlighted significant growth in demand in this area over the past five years. Of the 40 donor respondents, 31 anticipated growth in future demand both from both partner countries and regional partners. This conclusion looks well-founded: 57 of the 63 developing and LDC governments responding to the 2017 aid-for-trade monitoring exercise anticipated a need for future assistance in order to meet their e-commerce strategic objectives.

Both the European Commission and Germany indicated that they are updating their strategies to address digital development. Germany noted that a more coherent strategy was being developed to pull together its initiatives in this area--initiatives that include support to the IT industry in Kosovo in a joint project with Norway (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 63). The European Commission noted that it had submitted a proposal for a new European Consensus on Development in November 2016 which included a Digital for Development statement. The European Bank for Reconstruction and Development (EBRD) has launched the Knowledge Economy Initiative, working with countries on innovation-related issues such as improving telecommunications regulation and developing ecosystems that allow venture capital and private equity firms to grow. The EBRD also provides funding to the private sector, including for projects related to the development or expansion of e-commerce.

Other donors, most notably Japan and Korea, are already active in promoting digital connectivity and have well-established programmes in place. In addition to their own bilateral programmes, both Japan and Korea also contribute to multilateral programmes. Cases in point are the Korean e-Asia and Knowledge Partnership Fund and the Japan Fund for Information and Communication Technology administered by the Asian Development Bank. Box 2.11 outlines Japan's work on ICT infrastructure.

### Box 2.11. Achieving quality infrastructure through Japanese ICT

Japan possesses one of the highest levels of Information and Communications Technology (ICT) in the world, as well as a proven development assistance track record in this field. For instance, Japan has contributed to ICT development in various regions as a leading international supplier of optical submarine cables. A Biometrics authentication system has also been adopted by over 70 countries, protecting people's safety and security. And Japan is supporting implementation of ICT for disaster management in many countries using its knowledge as a country affected by natural disasters. Japan is also making active strides in technology transfers aimed at making practical use of ICT. With the introduction of digital terrestrial broadcasting in Botswana, Japan is striving to develop businesses that make use of data broadcasting and transfer TV program creation technology. And through its communication satellite business located in Turkey, Japan has not only produced and delivered satellites but has also provided high-level technology education programs aimed at autonomous development. Japan's ICT support is also contributing to the optimisation and increased lifespan of existing public infrastructure. In the case of Vietnam's Can Tho Bridge construction, support has been given to introduce a system for real-time measurement of strain and oscillations. By detecting abnormalities quickly, serious damage and deformation can be prevented. As a part of Myanmar's postal service, Japan has worked to digitise money transfer services. Japan offers multifaceted support precisely because it possesses such comprehensive capacity for ICT development.

Source: *OECD-WTO aid-for-trade monitoring exercise (2017)*, Public sector case story 75, [www.oecd.org/aidfortrade/casestories/casestories-2017/CS-75-Achieving-Quality-Infrastructure-through-the-ICT-of-Japan.pdf](http://www.oecd.org/aidfortrade/casestories/casestories-2017/CS-75-Achieving-Quality-Infrastructure-through-the-ICT-of-Japan.pdf)

Korea's own ICT-based growth is considered by some as a model to follow. In the 1990s, the Korean government pursued a series of long-term plans. The Korea Information Infrastructure plan launched in 1995 led to the completion of fibre optic networks across the country. The government also established several master plans: 1) the Informatization Promotion Act (1995), followed by the First Master Plan for Informatization Promotion (1996); 2) Cyber Korea 21 (1998), addressing the changing environment caused by the Asian financial crisis; 3) the e-Korea Vision 2006 (2002), updated by Broadband IT Korea Vision 2007 (2003); and 4) the UKorea Master Plan. All these measures led to the construction of advanced information infrastructure and growth in the ICT industry. Korea also engaged in a range of training programmes and de-regulation measures; for example, the government opened up the broadband Internet service market, removing regulation or controls over licensing and pricing. Having appropriate regulatory measures encouraged facility-based competition among service providers. Increased competition put downward pressure on tariffs, which, in turn, led to an increase in demand for Internet services (*OECD-WTO aid-for-trade monitoring exercise 2017*, Public sector case story 124).

Dialogue with regional partners is another important feature of e-commerce development, particularly in the areas of ICT and broadband development. Australia supports the ASEAN in improving regional connectivity, including the development of an ASEAN Master Plan for Connectivity, which covers physical connectivity such as international undersea telecommunications cables and domestic broadband coverage. Australia is also among the donors that support the World Bank in the Indo-Pacific region for the development of ICT infrastructure, such as international undersea cable connections, and lends policy and regulatory technical assistance to improve access to ICT infrastructure assets and services.

**Infrastructure is a big hurdle** for many countries, especially those that are poor or with large rural or remote populations. Many developing markets require massive investment to move up to more advanced mobile technologies. (WEF-BCG, 2016)

The 2017 aid-for-trade monitoring exercise highlighted the multifaceted engagement of the private sector in e-commerce and ICT development more broadly. Case stories submitted by partner countries and donors indicate significant collaboration between the public and private sectors. Among donors, 54% stated that they worked with the private sector to support growth in e-commerce in partner countries and regions.

**In the past, financing of ICT infrastructure in most developing countries has been based on public investment. Lately, a significant influx of investment has taken place where private-sector participation has been encouraged, based on a sound regulatory framework, and where public policies aimed at bridging the digital divide have been implemented.** (World Summit on the Information Society, 2005)

A prominent example of private sector participation in infrastructure projects to bridge the digital connectivity divide is in the area of submarine communication cables. These cables carry 90% of the world Internet data; the remaining 10% is transferred via satellite. As of 2016, some 350 submarine cables stretching over more than 1.2 million kilometres had been installed.

Three funding structures have emerged for this cable infrastructure: public-private partnerships; consortia of private sector operators; and privately owned cables. Box 2.12 highlights the important role that development finance has played in bringing submarine communication cables to regions that might not otherwise enjoy digital connectivity, in particular through cabling initiatives in the Pacific.

#### Box 2.12. Cabling the Pacific

**Samoa:** The ADB approved a USD 25 million grant for a submarine cable project to support a fibre-optic cable system linking Samoa to Fiji's international submarine cable network. Currently, Samoa is connected to the American Samoa-Hawaii cable system via the Samoa-American Samoa cable, which is operating at near capacity. The project will enable broader Internet access to meet Samoa's growing demand, providing fast and affordable access. The ADB grant financing was complemented by funding from the World Bank and Australia. The Samoa Submarine Cable Company provided USD 8.2 million in equity; the government of Samoa covers taxes and duties of USD 6.7 million. The total project cost was estimated at USD 57.4 million. The project aims to enhance low-cost broadband services to Samoa, strengthen the regulatory and legal environment for ICT, and facilitate e-health investment in Samoa. Part of the project will involve implementing an e-health patient information system to improve patient care.

**Tonga:** Under the Pacific Regional Connectivity Program, the Asian Development Bank, the government of Tonga, Tonga Cable and the World Bank Group joined forces to finance and support an 827-kilometer submarine fibre-optic cable system linking Tonga to Fiji via the Southern Cross Cable—the main trans-Pacific link between Australia and the United States. Tonga Cable is the owner and manager of the fibre-optic cable. The project team completed the job in four years, under budget and one day ahead of schedule. International connectivity costs have already fallen by more than 60 per cent.

Source: Asian Development Bank, *OECD-WTO aid-for-trade monitoring exercise (2017)*, Public sector case story 8, [www.oecd.org/aidfortrade/casestories/casestories-2017/CS-08-Samoa-Submarine-Cable-Project.pdf](http://www.oecd.org/aidfortrade/casestories/casestories-2017/CS-08-Samoa-Submarine-Cable-Project.pdf) and Public sector case story 97, [www.oecd.org/aidfortrade/casestories/casestories-2017/CS-97-AsDB-Tongas-High-Speed-Revolution.pdf](http://www.oecd.org/aidfortrade/casestories/casestories-2017/CS-97-AsDB-Tongas-High-Speed-Revolution.pdf)

Development finance is being used in a similarly catalytic fashion in Africa to promote connectivity. The Eastern Africa Submarine Cable System (EASSy) is a good example. EASSy runs from Mtunzini in South Africa to Port Sudan in Sudan, with landing points in nine countries and connecting to an additional ten landlocked countries. Inland connectivity is important as it means that landlocked countries no longer have to rely on satellite Internet access to carry voice and data services. EASSy is owned and operated by a group of African (92%) and international (8%) shareholders—all telecommunications operators and service providers. Box 2.13 highlights other regional projects being taken forward in the context of the Connect Africa Initiative. The issue of connectivity for landlocked countries was also highlighted by the Asian Development Bank in its submission to the 2017 monitoring exercise. It noted that landlocked countries must either use satellite access, which can be prohibitively expensive as well as being comparatively slow, or depend upon neighbouring countries for terrestrial access to submarine cable landing stations.

### Box 2.13. Connect Africa Initiative

**The Central African Backbone (CAB):** The project implements a telecommunications network made up of onward terrestrial fibre connections linked to an undersea optical fibre cable system in the African Western Coast. A broadband backbone leverages the fibre optic infrastructure laid along the oil pipeline between Kribi, Cameroon and Doba, Chad.

**The East Africa Broadband Network (EABN):** The project implements an integrated East African Broadband ICT infrastructure network that provides cross-border connectivity between Burundi, Kenya, Rwanda, Tanzania and Uganda. It links up with global gateways through submarine fibre cable systems.

**The South Africa Region Backbone (SATA Backhaul):** The project is improving cross-border links that interconnect the South African Development Community (SADC) member states through optical fibre networks and. It links them to submarine cable systems, including the EASSy.

**The Economic Community of West African States (ECOWAS) Power Pool-based Fibre Network:** The project expands broadband access by leveraging the West Africa Power Pool's (WAPP) communications infrastructure network. It links the WAPP network to national and regional infrastructure to bridge connectivity gaps in the ECOWAS region.

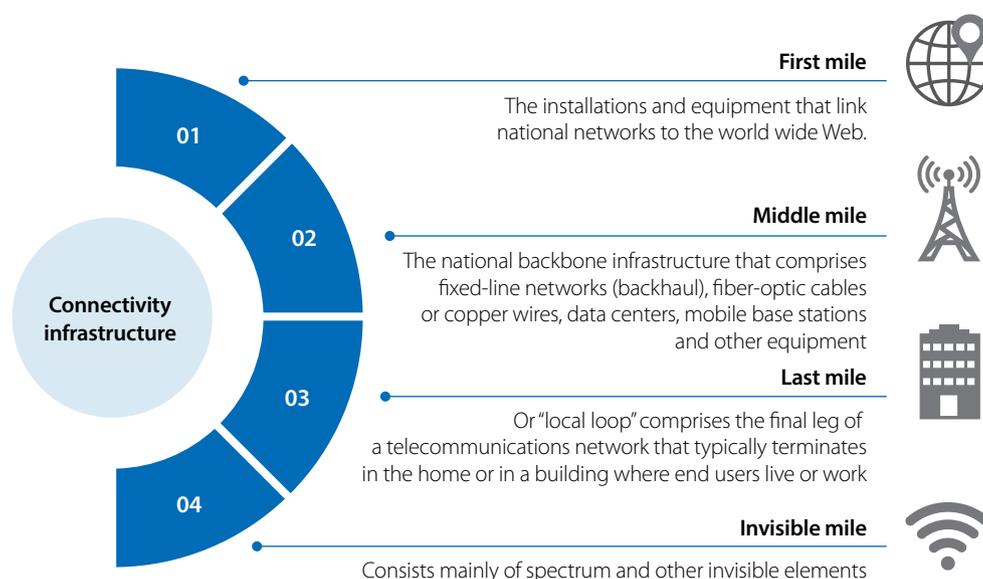
*Source:* African Development Bank, *OECD-WTO 2017 aid-for-trade monitoring exercise (2017)*, Public sector case story 16, [www.oecd.org/aidfortrade/casestories/casestories-2017/CS-16-AfDB-Connect-Africa-Initiative.pdf](http://www.oecd.org/aidfortrade/casestories/casestories-2017/CS-16-AfDB-Connect-Africa-Initiative.pdf)

The private sector is also directly engaged in providing digital connectivity solutions. Facebook submitted a case story on the Telecom Infra Project (TIP)—an engineering-focused initiative that is bringing together operators, infrastructure providers, system integrators, and other technology companies to collaborate on the development of new technologies and approaches to building and deploying telecom-network infrastructure. For Facebook, TIP is a new investment that ties into other connectivity efforts already underway through Internet.org (*OECD-WTO 2017 aid-for-trade monitoring exercise 2017*, Private sector case story 154). Other examples of private sector action include Google's Project Loon and Nokia's FastMile. Huawei identifies four segments to connectivity infrastructure as per Box 2.14.

In addition to infrastructure initiatives, the private sector is directly engaged in a wide variety of actions to promote digital connectivity—both as part of corporate social responsibility initiatives and as part of regular commercial operations. Several of these actions seek to promote local adoption and use, such as The Rural Taobao Initiative run by the Alibaba Group (*OECD-WTO 2017 aid-for-trade monitoring exercise 2017*, Private sector case story 23). Other initiatives seek to promote ICT awareness and skills, such as IBM's Digital-Nation Africa. Telenor submitted examples of projects designed to close the digital gender divide (*OECD-WTO 2017 aid-for-trade monitoring exercise 2017*, Private sector case story 45 and 46). Jumia Market explained how it has helped to economically empower tens of thousands of traders in Africa in the past three years through e-commerce, focusing on success stories of three local traders in Cameroon.

A case story submitted by Amazon highlighted how a small rural business in Thailand (Lanna Clothes Design) was empowered to expand internationally through e-commerce (*OECD-WTO 2017 aid-for-trade monitoring exercise 2017*, Private sector case story 88). Facebook also highlighted how its Express Wi-Fi, launched in Nigeria in 2016, is providing affordable and fast Internet services that are reducing the costs of business for information technology entrepreneurs in the Alaba International Market in Lagos (*OECD-WTO 2017 aid-for-trade monitoring exercise 2017*, Private sector case story 153).

#### Box 2.14. The four segments of connectivity infrastructure



**First mile:** Regulatory regime governing the acquisition and operation of satellite dishes and the competitive conditions that apply to international gateways and landing stations will dictate the degree of interest that private sector actors will have in deploying and managing this critical infrastructure.

**Middle mile:** The balance struck by the independent regulator between ensuring competition and adequate financial returns on operating infrastructure is critical. Other policy instruments to increase infrastructure investment include subsidies, co-financing arrangements and reducing the cost of importing equipment and components (import tariffs and other trade costs). Governments can also mandate by law the laying of optical fibre at the same time as other infrastructure (e.g. pipelines and roads).

**Last mile:** Government intervention to promote inter-modal competition over the same infrastructure is an option, as are so-called "fibre-to-the-home" projects to replace antiquated copper wiring, notably for building developers to future-proof their projects.

**Invisible mile:** How spectrum is governed constitutes the primary lever here, notably ensuring that spectrum pricing makes its exploitation commercially viable, that spectrum access is provided on competitive terms and that essential fixed assets are shared among operators, while finally allowing those who purchase spectrum to resell it without too many restrictions or conditions.

Source: Huawei (2015) "Connecting the Future, Digital Enablement, Bridging the Digital Gap to Connect People and Society" [www.huawei.com/minisite/digital-enablement/download/Digital+Enablement\\_ENGLISH+online.pdf](http://www.huawei.com/minisite/digital-enablement/download/Digital+Enablement_ENGLISH+online.pdf)

## CONCLUSIONS

This chapter has surveyed issues influencing digital connectivity, taking as its starting point the information submitted by developing countries and LDCs, bilateral and multilateral donors, regional organisations, South-South partners and the private sector in response to the OECD-WTO 2017 aid-for-trade monitoring exercise. A picture of concerted action to promote digital connectivity by governments, development partners and the private sector emerges from this information.

The 2017 aid-for-trade monitoring exercise highlights the critical role played by the ITU in efforts to promote digital connectivity. The Connect 2020 agenda (ITU, 2014) and the Broadband Commission have galvanised action from a broad cross-section of actors to bridge the digital divide. A message that also emerges is that efforts to close the digital divide are expanding their focus from supply-side issues (e.g. undersea optical fibre cabling) to examining the demand-side issues that affect digital connectivity (e.g. competition among telecom providers). Here the analysis suggests that ministries of trade, and of trade policy more generally, can play a role in ensuring not just that digital connectivity is available, but also that it is affordable. An enabling regulatory environment is indispensable to ensure that digital connectivity promotes economic opportunity.

There is another issue of concern that emerges from the analysis of the responses to the OECD-WTO 2017 monitoring exercise, which can be termed the “digital trade policy divide”. Trade ministries do not appear to be systematically engaged in ICT, nor in digital or other e-government national co-ordination mechanisms. If left unaddressed, this lack of engagement may limit policy action on the demand side. ■

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## NOTES

1. In the 2015 monitoring and evaluation exercise, none of the questions contained in the donor, South-South and REC/TC questionnaires asked about the mainstreaming of trade facilitation in policy documents.
2. Of particular importance is maritime transport. Around 80% of global trade by volume, and over 70% of global trade by value, are carried by sea and are handled by ports worldwide (UNCTAD, 2015).
3. In its input to the aid-for-trade monitoring exercise, Pakistan stated that 11% of mobile users in Pakistan are using mobile phones for financial transactions.
4. Payment issues with business-to-business transactions and business-to-consumer transactions were cited by 23 developing country government respondents.
5. In addition, the World Summits on the Information Society (WSIS) held in Geneva in 2003 and Tunis in 2005 resulted in declarations that contain relevant objectives. The Geneva Declaration sets out a series of qualitative targets and goals on connectivity, as well as lines of action for government and other stakeholders (<http://www.itu.int/net/wsis/docs/geneva/official/poa.html>). The Tunis Declaration (<http://www.itu.int/net/wsis/docs2/tunis/off/6rev1.html>) focuses on financing and Internet governance. Further to these global declarations, the WSIS process also convened a series of regional summits that resulted in regional targets on digital inclusion.
6. The TBT Committee serves as a WTO forum where members discuss concerns related to standards. The opportunity to raise these and other concerns in an open, multilateral forum offers WTO members an effective way of fostering dialogue and understanding, and of finding ways to use multilateral rules to resolve concerns, thereby helping to reduce potential trade conflicts. This type of cross-border co-operation also helps to identify capacity-related concerns.
7. By establishing compatible domestic IPR systems, the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) helps build the legal structure in which the use rights to IP-protected digital products can be traded in the form of IP licences, which in turn shape much of commercial trans-border information flows. The TRIPS Agreement itself provides no specific rules on how its obligations on protection and enforcement of territorial IPRs could best be implemented in a space that transcends national boundaries. However, over more than 20 years since its conclusion, members have developed approaches and solutions to tackle these questions in their national jurisdictions, which in some areas have settled into common practices and are sometimes now reflected in bilateral or regional agreements covering IPRs. The non-discrimination provisions in the TRIPS Agreement ensure that these national or regional solutions regarding IPR protection in the digital sphere are available to nationals from all WTO member countries.
8. Under the current TRIPS transition period regime, least-developed country members are exempt from applying the TRIPS Agreement--except for the non-discrimination principles--until 2021. Hence the LDCs do not need to implement the TRIPS IPR protection standards before that date, while their nationals can already enjoy the TRIPS standards for their intellectual property rights when other WTO members engage in online or offline commercial activity in their jurisdictions--a significant advantage in enabling creative and innovative firms in the LDCs to seek effective access to global markets through e-commerce platforms.
9. The Broadband Commission for Sustainable Development grew out of the Broadband Commission for Digital Development, established in 2010 jointly by the ITU and UNESCO.

10. E-ASEAN Framework Agreement 2000; South African Development Cooperation (SADC) Declaration on Information and Telecommunications Technology 2001; SADC Regional Infrastructure Development Master Plan 2012; South Asian Sub-regional Economic Cooperation ICT Masterplan 2006; Pacific Regional ICT Strategic Action Plan (PRISAP) 2015-2020.
11. Ministries of trade were cited explicitly as being present in national co-ordination mechanisms in the self-assessment responses of Botswana, Burkina Faso, Congo, El-Salvador, Pakistan, the Philippines, Rwanda, Sri Lanka, Saint Lucia and Uruguay.