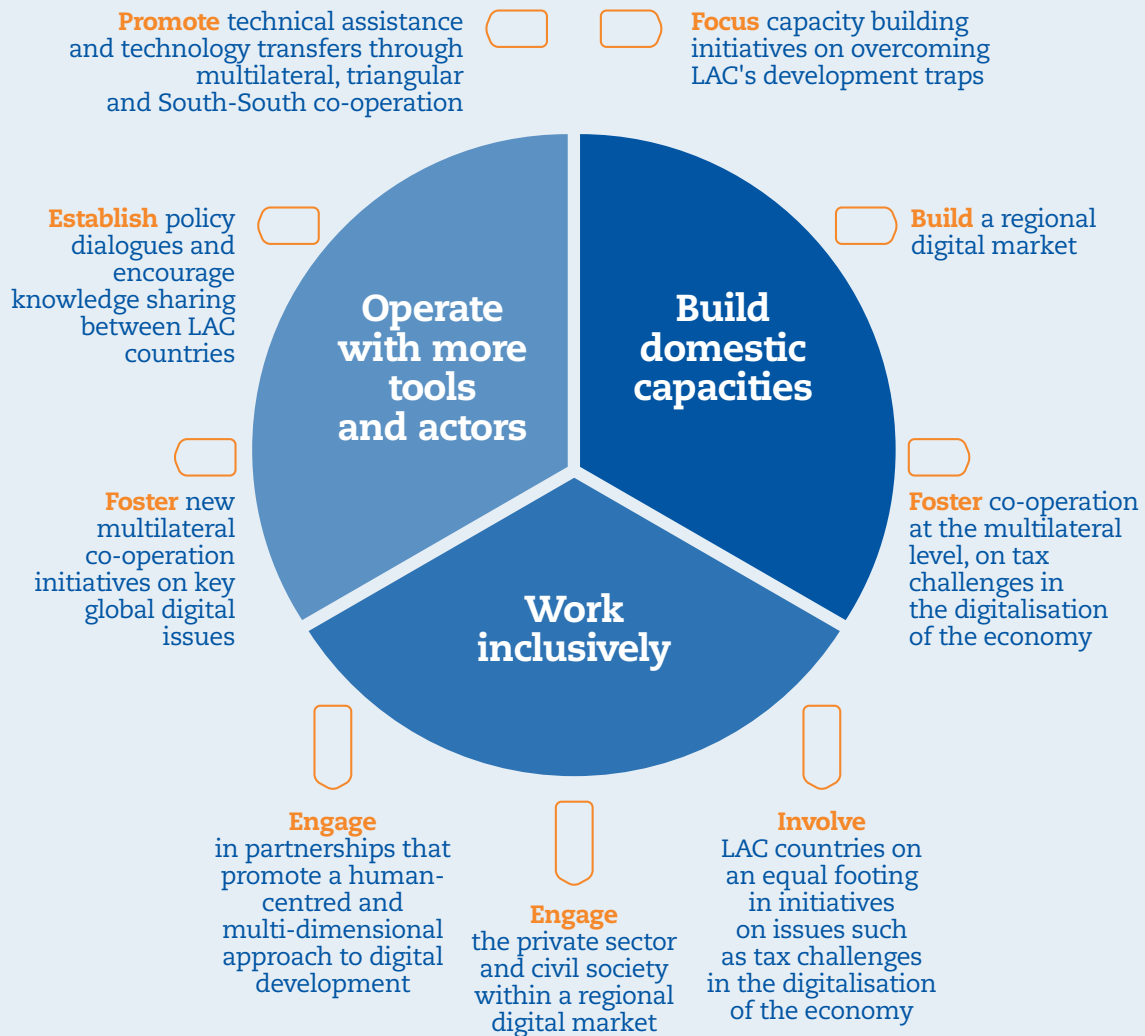# Chapter 5

The role of international co-operation in the digital age

As digitalisation creates both opportunities and challenges that transcend borders, international co-operation is a key dimension to make the most out of the digital transformation at local, national and international levels. This chapter describes how a renewed model of international co-operation can help LAC countries harness the digital transformation to foster their sustainable development. It first looks at how digital co-operation has helped LAC countries build their domestic capacities to overcome the interlinked challenges of the development traps, thus promoting a multi-dimensional approach to development and aligning national and international priorities. This chapter then explores how building a regional digital market can help the region tap into its digital potential, by harmonising strategies, articulating all levels of digital development and involving multiple stakeholders in a regional policy dialogue on digital issues. To do so, LAC countries can take advantage of useful international experiences, including the European Union's digital strategy. Finally, LAC countries can also take advantage of being fully involved in multilateral initiatives to address issues arising from digitalisation, notably addressing the tax challenges arising from the digitalisation of the economy.

The role of international co-operation

3 ways to facilitate LAC's digital transformation for greater inclusiveness:

Promote technical assistance and technology transfers through multilateral, triangular and South-South co-operation

Focus capacity building initiatives on overcoming LAC's development traps

Establish policy dialogues and encourage knowledge sharing between LAC countries

Build a regional digital market

Operate with more tools and actors

Build domestic capacities

Foster new multilateral co-operation initiatives on key global digital issues

Foster co-operation at the multilateral level, on tax challenges in the digitalisation of the economy

Work inclusively

Engage in partnerships that promote a human-centred and multi-dimensional approach to digital development

Engage the private sector and civil society within a regional digital market

Involve LAC countries on an equal footing in initiatives on issues such as tax challenges in the digitalisation of the economy

Introduction

The digital transformation, complemented by structural reforms, could play a strong role in overcoming the development traps Latin America and the Caribbean (LAC) face. Digital tools can provide states with new capacities and make them more credible, inclusive, efficient and innovative. Digital transformation can allow firms to become more productive with deeper integration and greater competitiveness. It can improve quality of life by allowing citizens to work, study or receive medical attention on line. However, the digital transformation also brings risks for inclusive development, as mentioned in previous chapters, including winner-takes-all dynamics, increased disparities between and within countries, wider digital divides, automation of jobs, and security and privacy issues.

The coronavirus (Covid-19) crisis has highlighted benefits and pitfalls of the digital transformation in LAC. The pandemic and subsequent containment measures have shown the increasingly important role of new technologies. They have allowed part of the population to work or study and access updated information and public services while complying with social distancing. The Internet, digital platforms and e-commerce have allowed some socio-economic sectors to maintain activities.

Digital technologies can play an important role in the recovery while addressing persistent challenges in the region. They can facilitate new connections between supply and demand, commercial transactions and job matching. They can modernise traditional industries and create new ones. Coronavirus (Covid-19) containment measures highlighted the need to expand digital inclusion, to ensure that all benefit from the digital transformation. Despite improved connectivity, only citizens with adequate infrastructure and skills can benefit from the advantages of technological tools for working, studying or accessing goods and services. States have had to balance the use of digital tools to preserve public health with the risks that it could pose to privacy and security.

To make the most of the digital transformation in the context of the current crisis, international co-operation and new partnerships are more important than ever. The *Latin American Economic Outlook 2019: Development in Transition* (LEO 2019) called for a renewed model whereby international co-operation acts as a facilitator for LAC countries, supporting their strategies to overcome development traps (OECD et al., 2019). Given the highly transversal impact of digital tools, a renewed co-operation, with an extended network of partners that includes the private sector and civil society and focuses on the digital transformation of the LAC region, could support countries to overcome development traps. International co-operation can help them navigate the global context by contributing to productivity, social cohesion, better institutions and green economies, thus adopting a "human-centred" approach to the design and implementation of technology, which prioritises citizens' needs and rights.

Digital partnerships should play an essential role, supporting key dimensions for the region, including connectivity, digital skills, e-governments, entrepreneurship and job creation (European Commission, 2020a). Some countries in LAC and other regions have implemented good practices in information and communications technology (ICT). LAC countries can use some of these examples of co-operation in the digital field to foster development.

The coronavirus (Covid-19) crisis has revealed a need to increase co-ordination of international efforts, both to exploit the benefits of the digital age and to manage its potential pitfalls. This should be part of a larger role for international co-operation. The need for a global response to immediate and short- and medium-term impacts of the coronavirus (Covid-19) crisis cannot be overemphasised. International partners should

focus on three areas of co-operation: financial support, co-ordinated responses, and regional co-operation and integration (OECD, 2020a).

This chapter begins by exploring why a new model of international co-operation in digital initiatives is needed to foster development in LAC. It provides examples of how international co-operation in the digital sector can help LAC countries build domestic digital capacities to face the four development traps in the most efficient way. It examines the benefits of creating a regional digital market, including through deeper regional integration, considering the state of digitalisation in LAC, and what LAC could learn by observing and co-operating with other regions in digital development, notably the European Union (EU). Last, the chapter discusses how multilateral co-operation on digital tax issues could help LAC countries take greater advantage of the digital transformation.

Facilitating LAC's development through a renewed model of international co-operation

Challenges posed by the digital transformation call for the co-ordination of innovative policies at the international level. The coronavirus (Covid-19) crisis has accelerated the need for such responses, especially in LAC, where international co-operation on digital policies could play an essential role in overcoming development traps. To succeed, international co-operation with LAC should follow a renewed model, with digital initiatives co-ordinated at the international level to facilitate the region's development.

The digital transformation of economies and societies brings new opportunities and challenges that complicate the global context and increase the need for internationally co-ordinated policies. For instance, it has generated both cross-border trade opportunities and trade disputes between nations. Despite the economic activity they contribute to creating, digital companies pose taxation challenges that cannot be handled solely at the domestic level. The digital transformation has also created international policy issues related to access to digital tools, cybersecurity, data and intellectual property privacy and protection, fake news, future of work, artificial intelligence (AI) and the automation of production.

In LAC, international co-operation on digital issues could help solve persistent challenges. LEO 2019 identified four development traps in the region (low productivity, social vulnerability, institutional weaknesses and environmental risks) (OECD et al., 2019). The coronavirus (Covid-19) has intensified the need to address these challenges.

Many LAC countries entered the Covid-19 crisis with reduced fiscal space; more resources will be needed to manage the health-related and socio-economic impacts. As digital interactions spiked during the crisis, cybersecurity threats intensified and states must co-operate to protect citizens against external risks. While the pandemic accelerated adoption of digital technologies in some LAC countries, allowing some individuals and firms to continue to work, study and operate, it could amplify productivity gaps (see Chapter 2) and social vulnerability, with many Latin American citizens at risk of slipping back into poverty (see Chapter 3), and further erode trust in institutions (see Chapter 4). Greater international co-operation in the digital sector could be essential to overcome the region's interrelated challenges. It could help economies become more competitive, diversify the productive matrix, ensure that the digital transformation benefits all and promote more trustworthy, efficient, inclusive and innovative states. It is also important for LAC countries to build on international co-operation to close income, urban-rural and gender digital divides.

The coronavirus (Covid-19) crisis has made more evident the growing connection between national and global challenges, notably in the digital area, which has gained in

importance throughout the pandemic. As various co-operation initiatives already aim at harnessing the digital transformation to generate positive outcomes, it will be crucial to build on those to establish a new model of international co-operation, which can facilitate LAC countries' development, as identified in LEO 2019 (OECD et al., 2019).

Various initiatives promote new models of international co-operation in the digital sector. A renewed international co-operation framework should profit from current regional frameworks, such as the Economic Commission for Latin America and the Caribbean (ECLAC) Digital Agenda for Latin America and the Caribbean 2020 (eLAC2020), and benefit from greater cross-fertilisation and co-operation with other regions, based on their accomplishments (ECLAC, 2018a). The European Commission's digital single market strategy (DSM) resulted in shared benefits for member states (European Commission, 2019a). The EU General Data Protection Regulation (GDPR) is recognised as a step forward in tackling online privacy. Co-operating while building on these achievements could create opportunities to share the lessons of successful national and regional policies and help LAC countries make the most of the digital transformation.

At the multilateral level, despite becoming increasingly complex, the global architecture on digital co-operation has not necessarily become more effective. The United Nations' (UN) High-level Panel on Digital Cooperation is working on new global digital co-operation models, as well as on issues such as connectivity, digital inclusion, digital public goods, digital human rights and capacity building. The UN intends to act as a platform for multi-stakeholder policy dialogue on emerging technologies and the UN Secretary General will appoint an Envoy on Technology in 2021 (United Nations, 2020).

Building on this context, three main, interrelated components of a new model of international co-operation can contribute to sustainable development in LAC and developing countries in general. The model encourages: 1) nationally driven development processes by strengthening institutional capacities; 2) inclusive multilateral governance platforms to facilitate exchange on an equal footing; and 3) inclusion of new tools and actors within instruments to co-ordinate policies at the international level (OECD et al., 2019). These recommendations could have applications in the digital sector.

This model of international co-operation can help align national and international priorities in the digital world. Whether bilateral, regional, interregional or multilateral, some initiatives will, for instance, allow LAC countries to build, strengthen or reshape the digital ecosystems that will help them overcome the development traps. As many development challenges are interrelated, the most effective international initiatives contribute to building capacities in relation to several traps at once (see the section "Improving national capacities through international co-operation" and Annex 5.A1). Establishing a regional digital market could also help LAC countries use their digital potential to support their transition towards more sustainable development (see the section "Tapping into LAC's digital potential through regional integration"). At the multilateral level, co-operation on key global policy issues such as international digital taxation could provide additional resources for LAC countries' sustainable development (see the section "Addressing the global challenges arising from the digitalisation of the economy through multilateralism"). Such initiatives support LAC countries in devising their own development trajectories that answer national priorities while advancing international objectives, such as the UN Sustainable Development Goals (SDGs).

The renewed model touches on the governance of international frameworks and the need for them to include countries at all levels of development on an equal footing, as well as multiple stakeholders, to devise co-operation strategies that tackle the multi-dimensional nature of development. For LAC's digital sector, this means setting up multilateral co-operation platforms where all countries can participate in inclusive,

productive dialogues to share experiences, knowledge and exchanges on policies, international guidelines and standards. In that sense, it will be important for LAC countries to engage in partnerships with actors that promote a human-centred or multi-dimensional approach to development through digital co-operation (see the sections "Improving national capacities through international co-operation", Annex 5.A1 and "Exploring the potential of regional co-operation and interregional partnerships"). This could be done at the regional level: within the region's digital market, LAC countries could articulate all different levels of digital development and include multiple stakeholders to share experiences with digital issues (see section "Tapping into LAC's digital potential through regional integration"). At the multilateral level, it is also crucial to include LAC countries' voices in co-operation frameworks on digital global issues such as digital taxation (see the section "Addressing the global challenges arising from the digitalisation of the economy through multilateralism").

Table 5.1. **Facilitating Latin America and the Caribbean's development through renewed international co-operation in the digital sector**

Dimensions	Description	Application to digital co-operation
Building domestic capacities	Strengthening countries' capacities to design, implement and evaluate development policy priorities and plans, encouraging alignment between domestic and international priorities and ensuring integrated approaches to more complex and interlinked challenges	• Encouraging initiatives that build LAC countries' capacities to overcome several of the development traps • Building a regional digital market to tap into LAC's digital potential • Fostering co-operation at the multilateral level on issues such as digital taxation, for example through the OECD's Inclusive Framework on BEPS, which currently has 137 members, including most Latin American countries
Working inclusively	Engaging countries at all levels of development on an equal footing in building and participating in multilateral and multi-stakeholder partnerships to tackle shared multi-dimensional development challenges with multi-dimensional responses	• Engaging in partnerships that promote a human-centred and multi-dimensional approach to LAC's digital development • Articulating all levels of digital development and involving multiple stakeholders such as the private sector and civil society within LAC's regional digital market • Strengthen the involvement of LAC countries on an equal footing in multilateral and multi-stakeholder initiatives on issues such as digital taxation
Operating with more tools and actors	Expanding instruments for greater international co-operation (e.g. knowledge sharing, policy dialogues, capacity building, technology transfers) and including more actors (e.g. public actors) in a whole-of-government approach	• Promoting technical assistance and technology transfers through bilateral, multilateral, interregional, triangular and South-South co-operation for the development of LAC's digital capacities • Establishing policy dialogues and encouraging knowledge sharing and capacity building between LAC countries within a regional digital market • Fostering new multilateral co-operation initiatives on key global digital issues

Source: OECD et al. (2019), *Latin American Economic Outlook 2019: Development in Transition*, https://doi.org/10.1787/g2g9ff18-en.

The model also advocates for the inclusion of more tools and actors in the choice of international co-operation instruments and agents. This consists, for instance, in setting up knowledge-sharing platforms, insisting on technology transfers and capacity building, or adopting a whole-of-government approach when including public actors. LAC countries can engage in bilateral, multilateral, triangular and South-South co-operation (SSC) initiatives that establish technology transfers or technical assistance to build their digital capacities (see the section "Improving national capacities through international co-operation" and Annex 5.A1). A regional digital market could also serve as a platform to set up policy dialogues, capacity building and knowledge sharing between LAC countries (see the section "Tapping into LAC's digital potential through regional integration"). At the multilateral level, such renewed mechanisms could form part of issue-based co-operation initiatives on matters of international concern (see section "Addressing the global challenges arising from the digitalisation of the economy through multilateralism").

Improving national capacities through international co-operation

There already are examples of how international co-operation initiatives in the digital sector have had positive outcomes for LAC countries. Specifically, they can help increase domestic capacities to address the productivity, social vulnerability, institutional and environmental development traps (Annex 5.A1).

Limiting the impact of examples to one of the four traps would oversimplify both the multi-dimensional nature of development and the effect of international co-operation. There are strong interactions among development traps, and some initiatives can help build capacities against more than one. For instance, digitalisation of jobs can enhance productivity (productivity trap) and exacerbate inequalities, as low-skilled workers might be left further behind (social vulnerability trap). Job market transformations might also represent a challenge for state services, as current social security schemes might be inadequate to respond to new working conditions (institutional trap).

Sound analytical tools and co-ordinated policy responses that account for how development traps interact and reinforce each other are increasingly relevant. Better understanding the links and common causalities among policy issues and objectives is crucial to developing effective responses. It is essential to identify win-win policies that promote synergies and address trade-offs. The productivity inclusiveness nexus, for instance, suggests numerous links between these objectives, and calls for policies that boost both simultaneously (OECD et al., 2019).

By helping LAC countries address the complexity of their development challenges, international co-operation initiatives could help build necessary bridges between the region's national and international priorities. Existing examples in the digital sector could help translate guidelines into concrete results. International partnerships that effectively address the complexity of LAC's development challenges are emerging: for instance, the Building the Europe Link with Latin America Programme (BELLA), a 12-year strategic partnership on digital issues between Brazil and the European Union; the Environmental Technology Centre (CTA) in Peru; and opportunities for South-South co-operation through the People's Republic of China's (hereafter "China") Digital Belt and Road Initiative (BRI).

BELLA aims to provide for the long-term interconnectivity needs of European and Latin American research and education communities through the construction of a submarine optic fibre cable between the regions. BELLA also supports deployment of secure high-speed connections among Latin American countries. The initiative is co-financed by the European Union and Latin America, with an important contribution from the private sector. It draws on and strengthens co-operation between the regions' research and education communities (Annex 5.A1) (BELLA, 2019).

Contributing to upgrading LAC's communication infrastructure and its connection with other regions is an example of how international co-operation can bring about strategies that help LAC navigate the digital transformation, opening possibilities for its digital market, enhancing productivity prospects and fostering innovation and knowledge-based economic growth. BELLA will also use digital tools to support education and research, fortifying LAC citizens against the social vulnerability trap. Multi-dimensional approaches to international co-operation in the digital sector can help LAC use the digital transformation to address several development traps.

Bilateral co-operation initiatives can also be effective. Since 2008, Brazil and the European Union have implemented a Partnership for Scientific and Technological Cooperation, developed through a series of calls for joint research and innovation (European Commission, 2008). Based on extensive consultations between stakeholders and experts, the collaboration has generated 20 research projects totalling EUR 50 million. Co-operation

domains, including manufacturing, water management and agriculture, and the health and well-being of populations at risk, reflect Brazilian priorities in the digital age and are consistently improved by readjusting their impacts. The initiative leverages the digital transformation of the economy to help Brazil build capacities against the productivity, social vulnerability and environmental traps. By setting up policy dialogue on subjects with ramifications in various areas, such as digitalisation, international partnerships can launch initiatives that effectively address the multi-dimensional nature of development.

This co-operation initiative has had a wider structural impact by connecting national priorities to international challenges. As a result of co-operation on 5G, the Internet of Things (IoT) and cloud computing, based on projects launched in 2018 through the EU Horizon 2020 programme, Brazil joined the European Union on international-level discussions on the development of 5G and the IoT, and signed a joint declaration (European Commission, 2016). This was followed by arrangements among industrial stakeholders in the European Union and Brazil, including Telebrasil, 5GPP, the IoT Chamber and the Alliance for Internet of Things Innovation. This virtuous co-operation remains important in shaping Brazil's digital priorities, such as the country's 5G strategy and IoT Plan: according to former Vice Minister of Science, Technology, Information and Communications Martinhão, the co-operation with the European Union played a key role in reshaping Brazil's approach to research and innovation, aligning it with best practices standards of international organisations, such as the Organisation for Economic Co-operation and Development (OECD) (Annex 5.A1) (Ministério da Ciência, Tecnologia, Informações e Comunicações, 2017).

Other modalities of international co-operation, such as triangular co-operation, can also positively affect LAC capacities. To comply with new Peruvian environmental regulations and criteria imposed on exporters by international markets, important branches of Peruvian industry urgently needed experts in environmental technology, particularly in advisory and laboratory services. Between 2012 and 2014, Brazil and Germany co-operated with Peru to create the CTA (2012-14), which offered training adapted to market needs. A renewed model of international co-operation that includes new tools, such as triangular co-operation, dialogue on lessons learned, capacity building and knowledge exchange, can help leverage ICT to build LAC's capacities (Annex 5.A1) (GIZ, 2014).

Although a more recent co-operation framework with less information regarding outcomes, the BRI illustrates how South-South co-operation can play a key role in providing developing countries with infrastructure for the future of ICT while addressing their development challenges. Through the BRI, China is spearheading one of the most ambitious development plans in history. An estimated USD 1 trillion in infrastructure investments over ten years (since 2017) will enhance connectivity throughout Eurasia, Africa and close to 100 partner countries, establishing new forms of co-operation through technical exchange among countries in the Global South (OECD, 2018a).

The ICT component of this South-South co-operation framework, known as the Digital BRI or Digital Silk Road, could bring sustainable development to emerging markets through modern ICT infrastructure, such as 5G networks, international e-commerce platforms, smart cities and data centres, satellites, submarine Internet cables, Big Data and optical fibre networks across countries and regions. As of August 2019, Chinese entities had invested over USD 17 billion in Digital Silk Road projects completed since 2013 (Annex 5.A1) (Merics, 2019).

Although data on estimated outcomes are limited, the initiative is expected to allow developing countries to enter international and new, high value-added markets while advancing towards achieving the SDGs.

Tapping into Latin America and the Caribbean's digital potential through regional integration

To realise the full potential of the digital transformation, LAC countries need to update their communication infrastructure and upgrade to a regional digital market. Overcoming obstacles requires enhancing and harmonising regional co-operation initiatives.

The state of digitalisation in LAC and the benefits of a reinforced regional digital market

LAC is a large digital market. Yet, despite improvement in recent years, penetration remains poor compared with the OECD and the European Union (see Chapter 2). LAC counts 600 million consumers vs. slightly over 500 million in the European Union. However, e-commerce represented 3.0% of total retail trade in 2016, and in 2018 the percentage of Internet users was close to 68% of the total population, compared with more than 84% in the OECD (see Chapter 2). Although 3G covers populations across LAC evenly, 4G network coverage varies, from 20% in Honduras to almost 90% in Chile (ECLAC, 2018b).

A regional digital market could be key for LAC countries to close regional and intraregional gaps (see Chapters 2, 3 and 4 for the analyses of different gaps) and exploit their full digital potential (ECLAC, 2016). It could be particularly relevant for priority areas for the region, such as increased infrastructure, connectivity and digital services and content (Cullen International SA, 2019). A regional digital market could support infrastructure expansion and help LAC in its transition towards more sustainable, inclusive development (Cullen, I., 2016; ECLAC, 2018b). The ICT sector could realise greater economies of scale, competition (which can ultimately benefit consumers) and growth prospects. Increased competition is key for disciplining prices, promoting innovation and improving responsiveness to demand (OECD/IDB, 2016). Greater regional interconnectivity would help reduce costs for end users and increase data transmission speeds. A regional market could also allow greater access to online goods and services (Cullen International SA, 2019).

The regional digital market could also help LAC provide better access to online goods and services, which could help intraregional trade bounce back after the coronavirus (Covid-19) crisis. The high number of unbanked LAC citizens is a main obstacle to the development of e-commerce (Cullen International SA, 2019). Others include lack of trust in consumer protection or delivery logistics (ECLAC, 2018b) and, according to the UN Conference on Trade and Development B2C E-Commerce Index, insufficient Internet penetration (UNCTAD, 2016). A regional market could promote e-payment, e-contracts and e-signatures – solutions that could be adapted to the region's high mobile broadband penetration and compensate for lack of traditional payment methods – to develop e-commerce. To that end, LAC countries should co-operate to foster common guidelines and tools to increase trust and protection. The region also lacks common and harmonised frameworks for cybersecurity, privacy and data protection, and copyright and online piracy.

A regional digital market requires more integrated regional co-operation

To build a regional digital market countries should enhance regional co-operation by building on existing platforms.

Obstacles to a regional digital market

Efforts to harness the digital transformation of the economy should consider common regulation. Common rules are a fundamental aspect of international co-operation initiatives in the digital sector, as illustrated by several EU digital regulation

initiatives, for instance, the GDPR and the Regulation on the free-flow of non-personal data. Ongoing international debates also demonstrate the necessity to regulate the digital transformation. The United Nations has made various co-operation efforts towards international regulation, standardisation or dialogue on common principles for cybersecurity and intellectual property.[1] Regulatory co-operation can contribute to the expansion of the digital economy, as illustrated by the impact that the International Organization for Standardization (ISO) standards have had on the usability and the dissemination of digital media (OECD/ISO, 2016).

Regional and sub-regional organisations are looking into regulation of the digital market and ways to improve connectivity, infrastructure and access to online goods and services. Various regional and sub-regional LAC partnerships, alliances or co-operation forums are implementing several concomitant plans to develop LAC's digital economy. In fact, so far a number of initiatives of South-South and triangular co-operation have contributed to strengthening LAC countries' digital capacities through innovation. These initiatives were implemented in the Ibero-American region from 2007 to 2017 (Box 5.1).

Box 5.1. **Innovation for development in Ibero-America through South-South and triangular co-operation**

In the Ibero-American space, South-South and triangular co-operation projects have had a key role in promoting innovation. According to the data collected in the online Platform on South-South and Triangular Co-operation, between 2007 and 2017, Ibero-American countries participated in a total of 8 208 initiatives, and more than 10% of these (840) were South-South or triangular partnerships based on the exchange of knowledge and experiences with a clear component of innovation (Figure 5.1).
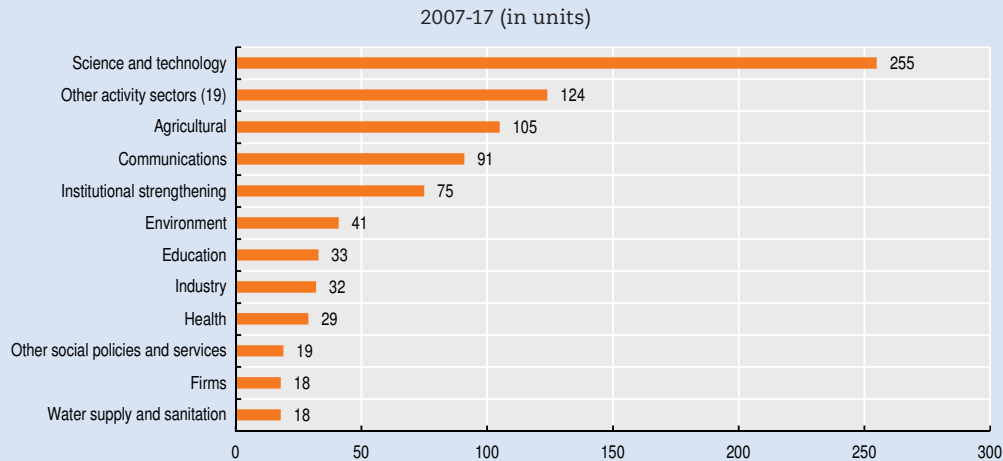
Of the 840 South-South and triangular co-operation initiatives, 30% are devoted to innovation and development (255), have a clear scientific-technological component and pursue an application that generates economic value. Another 10.8% are linked to the communications sector, and respond to a clear pattern of adaptation to the transformations imposed by the digital age. However, it is interesting to note that almost 6 out of 10 of these 840 initiatives come from sectors that are related to innovation from a broader and cross-cutting approach. This has been a distinctive feature of South-South and triangular co-operation for more than a decade in the Ibero-American region.

It is worth highlighting, for instance, that more than 100 initiatives contribute to sustainable development through the adoption of new techniques, management models or processes that allow the transformation of the agricultural sector to improve its productivity levels, but also to adapt them to the challenges posed by climate change and the increased frequency of extreme weather events. In addition, 8.9% correspond to innovations that strengthen institutions and public policies through the digitalisation of administration, online government, and the implementation of information systems and BigData. Other innovation processes act on the environment (5% of the initiatives), mainly from the adoption of technologies and tools for mitigation and adaptation to climate change.

Finally, it is worth noting that some initiatives contribute to modernise the industry sector (5%); others are in the field of education (through the adoption of new learning approaches), health (new treatments, telemedicine and advances in biotechnology), water supply and sanitation (new techniques for water treatment and its management). Also, some initiatives are related to other social services and policies (transfers of strategies, models and programmes that transform social reality).

Box 5.1. **Innovation for development in Ibero-America through South-South and triangular co-operation** (cont.)

Figure 5.1. **South-South and triangular co-operation initiatives that promote innovation, by sector**

2007-17 (in units)

Source: Secretaría General Iberoamericana (SEGIB)'s own elaboration based on the online Ibero-American Integrated Data System on South-South and Triangular Co-operation (SIDICSS).
StatLink ⧉ *https://doi.org/10.1787/888934172787*

The evidence systematised over the years shows that South-South and triangular co-operation constitute powerful tools to promote innovation through knowledge exchange adapted to the local context, and are therefore more effective and efficient, not only within the Ibero-American region but also with other regions. Within this framework, the SEGIB and the European Union have established a strategic alliance in order to strengthen an innovative model of triangular co-operation within the framework of Development in Transition. Innovation, understood in its broad concept, is undoubtedly a key element for the achievement of the 2030 Agenda for Sustainable Development, as promoted by the Ibero-American Summit of Heads of State and Government, under the slogan "Innovation for sustainable development". In this sense, the concept of innovation goes beyond what is strictly scientific and technological and understands innovation as "all change (not necessarily technological) based on knowledge (not necessarily scientific) that generates value (not only economic)" (SEGIB, 2020).

More integrated co-operation through existing platforms could help LAC overcome obstacles

The idea to create a regional digital market emerged at the 2015 ECLAC Ministerial Conference on the Information Society, becoming a strategic priority of the eLAC2020. LAC countries agreed on actions and the section dedicated to this objective. Specifically, the strategic goal calls for the establishment of a regional strategy to increase trade, expand the digital economy and strengthen competitiveness through regulatory coherence, infrastructure integration, digital platform development, ease of cross-border data flows and trade facilitation measures (ECLAC, 2018a).

The idea, inspired by the EU DSM, has permeated at the sub-regional level. The Pacific Alliance (PA) has its own digital agenda, which includes implementation of a regional digital market platform, taking the agreements of the eLAC2020 as a reference (Pacific

Alliance, 2016). Similarly, in Central America, countries in the Mesoamerica Program (MP),[2] in collaboration with the Central American Integration System (SICA) Regional Technical Telecommunications Commission (COMTELCA),[3] are initiating activities to establish a regional digital agenda with aspirations similar to those of the PA initiative. The Caribbean Community (CARICOM) has been promoting the single ICT space strategy. The strategy constitutes the digital arm of the CARICOM Single Market Economy and aims to enable a borderless ICT space that fosters economic, social and cultural integration. It comprises regionally harmonised ICT policies, legislation, regulations, technical standards, best practices, networks and services.
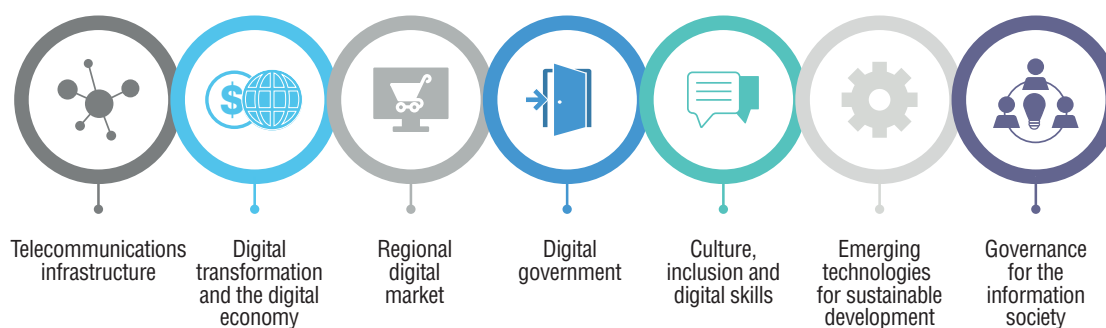
Other regional or sub-regional co-operation mechanisms, such as the Asia-Pacific Economic Cooperation (APEC), the Organization of American States (OAS), the Southern Common Market (MERCOSUR) and the Trans-Pacific Partnership (TPP), have adopted digital development plans and agendas or included measures that promote the development of LAC's digital sector (Cullen International SA, 2019).

Not all LAC countries participate in the same treaties or organisations, with the exception of the ECLAC and OAS, and not all measures apply to all countries. As a result, despite common goals and areas of work, there is fragmentation of measures and overlap of efforts (Cullen, I., 2016), which undermine potential benefits for LAC's digital sector.

More integrated co-operation through existing platforms could help LAC overcome these challenges. To harmonise existing digital co-operation initiatives, LAC countries could build on regional co-operation platforms, such as the Digital Agenda for Latin America and the Caribbean (eLAC) or the OAS Inter-American Telecommunication Commission (CITEL). Further integration could promote a renewed international co-operation model.

Although LAC has no single institutional framework for the adoption of norms and standards, the eLAC is a key platform to define common principles and priorities for the digital sector. An important feature of the eLAC is that it brings together 23 LAC countries, as well as representatives from the private sector, civil society and the technical community, to co-operate on issues relating to the digital transformation. The eLAC2020 was approved in April 2018 within the framework of the sixth Ministerial Conference on the Information Society in Latin America and the Caribbean. It sets out 54 co-operation activities, to be carried out by 9 working groups, aimed at strategic goals in a range of areas: connectivity and communication infrastructure; the digital economy; digital government; digital skills and an enabling environment; and a regional digital market (ECLAC, 2018a) (Figure 5.2).

Figure 5.2. **Areas of action of the Digital Agenda for Latin America and the Caribbean**

Telecommunications infrastructure | Digital transformation and the digital economy | Regional digital market | Digital government | Culture, inclusion and digital skills | Emerging technologies for sustainable development | Governance for the information society

Source: ECLAC (2018a), *Digital Agenda for Latin America and the Caribbean (eLAC2020)*.

The eLAC2020 calls on countries to foster the development and implementation of broadband plans with measurable targets for the deployment of high-capacity networks. Countries also agreed to co-operate on expanding Internet penetration, especially through Internet exchange points and the deployment of Internet Protocol version 6. The eLAC2020 invites countries and private-sector associations, such as Asociación Interamericana de Empresas de Telecomunicaciones and GSMA, to participate in this dialogue and to propose a regulatory framework for convergence and public policies for the development of communication infrastructure in the region (ECLAC, 2018a).

To support the digital economy, governments agreed to encourage use of digital technologies in businesses, with a focus on small and medium-sized enterprises (SMEs), and promote entrepreneurship ecosystems and teleworking. A list of basic harmonised indicators for the information and technology industry has been defined. LAC countries will also co-operate on digital government issues, including work on adoption of regional standards for the interoperability and management of digital services, such as digital identity, e-signatures, e-apostilles and electronic medical records. Within the framework of the LAC electronic government network, a programme was proposed to develop and implement a framework to review and harmonise technical conditions for cross-border e-signature recognition (ECLAC, 2018a).

Using emerging technologies, promoting public policy design supported by evidence-based innovation and strengthening entities responsible for designing, implementing and monitoring digital policies constitute another area of work. The eLAC's objectives promote a people-centred approach to digital governance, for instance, by integrating a gender equality perspective into digital policies and safeguarding public information and freedom of expression. The eLAC2020 acknowledges the need to promote the development and incorporation of digital skills and computational thinking into education (ECLAC, 2018a).

As the eLAC covers the whole region, it could be the indicated co-operation platform to harmonise and consolidate regional and sub-regional initiatives in the digital area. Numerous such initiatives share objectives and areas of work; it is crucial to establish common principles and guidelines to ensure regulatory coherence throughout the region.

Sub-regional institutions, such as the PA and MP, have built on the eLAC to devise their strategies. The ECLAC is integrating initiatives into a broader regional framework. For instance, part of the eLAC's work on promoting digital trade strategies is done in partnership with the PA (ECLAC, 2018a). The PA's digital agenda sub-group is working with the ECLAC on a roadmap to materialise its commitments and promote compatible norms and standards among its members on technical interoperability, technological neutrality, personal data protection, cross-border data flow, consumer protection, cybersecurity, competition, intellectual property, trade facilitation, and taxes and tariffs on e-commerce. MERCOSUR has proposed similar work, and the PA has started conversations to converge. In that framework, the ECLAC provides additional platforms, such as a political panel conducted by Brazil and Mexico, which invites PA and MERCOSUR representatives to discuss trade promotion by boosting e-commerce (ECLAC, 2018a).

Such a broader regional framework could integrate and harmonise existing initiatives that cater to countries' and sub-regions' specific circumstances and digital development. Digital development contrasts in the region are such that LAC countries can provide technical assistance to each other. For instance, to reduce its digital gap, El Salvador receives support in promoting a digital transformation of institutions from the Uruguayan Agency of Electronic Government and Information Society (Red de gobierno electrónico de América Latina y el Caribe, 2019). At the regional level, El Salvador is part of Proyecto de Integración y Desarrollo de Mesoamérica, along with Colombia, Costa Rica, Guatemala,

Mexico and other countries. The interconnectivity branch of the project promotes public policies that reduce Internet costs and increase ICT access, thereby decreasing the digital divide in the sub-region. The project launched the Mesoamerican Information Highway, a 1 800 km regional fibre-optic network, administered by the public-private company Red Centroamericana de Telecomunicaciones, aimed at lowering broadband costs and increasing Internet penetration in Central America (Proyecto de Integración y Desarrollo de Mesoamérica, 2020).

A main positive outcome of eLAC has been its influence on national policy design. Nine national digital strategies articulate objectives in accordance with those in the eLAC2020. The strategy is emerging as a regional benchmark for the approach and scope of digital policies in LAC.

Over the years, political agreements within the agenda have consolidated regional positions on key issues. In 2013, the Declaration of Montevideo made a claim to avoid registration in various languages of the top-level domain names ".amazon" and ".patagonia" in defence of national and sovereign interests. The 2018 Declaration of Cartagena de Indias rejected unauthorised collection and improper and/or unauthorised use of personal data by any public or private entity, and promoted mechanisms to ensure transparent treatment of personal data (ECLAC, 2018a)

eLAC has also generated significant analytical material and reports to assist policy design, and promoted training for public officials, harmonisation of ICT statistics, exchange of best practices and policy dialogue. It has proved a successful tool to catalyse co-operation efforts at the regional level. In recent years, countries have promoted greater harmonisation of norms and standards, especially through the creation of a regional digital market strategy, an idea finally being incorporated into commercial and co-operation blocks at the sub-regional level. It is critical that eLAC be strengthened and allow greater dialogue among trade blocs as they develop and implement next-level integration strategies (ECLAC, 2018a).

LAC countries could also rely on the OAS, although it extends to non-LAC countries. The CITEL Strategic Plan for 2018-22 aims at the full integration of the American states into the world information society and the digital economy, with a view to enabling and accelerating social, economic, cultural and environmentally sustainable development for all inhabitants through the development of ICT (OAS, 2018). Two main CITEL activities are identifying best practices to reduce the digital divide between member states, notably through public policy and regulatory environment recommendations, and promoting gender equality, diversity and inclusion in the ICT sector (OAS, 2018).

LAC countries could use eLAC and CITEL to integrate and harmonise their efforts to boost digital sectors at the regional and sub-regional levels. Such regional co-operation platforms could provide an adequate space to discuss ways to benefit LAC consumers by enhancing connectivity.

A more integrated regional platform would allow LAC countries to promote a new model of regional co-operation in the digital field. Taking into account their national development strategies, they could determine to what extent and in which areas to deepen collaboration to benefit further from their growing digital markets. An integrated regional platform could promote the active participation of countries at all levels of development, align national and global priorities, and promote the region's participation in the global agenda. It could allow intra-regional discussions on measures to promote, for instance, e-payment to facilitate the growth of e-commerce or higher regional interconnectivity.

Regional co-operation to improve e-commerce, e-payments and lack of trust could include technical assistance for smaller countries, and analysis, definition and impact

studies of action plans and common standards. This would help countries determine the extent to which to harmonise their rules to maintain national sovereignty while expanding e-commerce opportunities in the region. Sharing national examples, such as the 2018 General Data Protection Law in Brazil, and technical co-operation initiatives, such as the one between the Uruguayan Agency of Electronic Government and Information Society and El Salvador on digital government, could allow for a more cohesive approach, with increased technical co-operation based on knowledge, capacity building and policy dialogue.

Building a regional digital market for LAC will require adequate understanding of the relevant regional and sub-regional gaps and ways to address them. It will also require strong, continuous political support to co-ordinate joint efforts and integrate actors, in the digital sector and in LAC countries, while maintaining national sovereignty.

New partnerships: How the private sector and civil society can support the establishment of a digital regional market

Multi-stakeholder partnerships can help tackle shared complex development challenges with multi-dimensional responses. Stakeholders other than public institutions, such as the private sector and civil society, could participate.

The creation of a regional digital market would significantly enhance business opportunities and support regional business models. Many digital businesses in the region operate in multiple national territories, e.g. via Mercado Libre, the region's largest e-commerce platform. A regional digital market could also support the tech start-up ecosystems emerging in regional hubs, such as São Paulo, Buenos Aires and Mexico City: there are 123 *Tecnolatinas*, including 9 "unicorns" (EMnet, 2020).

The private sector can help close digital divides. Greater access to the digital economy will be critical to ensure that regional initiatives contribute to closing digital divides between and within LAC countries. Understanding how private-sector initiatives geared towards expanding markets can be leveraged will be key. *Internet para Todos*, developed by Telefónica, Facebook, the Development Bank of Latin America and the Inter-American Development Bank, was created to connect communities in isolated areas while ensuring a financial return and commercial viability that could be replicated to bring Internet access to over 100 million people in LAC. New technologies and business models have rendered previously unconnected and under-connected areas in Peru profitable (NERA Economic Consulting, 2020).

The private sector can support the integration of unbanked sectors of the population. Fintech has improved access to credit, in particular for SMEs, helping reduce compliance costs and facilitating digital payments at low cost and with high security, benefitting segments of society previously unbanked or underbanked (OECD et al., 2019).

To make the most of technological advances, private-sector participation in the implementation of a regional digital agenda must be multi-sectoral. Co-operation at various government levels can bring value added. For instance, digitalisation can create more efficient electrical grids that can facilitate large-scale renewable energy provision and enhance energy efficiencies. Through shared value projects, LAC utility companies, such as Colombia's Grupo Energía Bogotá, based in Brazil, Colombia, Guatemala and Peru, are promoting access to sustainable energy solutions for communities previously unconnected to the grid (EMnet, 2020) and ensuring that new technologies contribute to inclusive, sustainable growth. Creating platforms that work with a wide range of stakeholders at regional and national levels will be key to building lasting collaborations.

During the coronavirus (Covid-19) pandemic, civil society has helped overcome school closures and the digital divide, preventing the deepening of education inequality. School systems have drawn on their experience with reaching remote areas and mass media education broadcasting. Education leaders and teachers, in close collaboration with local authorities and the private sector, have expanded Internet access in specific zones and provided students with ICT tools. They have also combined online learning platforms with WhatsApp, mobile or social media, traditional media (television, radio) and printed materials delivered to students and parents without Internet access (Basto-Aguirre, Cerutti and Nieto-Parra, 2020).

Civil society can also promote ethical use of digital tools in the public space through international co-operation. The digitalisation of LAC societies has had a strong impact on political processes, citizen rights and civil liberties. Disinformation, digital microtargeting and the exacerbation of collective determinants of vulnerability already subject to discrimination threaten to erode the quality of LAC democracies (see Chapter 4).

LAC civil society organisations can play a key role through co-operation in various activities, such as fact-checking on platforms elaborated with journalists, promoting new social norms and debunking anti-rights and fundamentalist discourse, and promoting open software and digital solutions. International government-civil society co-operation platforms could strengthen democratic values. For instance, 15 LAC countries[4] have signed the Open Government Partnership, agreeing to empower citizens and become more inclusive and transparent. Every two years, members submit an action plan, co-created with civil society, that outlines commitments to enhance transparency, accountability and public participation in government. In light of disruption of traditional co-operation processes due to the coronavirus (Covid-19) crisis, the partnership provided a guide to maintain co-creation processes on line, including practical tips, a curated list of online tools and platforms, and country examples (Open Government Partnership, 2020).

Exploring the potential of regional co-operation and interregional partnerships

In developing its regional digital ecosystem, LAC countries could explore which and how digital co-operation policies worked in other regions, and build interregional partnerships to share these experiences. The European Union's digital strategy is a valuable example of how regional co-operation in the digital sector can promote a human-centred approach.

The potential of regional co-operation: The European Union's digital strategy

The EU digital strategy's vision of a digital transformation that "works for people" and fosters sustainable growth has gained relevance since the coronavirus (Covid-19) crisis. The current 2019-24 digital strategy stems from the 2014-19 European Commission's DSM strategy. The Single Market seeks to guarantee the free movement of goods, capital, services and labour across all EU member states to generate economic growth and enhance citizen well-being. As a declination of the Single Market, the DSM seeks to open up digital opportunities for people and business and enhance Europe's position as a world leader in the digital economy by guaranteeing secure online access across Europe (European Commission, 2019b).

The DSM strategy's three pillars are stated as: access (better access for consumers and businesses to digital goods and services across Europe); environment (creating the right conditions and a level playing field for digital networks and innovative services to flourish); and economy and society (maximising the growth potential of the digital

economy) (European Commission, 2019b). Operationalisation of the pillars could enhance business competitiveness and productivity and consumer savings.

A fully functional DSM could have contributed up to an additional EUR 415 billion, or 3%, annually to the EU gross domestic product (GDP) by 2020. Facilitating e-commerce throughout Europe would bring greater efficiency and economies of scale, along with additional gains through enhanced competitiveness and better sourcing strategies across borders. This could result in lower prices and greater consumer choice. If e-commerce attained 15% of the total retail sector and single-market barriers were removed, the more intensive e-commerce landscape could by itself amount to long-term gains of EUR 204 billion, or 1.6% of EU GDP (European Parliamentary Research Service – European Added Value Unit, 2017) (Table 5.2).

Table 5.2. **Potential GDP gains from the Digital Single Market**

Blocks of potential GDP gains	Costs (EUR billion/year)
E-commerce	204
E- procurement	100
Single European Payments Area and e-payments	2
E-invoicing	40
Cloud computing	47
Online and alternative dispute resolution systems	22
Total	415

Source: European Parliamentary Research Service – European Added Value Unit (2017), *Mapping the Cost of Non-Europe 2014-19,* www.europarl.europa.eu/RegData/etudes/STUD/2017/603239/EPRS_STU(2017)603239_EN.pdf.

The DSM would also bring higher productivity thanks to a faster flow of information, which would benefit knowledge service industries, increase productivity in business-to-business (B2B) transactions and government services, and generate savings in public procurement procedures. E-procurement has been identified as a vector for an estimated potential annual gain of EUR 100 billion for the European economy. Moving from 5% of all annual B2B transactions in 2010 to widespread adoption in 2020, e-invoicing could bring EUR 40 billion annually. A low-end estimate of the implementation of the Single Euro Payments Area points towards an annual EUR 2 billion surplus for the European economy. By pushing for widespread public- and private-sector adoption of cloud computing, the DSM could also add up to EUR 47 billion to the EU GDP in saved ICT expenditures.

Last, potential savings for European consumers of EUR 20 billion, if quality alternative dispute resolution solutions were available, and EUR 2.5 billion, if online dispute resolutions for cross-border e-commerce transactions were available, would bring an additional EUR 22.5 billion to the European economy.

Importantly, an initiative based on the EU DSM could allow for new, more inclusive approaches to the world of work and promote gender equality, gender inclusion and female empowerment in LAC. The EU DSM provides ways to advance SDG 5 through initiatives such as Women in Digital (WID), which supports women's participation in the digital sector. If female participation increased, the EU GDP could gain an annual EUR 16 billion surplus (iClaves, 2018). The European Commission's WID scoreboard assesses member states' performance in gender equality in the digital sector. The scoreboard is strongly correlated to the Digital Economy and Society Index, which measures EU member states' general performance in the digital sector. This means that member states that lead in digital competitiveness also lead in women in digital (European Commission, 2019c).

The 2014-19 EU DSM strategy resulted in shared benefits for member states (European Commission, 2019a). It has also led in achievements that will ensure better co-ordination

in the digital sector, fostering better opportunities and protections (e.g. the GDPR, which protects personal data). It also resulted in the Open Data Directive and the Regulation on the free flow of non-personal data, which allows companies and public administrations to store and process non-personal data across the European Union, ensuring the free flow of non-personal data and the development of the data economy and realisation of its benefits (European Commission, 2019d). The DSM strategy included the Cybersecurity Act, which establishes a certification framework for digital products, services and processes, and extended the EU Agency for Cybersecurity's mandate while doubling its budget (European Commission, 2019e). Last, the DSM strategy resulted in a co-ordinated strategy on artificial intelligence (AI), under which national AI strategies will help scale up regional investments in AI, among other commitments (European Commission, 2018a).

The new 2019-24 digital strategy builds on these achievements with an even more human-centred and resilient approach, making the European Union a solid co-operation partner to help LAC channel its digital sector to build back better after the coronavirus (Covid-19) crisis. *Political Guidelines for the Next European Commission 2019-2024* stresses the need for Europe to "lead the transition to a healthy planet and a new digital world" (von der Leyen, 2019). Six new priorities for 2019-24 capture the region's ambition to become a global leader. They include a new strategy for Europe's digital sector – A Europe fit for the digital age – which aims to make the digital transformation work for people and businesses, adopting a human-centred approach while helping Europe achieve its climate-neutral by 2050 target. The European Union will further develop its unique digital co-operation model and promote it in its co-operation with other countries and regions.

The new digital strategy has three pillars (European Commission, 2019f). The first is to ensure that technology works for people. The European Union will invest in building citizens' digital competences, protecting citizens from cyber threats and ensuring AI development that respects rights and earns trust. It will also include rolling out ultra high-speed broadband for homes, schools and hospitals and expanding Europe's supercomputing capacity to develop innovative solutions for medicine, transport and the environment. The second pillar is to continue to establish a fair and competitive digital economy. The European Union will enable start-up and SME access to finance, propose a Digital Services Act to strengthen the responsibility of online platforms and clarify rules for online services, adapt EU rules to the digital economy, ensure that all companies compete in Europe on fair terms, and increase data access while safeguarding personal and sensitive data. The third pillar is to channel the digital transformation to support an open, democratic and sustainable society. The European Union will enlist technology to become climate neutral by 2050, for instance, by reducing the digital sector's carbon emissions. The strategy will also create a European health data space to improve citizens' control over and protection of their data and foster targeted research, diagnosis and treatment; and uphold democratic values by fighting disinformation on line and facilitating diverse and reliable media content.

Three action areas to achieve these objectives build on the 2014-19 DSM strategy's achievements. The first action consists in building excellence and trust in AI development, which can help find solutions to policy issues, from health to farming, security and manufacturing. Second, the new strategy builds on regulations and directives adopted under the last Commission to create a single market for data. The European Union aims to become a leader in a data-driven society, allowing data to flow freely within the region and across sectors for the benefit of businesses, researchers and public administrations. Last, the European Union is implementing an industrial strategy that builds on the green and digital transformations to empower industry and SMEs to remain competitive at the global level.

Positioning the European Union as a global leader for the digital transformation is a key element of the new digital strategy. Becoming a global role model for the digital economy

implies supporting developing economies in going digital and developing and promoting international digital standards. BELLA and the European Union-Brazil Partnership for Scientific and Technological Cooperation illustrate how digital co-operation initiatives can have a multi-dimensional impact on development challenges. Through human-centred approaches that consider social or environmental aspects, such initiatives will ultimately make technology work for people, as envisioned by the European Union's digital strategy, and help LAC use the digital transformation to address several often interconnected development traps and fortify LAC citizens against them. LAC could both use the European Union's digital strategy as a model for developing a regional digital market and see the European Union as a co-operation partner that could help guide LAC's digital transformation towards greater resilience against development traps or global risks, such as the coronavirus (Covid-19) pandemic.

The Digital North: Implementation of the European Union's digital strategy at sub-regional and national levels

The Nordic-Baltic region provides a useful example of how countries can implement the European Union's regional digitalisation standards at the sub-regional and national levels, adapting them to their levels of digitalisation while leveraging international co-operation to reap the benefits of such policies.

While the EU DSM set supranational standards for member states to attain at the regional level, countries remain responsible for finding the right policies to implement them at the national level: states must articulate the objectives with respect to their national contexts, capabilities and targets. Nordic and Baltic countries, including some non-EU members, adopted a common vision for digitalisation, implementing EU objectives, building experience and providing an example for the rest of Europe. It could also serve as an example for LAC to articulate sub-regional and national heterogeneity within a broader regional framework.

On 25 April 2017, during the Nordic-Baltic Ministerial Conference on Digitalisation, ministers responsible for digital development in Denmark, Estonia, the Faroe Islands, Finland, Iceland, Latvia, Lithuania, Norway and Sweden adopted the declaration, "The Nordic-Baltic region: A digital frontrunner" (The Digital North Declaration). It aims at building on the common "digital maturity" of the region's societies to spur the development of a more efficient DSM. Specifically, the three goals, as stated in the strategy, are: "1. Strengthening the ability for digital transformation of our governments and societies, especially by creating a common area for cross-border digital services in the public sector. 2. Strengthening the competitiveness of our enterprises through digitalisation. 3. Enhancing the digital single market in the Nordic-Baltic region." (Nordic Co-operation, 2017).

Countries of the region rely on inter-ministerial bodies, such as the Nordic Council of Ministers for Digitalisation 2017-2020 (MR-DIGITAL) and the Baltic Council of Ministers, to discuss, design, adopt and implement common digital policies that will be adapted to their national contexts but still channel international co-operation's advantages and inform regional initiatives. In the MR-DIGITAL framework, projects are implemented by single countries but jointly co-ordinated and managed by all countries through the inter-ministerial platform (Nordic Co-operation, 2018).

Examples include the Nordic-Baltic co-operation on digital identities (NOBID) project and a strategy to adopt 5G. The NOBID project was structured as a multinational project run by the Norwegian Agency for Public Management and eGovernment. It aims to ensure access to public services in other countries based on each country's national eID system. The project will produce technical concepts, building blocks and industry standards, and promote cross-border networks for technical and legal expertise. This

will allow countries to create useful concepts for cross-border exchange of personal data and implementation of regional arenas for co-operation on eID. The Swedish Ministry of Enterprise and Innovation established the Nordic-Baltic 5G initiative, which will help countries identify business models best suited to help expand the region's 5G networks. Mobile networks' 5G upgrade status is monitored, and small cell networks are created. Countries in the region co-operate by developing new testing facilities, co-ordinating 5G frequency bands and removing obstacles to deployment of 5G base stations and antennas (Nordic Co-operation, 2018).

MR-DIGITAL includes several other initiatives that could be of use for LAC economies, from co-operation on e-health to AI or access to financial data for SMEs across the region (Nordic Co-operation, 2018). The various initiatives show how countries with similar levels of development can co-operate to implement regional digital standards at the national level. They will help Nordic and Baltic countries develop their digital potential while building knowledge that will serve the EU DSM strategy. The Nordic-Baltic digital co-operation could be adapted to fit the different contexts and evolution of LAC countries.

Addressing the global challenges arising from the digitalisation of the economy through multilateralism: The case of international taxation

The digitalisation of the economy poses new tax challenges that transcend borders and affect all economies, including in LAC. Recent, rapid and expansive digital transformation has had deep economic and societal impacts resulting in significant changes. This has sparked global debates in many legal and regulatory realms and international tax is no different. The tax implications are wide-ranging, affecting both direct and indirect taxation, broader tax policy issues, and tax administration.

Multilateral co-operation is essential to overcome challenges that transcend borders, such as the taxation issues brought on by the digitalisation of the economy. On an equal-footing basis, LAC countries should greatly benefit from further co-operation within the region and with other jurisdictions, and the region has also an important role to play in reaching consensus solutions through effective multilateral co-operation.

Addressing the indirect tax challenges arising from the digitalisation of the economy

VAT (Value Added Tax) collection on cross-border e-commerce is one of the key challenges of the digital economy (OECD, 2015). Particularly where goods, services and digital products are purchased online by private consumers from offshore online sellers. In response to these challenges, there is an ongoing international dialogue lead by the OECD on the development of solutions to address these VAT challenges resulting from the continuously growing digital trade volumes. In particular, the OECD delivered a comprehensive set of internationally agreed standards and mechanisms for the effective collection of VAT on cross-border digital trade involving offshore e-commerce marketplaces and other online suppliers, along with detailed guidance to support their effective implementation. These standards have been implemented and/or are being implemented worldwide with great success, including by G20 economies such as Australia, China, India, Indonesia, Japan, Russia, Saudi Arabia, South Africa and the European Union. The continuously growing impact of these standards reflects their significant importance for countries' VAT revenues and for minimising competitive distortions between online traders and traditional businesses. This has become even more relevant in light of the outbreak of Covid-19, as containment and mitigation measures taken in response to the pandemic have notably led to spikes in online shopping and increased demand for digital products and online services.

In LAC, the cross-border challenges posed by the digitalisation of the economy on VAT collection are even more marked. VAT is the main source of tax revenue for many LAC economies, representing approximately one-third of the region's total tax revenues (OECD et al., 2020). The integrity and performance of the region's VAT regimes are crucial for domestic resource mobilisation. VAT systems in LAC are increasingly confronted with the challenges of the continuously, and in many cases exponentially, growing e-commerce trade. Many LAC economies have already taken action to implement measures to safeguard the proper collection of critical VAT revenues on online sale. LAC countries could greatly benefit from further co-operation within the region and with other jurisdictions. This could allow the region to share experiences and best practices with countries which have already implemented international solutions such as those proposed by the OECD.

The OECD standards on effective collection of VAT on online trade essentially involve a requirement for online vendors, including e-commerce marketplaces, to register in the jurisdiction where the customer is located and to remit the VAT on the online sale in that jurisdiction. To facilitate compliance, particularly for non-resident online vendors, a simplified registration and reporting mechanism has been developed, which allows for VAT registration, reporting and payment via electronic means. Responding to challenges from the collection of VAT online services can generate significant public resources that could contribute to financing development strategies in the region (ECLAC, 2019).

Addressing the corporate income tax challenges arising from the digitalisation of the economy

The digitalisation of the economy has raised strong doubts on whether the current international corporate income tax rules, developed more than a century ago, remain fit for purpose in the modern global economy. The fundamental elements of the global tax system that determined where taxes should be paid ("nexus" rules based on physical presence) and what portion of profits should be taxed ("profit allocation" rules based on the arm's length principle), need to be modernised to take into account globalisation and the digitalisation of the economy.

On one hand, the emergence of new and often intangible value drivers have revolutionised entire sectors creating new business models while continuously eroding the need for physical proximity to target markets. This continuously challenges the effectiveness of existing profit allocation and nexus rules to distribute taxing rights on income generated from cross-border activities in a way that is acceptable to all countries, small and large, developed and developing (the so-called allocation of taxing rights issue).

On the other hand, new technologies have facilitated tax avoidance through the shifting of profits by multinational enterprises (MNEs) to low or no tax jurisdictions. This is the essence of the base erosion and profit shifting (BEPS) project, which led to the adoption of the BEPS package in 2015. The OECD/G20 Inclusive Framework on BEPS (Inclusive Framework), created in June 2016, takes forward the implementation of the BEPS package and the development of a solution to the tax challenges of the digitalisation of the economy. As of 1 September 2020, 137 jurisdictions are part of the Inclusive Framework, including 32 LAC economies.[5]

Securing a multilateral, consensus-based solution to the tax challenges arising from the digitalisation of the economy constitutes a priority amongst the 137 members of the OECD/G20 Inclusive Framework on BEPS. Although practical challenges resulting from the pandemic have inevitably affected the pace of progress, technical work on a solution continues to progress well under both Pillar One (establishing a new nexus and reallocating taxing rights) and Pillar Two (ensuring a minimum level of taxation) (OECD, 2020b). Since January 2020, and the adoption of an outline of Pillar One based

on an OECD Secretariat proposal for a Unified Approach, 11 building blocks have been developed technically by the OECD/G20 Inclusive Framework. Work on Pillar Two has also progressed well, with the aim of delivering blueprints for each Pillar for the October 2020 meeting of G20 Finance Ministers. Failure to reach an agreement comes with serious risks of escalating tensions, which would further undermine the global economy, including that of the LAC region. LAC jurisdictions, 32 of which are participating on an equal footing[6] in the Inclusive Framework's discussions, have an important role to play in reaching such a consensus solution through effective multilateral co-operation.

Finally, the Inclusive Framework recently approved new model rules to require reporting by digital platform operators with respect to sellers in the sharing and gig economy (OECD, 2020c). Activities facilitated by digital platforms may not always be reported to tax administrations, either by third parties or by taxpayers themselves. The model rules are designed to help taxpayers comply with their tax obligations, while also ensuring a level playing field with traditional businesses, in the key sectors (e.g. accommodation and transportation) of the sharing and gig economy. These model rules also help digital platform operators by avoiding the excessive compliance burdens that would result from a multiplicity of uncoordinated unilateral reporting requirements. These new model rules constitute an important element in addressing the tax challenges arising from the digitalisation of the economy and demonstrate the benefits that multilateral co-operation continues to deliver. LAC jurisdictions would greatly benefit from swiftly implementing these model rules, which constitute a new tax compliance tool and would greatly enhance transparency in this sector of the digital economy.

Conclusions

International co-operation and new partnerships are more important than ever to make the most of the digital transformation. Because the digital transformation generates challenges and opportunities that transcend borders, co-ordinated responses are crucial. The coronavirus (Covid-19) crisis has underscored the importance of international co-operation and digital tools. Co-ordinating policies at the international level to promote digitalisation for all is fundamental. Traditional international co-operation has not met expectations. It should evolve into a renewed model, based on three pillars. First, this model should aim to support LAC countries' development strategies, taking into account the multi-dimensional nature of their development challenges and linking them to international priorities. Second, it should be based on inclusive and productive dialogue platforms, where countries at all levels of development are involved on an equal footing. Third, international co-operation should involve more tools and actors, expanding the possibilities for and impact of co-ordinated action. Examples of international co-operation in the digital sphere show the way towards a renewed model.

The coronavirus (Covid-19) crisis threatens to exacerbate socio-economic challenges in LAC. It is crucial for the region to insist on and multiply international co-operation efforts that can help LAC countries build domestic digital capacities to face current development traps. The most effective initiatives help tackle several traps at once, following a multi-dimensional approach to development. BELLA and the European Union-Brazil Partnership for Scientific and Technological Cooperation not only build LAC's productive or social inclusiveness capacities through digital tools but also allow for LAC countries to close the gap between national and international priorities. Triangular co-operation initiatives, such as the Environmental Technology Centre in Peru, could also serve as an example of how operating with new tools can help build capacities against development challenges (Annex 5.A1). The BRI could generate opportunities for South-South co-operation initiatives, which could foster sustainable development through digital co-operation.

Regional integration is another way to tap into LAC's digital potential through this renewed model of international co-operation. Building a regional digital market could help the region reach higher levels of development by helping countries enhance communication infrastructure and expand trade perspectives, which have been severely hit by the coronavirus (Covid-19) crisis. As LAC's digital regulatory frameworks and regional and sub-regional co-operation efforts are often not harmonised, regional co-operation initiatives, such as the eLAC, could prove useful to articulate frameworks and levels of digital development, exchange experiences and set up policy dialogues and knowledge sharing with multiple stakeholders and countries. In addition to boosting LAC's digital development, building a regional digital market could help align national strategies with international standards and reinforce the region's voice on international digital issues.

Examples from other regions and interregional partnerships are key elements to take into consideration. Europe provides a useful example of how to build an integrated regional platform and create common regulation for technological innovations while positioning itself as a key partner for co-operation, reinforcing its position in the multilateral system. Interregional partnerships with the European Union on digital issues based on knowledge exchange and lessons learned could help LAC tailor regional strategies for its digital ecosystem and even articulate sub-regional differences within a broader regional framework, as Europe did with the Digital North.

LAC jurisdictions have an important role to play as equal partners in the international discussions currently taking place within the OECD/G20 Inclusive Framework on BEPS to address tax challenges arising from the digitalisation of the economy. Existing and future multilateral initiatives to tackle global digital issues such as international taxation have to include LAC countries on an equal footing. Implementing a renewed model of international co-operation in the digital sphere, especially crucial during the crisis, will bring about the most effective solutions to LAC's multi-dimensional development challenges.

Annex 5.A1. Examples of international co-operation on information and communications technology building LAC countries' capacities to overcome development traps

Area of work	Modality	Partners	Policies
			Productivity trap
Digitalisation of industry	Multilateral co-operation	European Union	The European Union's new strategy for digital transformation, "A Europe fit for the digital age", has three pillars. One is based on a new industrial strategy, which will use the green and digital transformations to empower industry and small and medium-sized enterprises. The digital chapter of this strategy will mostly rely on advancements made by the EU Digital Single Market (DSM) to foster further development. The strategy also intends to position the EU as a global leader for the digital transformation, through international co-operation (European Commission, 2019f).
Digitalisation of industry/ services/ agriculture/5G/ Internet of Things (IoT)/ cloud computing	Bilateral co-operation	European Union, Brazil	Implemented since 2008, the European Union-Brazil Partnership for Scientific and Technological Cooperation is developed through calls for projects and yearly dialogues. The fourth call, addressing 5G, the Internet of Things (IoT) and cloud computing, was carried out in 2017 as part of Horizon 2020. The six funded projects were launched in early 2018, representing an investment of EUR 8.5 million from the European Union, matched by Brazil through Rede Nacional de Ensino e Pesquisa. The IoT project consisted in launching pilot apps that helped assess the feasibility, scalability and sustainability of business models associated with IoT services, as well as its social benefits and acceptance. Domains of applications considered reflected Brazil's priorities: manufacturing, water management and agriculture, and health and well-being of populations at risk. The co-operation initiative leveraged the digital transformation of the economy to help Brazil build capacities against the productivity, social vulnerability and environmental traps. Setting a policy dialogue on subjects with ramifications in various areas of societies, such as digitalisation, international partners could launch initiatives that address the multi-dimensional nature of development. (European Commission, 2008; 2016; Ministério da Ciência, Tecnologia, Informações e Comunicações, 2017).
Connectivity/ communication infrastructure	South-South co-operation	China with African, Asian, European, Latin American and Pacific countries.	The ICT component of China's Belt and Road Initiative (BRI), known as the Digital BRI or Digital Silk Road, could bring sustainable development to emerging markets through modern ICT infrastructure, such as 5G networks, international ecommerce platforms, smart cities and data centres, satellites, submarine Internet cables, Big Data and optical fibre networks across countries and regions. As of August 2019, Chinese entities had invested over USD 17 billion in Digital Silk Road projects completed since 2013 (Merics, 2019).
Connectivity/ communication infrastructure	Multilateral co-operation	European Union	The European Commission Connecting Europe Facility (CEF) is a funding programme that aims at supporting the implementation of the Digital Single Market by financing projects that will provide Digital Service Infrastruc-tures (DSI), also known as Building Blocks, to improve connectivity. The CEF Building Blocks will facilitate the delivery of digital public services across borders and sectors. The Building Blocks include: Big Data Test Infrastructure, Context Broker, eArchiving, eDelivery, eID, eInvoicing, eSignature and eTranslation (European Commission, 2014).
Artificial intelligence (AI)	Multilateral co-operation	European Union	The European Union's new strategy for digital transformation, "A Europe fit for the digital age", has three pillars. One promotes excellence and trust in AI, through a model of human-centric AI. This will be done through new public-private partnerships in AI and robotics, creation of research centres and digital hubs, easier access to funds, and procurement processes. The European Union will enact new AI legislation; promote new requirements for transparency, product traceability and unbiased data sets; and launch an EU-wide debate on facial recognition (EU Monitor, 2019; European Commission, 2019g).

Area of work	Modality	Partners	Policies
E-commerce	Multilateral co-operation	European Union	In the framework of its DSM strategy, the European Union has created new rules to facilitate e-commerce by breaking down barriers throughout the region. To realise the full potential of e-commerce, the European Union has worked on the revised Payment Services Directive and new rules on cross-border parcel delivery services that are already in force; new rules to stop unjustified geo-blocking; revised consumer protection rules that will enter into force in 2020; and new value added tax rules for online sales of goods and services that will enter into force in 2021 (European Commission, 2019h).
Fintech	Multilateral co-operation	European Union	In 2018, the European Commission adopted an action plan on Fintech to foster a more competitive and innovative European financial sector. The action plan sets out 19 steps that the European Commission intends to take to: enable innovative business models to scale up at the EU level; support the uptake of new technologies, such as Blockchain, AI and cloud services in the financial sector; and increase cybersecurity and the integrity of the financial system (European Commission, 2018b).
Taxation/ domestic revenue mobilisation	Multilateral co-operation	Inter-American Center of Tax Administrations-Secretary of State for Economic Affairs of the Swiss Government (CIAT-SECO), Bolivia, El Salvador, Guatemala, Guyana, Honduras, Nicaragua	CIAT-SECO aligned interests and resources to identify and support priority issues related to effective management of tax revenues in LAC. Tax administrations in Bolivia, El Salvador, Guatemala, Guyana, Honduras and Nicaragua received support (mainly technical assistance) in 2015-18. Guatemala's Superintendence of Tax Administration also received support in electronic invoicing. The technological architecture has the standards and requirements to scale up (CIAT, 2018).
Social vulnerability trap			
Digital literacy/ future of work	Multilateral co-operation	Germany, Switzerland, Inter-American Development Bank	A multidonor fund of USD 13 million will accelerate the transformation of technical and vocational education and training in Latin America and the Caribbean (LAC) (IDB, 2019).
Digital cash transfers	Multilateral co-operation	Foundations, non-governmental organisations (NGOs), international organisations (IOs), Colombia, Dominican Republic, Mexico, Paraguay, Peru, Uruguay, others	The Better Than Cash Alliance is a partnership of governments, companies and IOs that accelerates the transition from cash to digital payments to reduce poverty and drive inclusive growth (Better Than Cash Alliance, 2019).
Platform/digital economy labour regulation	Multilateral co-operation	European Union	In 2018, the European Commission Joint Research Centre published a study on the European legal framework for digital labour platforms, exploring how they increasingly influence workers' rights, and how to safeguard workers' rights (European Commission Joint Research Centre, 2018).
Formal employment/ future of work	Multilateral co-operation	European Union	The High-Level Expert Group on the Impact of the Digital Transformation on EU Labour Markets, comprised of representatives from academia, civil society and industry, provides analysis and advice to the European Commission and explores policy options (European Commission, 2019i).
Common tertiary/ technical degree certification	Multilateral co-operation	European Union	The European Tertiary Education Register (ETER) database provides detailed data on 2 465 institutions in 32 European countries at the bachelor, master and PhD levels. Data include institution size, number and gender of students and staff, subject areas and degree levels, and information on research, international students and staff and funding. Using information from national statistical authorities, ETER complements other data on university performance and system-level higher education statistics (ETER, 2019).
Common tertiary/ technical degree certification	Multilateral co-operation	European Union	The European Qualifications Framework (EQF) is a translation tool that helps communication and comparison between European qualifications systems (European Union, 2019).

Area of work	Modality	Partners	Policies
Common tertiary/ technical degree certification	Multilateral co-operation	European Higher Education Area (EHEA), European Commission	Through the EHEA, 48 countries agree to adopt reforms on higher education on the basis of common values, such as freedom of expression and institutional autonomy. EHEA countries, institutions and stakeholders continuously adapt higher education systems to make them more compatible and strengthen their quality assurance mechanisms. The main goal is to increase staff and student mobility and facilitate employability (EHEA, 2019).
Infrastructure investments for rural border areas	Multilateral co-operation	European Union	The Rural Network Project (RuNe) is an open-access fibre network covering areas with an average of 36, and as few as 3, inhabitants per square kilometre. RuNe is funded by the Connecting Europe Broadband Fund, a private equity platform promoting broadband investment in areas with no existing network and no provision of early-stage equity (Rural Network Project, 2019).
Health	Multilateral co-operation	European Union	The eHealth Network, set up under Directive 2011/24/EU on patients' rights in cross-border health care, connects national authorities responsible for e-health. EU countries can give direction to e-health developments in Europe by playing an important role in strategic e-health-related decision making on interoperability and standardisation. The e-Health Action Plan supports the network with technical and scientific guidance to facilitate cross-border health care across the European Union and provides necessary policy support to the eHealth Digital Service infrastructure (European Commission, 2019j).
Health/food security	Multilateral co-operation	European Union, UK Aid, Bill & Melinda Gates Foundation	The National Information Platforms for Nutrition (NIPN) is a global initiative launched by the European Commission to provide information on food security and nutrition for policy makers in ten developing countries, including Guatemala, to fight malnutrition (NIPN, 2020).
E-education	Multilateral co-operation	European Union	The strategic framework for European policy co-operation (ET 2020 framework) is a forum for member states to build best practices in education policy, gather and disseminate knowledge and advance education policy reforms at the national and regional levels. Based on a lifelong learning approach, the framework addresses outcomes, from early childhood to adult vocational and higher education, and covers learning in all contexts: formal, non-formal and informal (European Commission, 2020b).
	Multilateral co-operation	European Union	The Collaborative Capacity Programme on ITS Training-education and Liaison (CAPITAL), funded by the European Union, is a collaborative capacity-building community and deployment programme that provides training and education resources to public and private stakeholders implementing co-operative and intelligent transport systems and raises awareness about services and benefits (CAPITAL, 2016).
Infrastructure investments for education and research	Multilateral co-operation	European Union, national research and education networks (NREN) of Brazil, Chile, Colombia, Ecuador, France, Germany, Italy, Portugal, Spain	The Building the Europe Link with Latin America Programme (BELLA) provides for the long-term interconnectivity needs of European and Latin American research and education communities. BELLA will achieve this through procurement of a long-term Indefeasible Right of Use for spectrum on a submarine optic fibre cable between the two regions, minimising latency. BELLA is also developing and deploying a 100 Gbps-capable research and education network across Latin America. BELLA is funded by three European Commission Directorates (DG-CONNECT, DG-DEVCO and DG-GROWTH) and the Latin American NREN community (BELLA, 2019).
Institutional trap			
Cybersecurity	Bilateral co-operation	Chile, Spain	Chile and Spain are co-operating on cybersecurity to face the risk of attacks on official bodies' computer systems and on financial and security systems. The agreement cites a good level of technical co-operation and high level of dialogue in the fight against terrorism, drug trafficking and organised crime (Ministerio de Relaciones Exteriores, 2018).
		European Union, Brazil	Begun in 2014, the European Union-Brazil Cyber Dialogue co-ordinates efforts for responsible state behaviour in cyberspace. At the last February 2020 meeting, the regions exchanged information on cybersecurity threats, capacity building and confidence-building measures, and identified potential areas for strengthening co-operation (European Union External Action, 2020).

Area of work	Modality	Partners	Policies
	Multilateral co-operation	European Union	In 2017, the European Commission adopted a cybersecurity package, which includes a proposal for an EU Cybersecurity Agency (ENISA) to assist member states in dealing with cyberattacks, and a new European certification scheme to ensure that digital products and services are safe to use. The Cybersecurity Act at the core of the package has entered into force, bringing about two changes: a new permanent mandate and comprehensive reform of the ENISA, and the creation of a European certification framework that will sustain Europe's growing cybersecurity market. In January 2020, the European Union published a communication on the cybersecurity of 5G networks, including an EU Toolbox of risk mitigating measures. Amidst the current coronavirus (Covid-19) pandemic, the European Union developed an approach for efficient contact tracing, issuing an EU toolbox for use of voluntary, privacy-compliant mobile apps (European Commission, 2019e).
Data protection and governance	Multilateral co-operation	Andorra, Argentina, Chile, Colombia, Costa Rica, Mexico, Peru, Spain, Uruguay	Begun in 2003 as a forum for knowledge exchange and discussion on data protection initiatives, the Red Iberoamericana de Protección de Datos, backed by the EU Fund for Regional Development, promotes Ibero-American co-operation towards common data protection frameworks to allow effective cross-border flow of data and facilitate international co-operation among responsible authorities (Red Iberoamericana de Protección de Datos, 2019).
		European Union, Brazil	Brazil's Lei Geral de Proteção de Dados Pessoais enforces measures similar to those of the EU General Data Protection Regulation (Presidência da República, 2018).
		European Union, Germany, Barbados, Caribbean Export Development Agency, the CARIFORUM	The European Union promotes data protection standards in Caribbean countries through a European Commission Technical Assistance and Information Exchange Instrument (TAIEX) programme (European Commission, 2020c).
Capacity building/digital skills of civil servants	Bilateral co-operation	El Salvador, Uruguay	El Salvador receives technical assistance from the Uruguayan Agency of Electronic Government and Information Society experts on digital themes. Projects aim to train public servants, to promote the digital transformation of government institutions (Red de gobierno electrónico de América Latina y el Caribe, 2019).
	Multilateral co-operation	European Training Organisation Network for Local and Regional Authorities	Before becoming an independent association, European Training Organisation Network for Local and Regional Authorities (ENTO) was created by the Council of Europe in 1995 to promote democratic and effective governance by ensuring that staff and elected representatives of local and regional authorities are well trained and qualified to carry out their responsibilities in a rapidly changing world. ENTO enables bilateral and multilateral partnerships and makes it possible for training bodies and local authorities to provide staff with courses, study and official visits (ENTO, 2020).
Open government	Bilateral co-operation	European Union, Colombia	Begun in 2014 and ended in 2018, the European Union-financed ACTUE Colombia project aimed to increase integrity and transparency and fight corruption. Objectives included promotion of open government and citizen control over public entities (ACTUE Colombia, 2017).
Open government	Multilateral co-operation	European Union	In 2016, the European Commission published two studies on open government. *Towards Faster Implementation and Uptake of Open Government* and *Analysis of the Value of the New Generation of eGovernment Services* and *How Can the Public Sector Become an Agent of Innovation through ICT* provide important knowledge on open government services and their potential value, and shed light on how public administrations and policy makers can establish open government practices and foster change through information and communications technology (PWC, 2016; PWC, Open Evidence and the Institute of Baltic Studies, 2016).
Open data	Multilateral co-operation	European Union	The EU Open Data Portal, set up in 2012, provides public access to an expanding range of data from EU institutions and other EU bodies, which can boost the region's economic development and institutional transparency (EU Open Data Portal, 2020).

Area of work	Modality	Partners	Policies
Measurement of digital transformation	Multilateral co-operation	European Union, 17 LAC countries, Spain	With the support of the European Union's EUROsociAL, the Red de Transparencia y Acceso a la Información, formed by LAC and Spanish public entities responsible, developed an international model for measuring transparency and access to information in member countries (Red de Transparencia y Acceso a la Información, 2019).
Digital government	Bilateral co-operation	France, Mexico	France and Mexico signed a declaration of digital co-operation on cultural and technological change. The project starts a co-operation between information and democracy aimed at fighting disinformation (fake news) (Embajada de México en Francia, 2019).
Digital agenda/national development strategies or plans/digital transformation	Multilateral co-operation	Colombia, Sweden, United States Agency for International Development, World Bank	Through international co-operation, Colombia's National Planning Department developed the Terridata app, a statistical consultation portal that helps regional and local leaders be more efficient in formulating development plans (Departamento Nacional de Planeación, 2018).
Environmental trap			
Data storage for the environment/ Earth observation	Multilateral co-operation	European Union	The EU Earth Observation Programme, Copernicus, provides information services based on satellite Earth observation and in situ (non-space) data. Services are free and can be used for applications in a range of areas, such as urban area management, sustainable development and nature protection, regional and local planning, agriculture, forestry and fisheries, health, civil protection, infrastructure, transport and mobility, and tourism. It is mainly used by policy makers and public authorities to develop environmental legislation and policies or make decisions in an emergency, such as a natural disaster or humanitarian crisis (Copernicus, 2020).
E-waste	Multilateral co-operation	European Union	In 2017, the European Commission established a common methodology for calculating the weight of electrical and electronic equipment on the national market in each member state and the quantity of waste it generated by weight (European Commission, 2017).
Intelligent transport modes/smart cities	Sub-national co-operation (city-to-city)	European Union, LAC cities	The three-year International Urban Cooperation Programme enables cities in various global regions to connect and share solutions to common problems. The city-to-city co-operation on sustainable urban development that pairs EU with non-EU partner cities boosts access to policy expertise, helping cities promote smart, green and inclusive growth (International Urban Cooperation Programme, 2019).
Training	Triangular co-operation	Brazil, Germany, Peru	To comply with new environmental regulations and criteria imposed on exporters by international markets, Peruvian industries needed experts in environmental technology, particularly in advisory and laboratory services. The Environmental Technology Centre in Peru (2012-14) was created to offer training adapted to market needs (GIZ, 2014).
Forest conservation	Multilateral co-operation	European Union, Association of Forest Communities of Petén (ACOFOP), Guatemala, ICOO Cooperation	With EU support, NGOs ACOFOP and ICOO Cooperation carried out workshops on use of drones to monitor community work in forests and initiate early fire alerts (Delegation of the European Union to Guatemala, 2018).

Source: Own elaboration.

Notes

1. For instance, the UN Group of Government Experts on Developments in the Field of Information and Telecommunications in the Context of International Security and the Open-ended Working Group, the International Telecommunication Union and its Global Cybersecurity Index, and the Global Symposium for Regulators help define new standards for cybersecurity worldwide. The UN World Intellectual Property Organization undertakes similar efforts for the protection of intellectual property.

2. An integration and development co-operation programme among Belize, Colombia, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama.

3. A specialised institution within the SICA framework that co-ordinates, supports and harmonises development of the telecommunications and ICT sectors.

4. Argentina, Brazil, Colombia, Costa Rica, the Dominican Republic, Honduras, Mexico, Panama and Peru.

5. Anguilla, Antigua and Barbuda, Argentina, Aruba, the Bahamas, Barbados, Belize, Bermuda, Brazil, British Virgin Islands, Caiman Islands, Chile, Colombia, Costa Rica, Curacao, Dominica, the Dominican Republic, Grenada, Haiti, Honduras, Jamaica, Mexico, Montserrat, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Turks and Caicos Islands and Uruguay.

6. Four of the 24 positions on the steering group of the Inclusive Framework on BEPS are currently held by LAC economies (Argentina, Brazil, Colombia and Jamaica).

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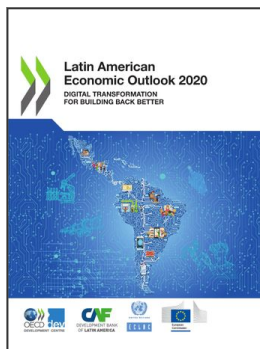
From:

Latin American Economic Outlook 2020
Digital Transformation for Building Back Better

Access the complete publication at:
https://doi.org/10.1787/e6e864fb-en