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Connecting regions, closing gaps, building sovereignty

The European Union-Latin America and the Caribbean Digital Alliance: Recommendations for the EU-CELAC Summit

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Abstract

The deterioration of the global geopolitical landscape makes the rapprochement between the European Union and Latin America and the Caribbean essential. In addition to supporting multilateralism and international law, both regions must deepen political, economic and commercial relations, while bridging the technological gaps. The digital cooperation agenda presents a unique opportunity, grounded in a shared human-centric approach to digital transformation and the common challenges faced by both regions. As such, strengthening the EU-LAC Digital Alliance should become a top priority for the 2025 EU-CELAC Summit, with a focus on four key areas: connectivity infrastructure, cybersecurity, artificial intelligence and green technologies.

Keywords

EU-LAC Digital Alliance, critical infrastructure, cybersecurity, artificial intelligence, green technologies.

Resumen

El deterioro del contexto geopolítico internacional hace imperativo impulsar la relación entre la Unión Europea y América Latina y el Caribe. Además de colaborar en el sostenimiento del multilateralismo y el derecho internacional, las dos regiones tienen que profundizar sus vínculos económicos y comerciales, así como cerrar sus brechas digitales y tecnológicas. La agenda de cooperación digital presenta una oportunidad única, basada en un enfoque compartido, centrado en el ser humano, para la transformación digital y en los desafíos comunes que enfrentan ambas regiones. Consolidar y fortalecer la Alianza Digital entre la Unión Europea y América Latina y el Caribe debe ser un objetivo principal de la próxima Cumbre UE-CELAC de 2025. Para ello es necesario adoptar medidas en cuatro áreas clave: infraestructuras de conectividad, ciberseguridad, inteligencia artificial y tecnologías verdes.

Palabras clave

Alianza Digital UE-ALC, infraestructuras críticas, ciberseguridad, inteligencia artificial, tecnologías verdes.

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1. Introduction¹

The current geopolitical context is characterised by a shift from law and rules to power and force. The liberal international order born after World War II, already challenged by China and Russia, is now under extreme pressure from the US, which has become a revisionist power undermining the principles of that order and coercing its former partners and allies. In addition to the questioning of international institutions, the principles of sovereignty and equality between states and the rise of trade protectionism, there are also attempts to undermine liberal democracies by a reactionary international that relies on the new digital mass media.

The sharp deterioration of the international context challenges with particular force the European Union and Latin America and the Caribbean, two regions whose prosperity is based on values that are in question today. Both regions have in common that they are under pressure from the US, China, and Russia. Both have much to lose in a world dominated by a logic of power-based rivalry and underpinned by a disregard for international law and liberal democracy (Leonard et al., 2023).

The vulnerabilities of the two regions are not necessarily an obstacle to their ability to forge a closer relationship, but rather an incentive to take this relationship, subject to encounters and misunderstandings in recent decades, to a new level of strategic depth (Hobbs and Torreblanca, 2022). The 33 countries of Latin America and the Caribbean bring together a population of 663 million, more than 12% of the world's population, and 17% of the votes in the United Nations. Their strong support for the rules-based international order and their human-centred vision of digitalisation bring the two regions closer together, as well as their shared challenges such as the fight against climate change, social justice, demographic decline and the reindustrialisation of their economies do.

This relaunch of the bi-regional relationship is already underway. The EU-CELAC Summit in 2023 during the Spanish Presidency of the Council of the EU and the launch of the bi-regional Digital Alliance represent a very important milestone. Another one is the European Commission's *Global Gateway* ini-

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tiative to promote digital and green partnerships with this and other regions, despite its insufficient financial envelope and limited carry-over effect on private investment. Finally, the updating of trade and association agreements with a number of countries in the region, as well as the signing of the Mercosur-EU trade agreement, underpin the strategic and economic alignment between the two regions since, if it comes into force, the EU would have free trade agreements with 94% of the region's GDP, compared to 44% for the US and 14% for China (Berganza et al., 2025).

However, in a context such as the current one, this relationship requires additional impetus, both in the diplomatic field, in order to sustain the international institutions and principles in question, and in the economic and commercial field, to create and share prosperity. Also, it is needed too, as it is the subject of this paper, in the digital and technological field, which represents a great frontier of opportunities for the two regions.

Both Europe and Latin America are experiencing a significant relative lag in the adoption of the technologies that will define their future prosperity, which offers an incentive for closer cooperation. At the same time, both regions are under pressure from the US and China, which have defined their digital transformation in terms of competition and geopolitical rivalry. The combination of these two trends adds a new vulnerability to the two regions. The securitisation of technological development tends, on the one hand, to limit third party access to new technologies and their applications or to subordinate such access to diplomatic or economic conformity, generating dependencies and vulnerabilities. On the other hand, it tends to relegate fundamental values, such as individual rights or even security, by considering them as elements that weaken the ability to achieve technological supremacy.

The EU and Latin America and the Caribbean share the view that technological advances should be a source of economic growth and opportunities for society, not of domination over others. They also agree that the risks arising from frontier technologies such as artificial intelligence (AI), biotechnology, or quantum technologies can only be addressed at the multilateral level. The two regions need a positive agenda that allows them to overcome their disagreements in other areas and boost cooperation on other more sensitive agendas, such as diplomacy and trade.

The authors of this document are of the opinion that, in a context such as the current one, the digital cooperation agenda can make a decisive contribution to making the benefits of bi-regional cooperation more visible and thus contribute to providing it with the strategic depth it has lacked to date. For this reason, with a view to the next EU-CELAC Summit in 2025, to be held in Colombia, we propose concrete measures for both regions to advance, institutionalise and give substance to this technological cooperation agenda. The measures we suggest are deployed in four areas: connectivity infrastructures, artificial intelligence, cybersecurity, and green technologies. As the President of the European Commission has argued, only in collaboration with partners and allies can the EU achieve its strategic goal of technological sovereignty (Von der Leyen, 2025).

2. The relevance of technology and digital cooperation

The 2010s marked significant advances in development, with the approval of the 2030 Agenda and its Sustainable Development Goals (SDGs), and the Paris Agreement on Climate Change in 2015. These agreements set goals to combat poverty, promote human development and tackle climate change.

A decade later, in June 2020, coinciding with COVID-19, the UN Secretary-General's Roadmap for Digital Cooperation completed the introduction of digital and technology cooperation into the development agenda. In the Roadmap, the UN defined digital cooperation as the use of digital data, tools, processes, and approaches to solve development problems and/or increase development opportunities. The Roadmap proposed eight broad areas of action that directly impact ordinary citizens, contributing transversally to the 17 Sustainable Development Goals (SDGs): connectivity, digital public goods, digital inclusion, digital training, digital human rights, digital trust and security, critical infrastructure, and global digital cooperation (United Nations, 2020).

Subsequently, the Global Digital Compact agreed in 2024, and integrated into the United Nations Compact for the Future, reinforces the previous document by calling for an open, free and secure digital future; responsible data governance; and AI governance that benefits humanity (United Nations, 2024).

The strength of the digital development agenda lies in the fact that, through the integration of State and multilateral actors, civil society, and the private sector, digital development enables the search for innovative digital solutions that permeate other areas through their multiplier effect on economic and human development. However, the challenges facing this agenda are considerable. While the COVID-19 pandemic helped highlight the unique contribution of technology and digitalisation to economic prosperity, it also showed the importance of the digital divide, within and between countries, as a new driver of poverty and inequality.

In recent years, moreover, in a dynamic of international tensions and conflicts exacerbated by Donald Trump's rise to power in the US, global poverty reduction processes have slowed, global agreements on development financing have become more difficult, and progress in the fight against climate change has slowed down. President Donald Trump's dismantling of the US aid agency (USAID) and the US withdrawal from a host of international agencies, from the WHO to the Refugee Agency, exemplifies this retreat from providing global public goods.

As the latest G20 summit (G20 Ministerial Declaration, 2024) pointed out, in this context of uncertainty and polycrisis, development cooperation in the digital sphere reinforces its relevance and necessity both for its capacity to be a catalyst for progress and to represent an opportunity to harness the development of technologies themselves to put them at the service of people and of a fairer and more equitable global order. This explains why digital has now become the most influential cross-cutting element on the international cooperation agenda.

The European Union has been no stranger to this dynamic of increasing attention to digitalisation. It has promoted a people-centred and value-based approach to digital transformation, both in its internal policies and in international cooperation. Europe's commitment to digital transformation is reflected in the broad framework of policies and strategies included in the so-called European Digital Decade (European Commission, 2023). On the one hand, the Foreign Affairs Council Conclusions of July 2022 integrate digital diplomacy as a central element of its external action in order to strengthen European agency in digital matters on the basis of geopolitical priorities and alignments on values and upholding the rules-based international order (Council of the EU, 2022). On the other hand, the European *Digital4Development*² strategy defines the integration of digital development into its international cooperation programmes. In turn, several European countries, such as Germany, France, Sweden, the United Kingdom and Estonia, are emerging as important players in digital cooperation on a global scale.

² It is articulated in four pillars: (i) accessible digital infrastructure, (ii) training in digital skills, (iii) fostering entrepreneurship and (iv) applying technologies to areas such as climate, health and education, with cross-cutting elements of human rights, gender equality and European standards/regulations.

However, the EU faces significant challenges in terms of the effectiveness, influence, and coherence of its digital cooperation with other external policies.

3. Priorities for digital development in Latin America and the Caribbean

Latin America and the Caribbean face three major 'development traps': insufficient economic growth, high inequality with low social mobility, and institutional weakness with largely ineffective governance (OECD, 2019; ECLAC, 2024c). In addition, the region must address climate change and move towards environmentally sustainable development. Digital transformation, ECLAC (2024d) argues, is the future of the region and key to overcoming these challenges. Economically, it boosts productivity, competitiveness, and innovation, facilitating access to international markets. Socially, it promotes inclusion by broadening access to essential services such as education and health. Institutionally, it improves the transparency and efficiency of public administrations, strengthening citizen participation and governance. However, the digital divide has become a structural problem for the region, hindering the achievement of these goals.

The region is aware of these challenges. LAC is the only region in the world that has a stable process for the formulation and monitoring of a regional Digital Agenda. Launched in 2005 under the supervision of ECLAC, the eLAC process brings together all countries in the region to establish biennial priorities in the area of digital development. The new regional Digital Agenda eLAC2026 published in 2024 seeks to address structural inequalities, foster innovation, and increase competitiveness through digitisation³. The agenda includes a set of targets assessed by indicators, such as increasing household fixed broadband penetration to 70%, improving e-governance scores in at least 20 countries, developing national cybersecurity strategies in 30 countries, or positioning six countries as pioneers in the Latin American Artificial Intelligence Index.

The eLAC2026 guidelines provide a roadmap to guide and strengthen digital cooperation between the EU and Latin America in the coming years. Currently, the EU is promoting two flagship initiatives in digital cooperation at regional level: the EU-LAC Digital Alliance and the *Digital for Development Hub* (*D4D Hub*), both complemented by the European investment programme *Global Gateway*. These two initiatives support the formulation of regional and sub-regional projects through Team Europe Initiatives (TEIs), which require the collaboration of at least two member states, and often also the European Commission and the European Investment Bank (EIB).

The convergence of visions and objectives between Latin America/Caribbean and the European Union has crystallised in the EU-LAC Digital Alliance, launched in March 2023 with the aim of revitalising bi-regional digital cooperation. The Alliance establishes four main lines of work: (i) policy dialogues on digital governance, data, cybersecurity, connectivity, and artificial intelligence; (ii) connectivity, which through the BELLA submarine data cable extends academic connectivity inter-regionally and with Europe while enhancing scientific collaboration; (iii) the Copernicus LAC satellite network, focused on Earth observation and space data management for disaster prevention; and (iv) the promotion of business digitalisation, supporting start-ups, SMEs, and innovation through an EU-LAC Digital Accelerator. For its part, the *D4D Hub* acts as a collaborative action platform driven by the European Commission's Directorate-General for Partnerships (INTPA), facilitating the identification and for-

³ It is structured along three axes: meaningful connectivity and digital infrastructure; digital governance and security; and innovation, emerging technologies and AI. It also articulates three key directions for countries' digital transformations: productive development, social welfare, and the functioning of the State.

mulation of multi-country digital development projects. Its actions include the coordination of digital cooperation with EU funds, direct support to initiatives, the organisation of events, as well as the reinforcement of communication and institutional visibility.

Finally and complementarily, the *Global Gateway* investment programme, which has a budget of 45 billion euros until 2027, seeks to support initiatives for the development of infrastructure and support for the triple transition (green, digital, and fair) in which the region is immersed. *Global Gateway* projects include the expansion of the BELLA cable to backbone networks in the region, and the creation of two regional Copernicus LAC satellite data centres in Chile and Panama for disaster risk reduction, climate change, and land and maritime surveillance. *Global Gateway* aims to prioritise a human and sustainable approach to digital development, ensuring that investments not only bridge the digital divide, but also strengthen democratic governance and promote inclusive economic development. This European initiative is fundamental for boosting public-private partnerships for digital development in LAC, but the governance, financing, and strategy problems experienced by this programme require incorporating mechanisms that are more transparent, agile and better coordinated with other cooperation programmes currently in force between the EU and LAC (Buhigas and Costa, 2023; Melguizo and Torreblanca, 2023).





4. Proposals for action on digital and technological issues for the next EU-CELAC Summit 2025

Cooperation with the European Union in the development of technological capabilities and critical infrastructures acquires strategic relevance in the context of digital transformation in Latin America and the Caribbean. In the face of extreme dependence on Chinese and US suppliers, the European offer is presented as an alternative based on values such as algorithmic transparency, data protection and cybersecurity. This cooperation not only seeks to strengthen the technological infrastructure base (or stack) for the economic and technological development of both regions, but also to promote technological sovereignty in the face of the challenges emerging from the digital environment. Both regions are equally affected by increasing foreign investment and interference from actors such as Russia and China (Myers et al., 2024). Therefore, the bi-regional agenda for the next EU-CELAC Summit in 2025 in Colombia must focus on the consolidation of more resilient capacities and infrastructures and in alignment with democratic principles and cooperation at different levels: political, commercial, scientific, and academic.

4.1. Critical infrastructures

Technological capacity in Latin America and the Caribbean faces multidimensional challenges to its integration into the global digital economy. The main ones are: limitations in connectivity, cloud computing, cultural and linguistic representation, and human capital. To overcome the existing digital divide, the Inter-American Development Bank (IDB) estimates that a capital investment (CAPEX) in infrastructure of more than 70 billion dollars is needed for the countries of the region (IDB, 2023). Connectivity, a fundamental part of the digital divide, continues to be one of the greatest challenges for the region. 225 million people do not have access to mobile internet, 45 million live in areas without coverage (predominantly rural), and 181 million, despite having coverage, do not have the digital skills to access these services (GSMA, 2024). This connectivity gap is largely driven by critical infrastructure gaps in the region.



FIGURE 2. Latin America and the Caribbean connectivity indicator score, 2024

More than 3,000 satellites operate worldwide, but only 85 of them are owned or operated by Latin American and Caribbean countries (Guzmán, 2021). These satellites are mostly used for telecommunications, although they have the potential to have a decisive impact on other sectors, such as agriculture or environmental protection. US companies such as Starlink have provided internet access to rural and Amazonian areas, as well as to underserved communities across the region. However, there are European alternatives in the provision of these services, as demonstrated by the 'Internet for All'4, project led by Telefónica in Peru to democratise internet access in Latin America.

⁴ Learn more about the successes of this joint venture developed by Telefónica, Facebook, IDB Invest and CAF to bridge the digital divide from 2019 in their web: https://www.ipt.pe/

The EU made a commitment during the last CARICOM (Caribbean Community) Summit to improve broadband access in the Caribbean region. Through the satellite services of the company Hispasat, the EU and Spain have earmarked an investment of 10 million euros to improve last mile connectivity. This initiative, part of the EU-Latin America-Caribbean Digital Alliance, seeks to offer regional alternatives to foreign digital investment in order to strengthen digital sovereignty. Along the same lines, Hispasat has signed memorandums of understanding with other countries in the region, such as Brazil and Colombia, and wants to promote the launch of a Spanish satellite shared with several countries in the region to facilitate access to health and education. However, beyond foreign investment, the region's participation in the manufacture of components would be strategic and possible given the availability of key resources such as lithium and the existence of a European strategy to reach strategic partnerships with third countries in the field of critical minerals (Dammert and Torreblanca, 2023)⁵.

Submarine cable infrastructure in Latin America and the Caribbean has undergone rapid expansion in recent years. There are still countries in the region that do not have access to them, either because they are landlocked or because of a lack of investment in cable expansion. Brazil is the main recipient of this infrastructure. This is because the cost of IP network address transit in Brazil is more competitive than acquiring it from the US (Teleography, 2024). Recent projects such as Google's Firmina cable, designed to improve internet resilience between the US and South America, and Meta's Malbec cable, connecting Brazil to Argentina, demonstrate the growing relevance of these networks. The EllaLink cable, connecting Brazil to Europe, reduces latency and diversifies networks in the region, and is co-funded by the European BELLA programme⁶. However, as Figure 3 shows, the Latin American region is fully integrated with North America in terms of submarine connectivity, with very little connectivity with Europe.

Despite the obvious benefits, the risks that emerge from these critical infrastructures are manifold. These include exposure to natural disasters such as hurricanes, earthquakes, or undersea seismic activity; service interruptions in island countries; dependence on large global technology companies; not to mention cybersecurity risks and geopolitical interference as highlighted by the Ukrainian war over undersea cabling in the Baltic. This requires a coordinated policy for securing these infrastructures, which avoids generating new dependencies and geopolitical vulnerabilities.

In terms of cloud services, the region has a marked shortage of providers: 41, compared to 308 in Europe (Filgueira, 2023), and lacks high-performance computing clusters (UN AI Advisory Body, 2024). As in the EU, the cloud computing market in the Latin America and Caribbean (LAC) region is dominated by technology giants Amazon Web Services (AWS), Microsoft Azure and Google Cloud, joined by the recent entry of Alibaba. This gap is also evident in the geographical distribution of cloud computing: only four countries (Peru, Chile, Uruguay, and Brazil) have public clouds. At the other extreme, numerous countries are either just starting to use the cloud for AI computing or have no such capability at all, being labelled as 'cloud deserts' (Lehdonvirta et al., 2024). Still, the data centre sector is growing, with investments projected to increase from \$6.36 billion in 2023 to \$10.06 billion in 2029, with a very positive annual growth of 7.95% led by Brazil, Chile and Mexico but leaving the challenge of sustainability in energy and efficient cooling (Helmigroup, 2024; Lebdioui et al., 2025).

The region's data challenges are not limited to infrastructure. Linguistic representation is another critical aspect for regional technological development, as English is the predominant language in the

CONECTANDO REGIONES, CERRANDO BRECHAS, CONSTRUYENDO SOBERANÍA [13] VV. AA.

⁵ For more information on the agreements between the EU and the region for access to critical raw materials: https://www.europarl.europa.eu/thinktank/es/document/EPRS_BRI(2024)767163

⁶ Reduced latency enables improved network performance, a critical element for use by cloud computing and financial firms. For more information: https://ella.link/



FIGURE 3. Submarine cables in Latin America and the Caribbean, 2025

construction of models and manuals and, therefore, a limiting factor for open-source data (Montepeque, 2019). This means that artificial intelligence model training has barely 0-1.68% of tokens and databases in Spanish (Martorell, 2024). Such limitations significantly reduce the ability to capture cultural and linguistic nuances specific to the Latin American region, thus perpetuating biases and gaps in terms of cultural representation and local realities.

In order to combat this bias, the Spanish government has launched its own foundational model in Spanish and other co-official languages led by the Barcelona Supercomputing Center (BSC-BCN), which runs one of the most powerful supercomputers in the world, essential for training the model⁷. The access of scientists from the region to BSC-BCN programmes and infrastructures is one of the most promising lines of bi-regional cooperation in the digital field, especially if access to this supercomputing network is given to business R&D, which will result in the creation of talent. Also, to the extent that their language models are extended to indigenous languages and local realities in the region, Spain, and the EU will gain the attention and interest of the region and will be able to lead the deployment of supercomputing in the region.

The development and modernisation of critical technology infrastructure requires the generation of the human talent that can operate it. According to the World Economic Forum's Future of Jobs Report 2025, the three biggest concerns in the LAC region are: outdated regulations, resistance to change in organisational culture, and skills. For the latter, 84% see upskilling, 81% see automation, and 68% see hiring new staff as the solution (WEF, 2025).

⁷ The open State model is presented in: https://alia.gob.es/

The region is facing a phenomenon that is rarely taken into account: over-education. This affects between 29% and 43% of the labour force in countries such as Chile, Ecuador, Mexico, and Peru and means that the rapid expansion of Latin American tertiary education does not necessarily result in skills applicable to the demands of today's labour market (Castro et. al., 2023). Currently, 48% of IT job vacancies cannot be filled. To meet the growing demand in the regional technology sector, training in digital and cybersecurity skills should be encouraged. The OECD (2024) projects that 70% of the workforce will require training in IT technologies by 2030, with an expected shortfall of one million IT professionals by 2025 (IDB, 2022).

Recommendations on Critical Infrastructures

1. Foster connectivity in rural areas through joint projects between development banks, public and private sectors in both regions to bridge the digital divide.

2. Encourage the development and use of satellite solutions that complement and diversify existing connectivity options, including platforms such as Starlink and Hispasat, promoting greater resilience and operational autonomy and reducing strategic dependencies.

3. Promote domestic cloud services with an emphasis on local knowledge transfer.

4. Protect regional critical infrastructures such as undersea cables to reduce geopolitical vulnerabilities and strategic dependencies.

5. Encourage the training of large language models with regional data and in local and native languages in order to improve their representativeness and reduce cultural biases in the use of artificial intelligence.

6. Increase collaboration with the Spanish and European supercomputing network to promote human talent and encourage the deployment of supercomputing in the region.7. Promote training in cybersecurity and digital technologies, both at intermediate and specialist levels.

4.2. Artificial Intelligence

The adoption of Artificial Intelligence (AI) in Latin America and the Caribbean is developing heterogeneously. The region ranks sixth among nine regions assessed in the Global AI Governance Index, with an average score of 41.50 (Oxford Insights, 2024). In Tortoise's *Global AI Index*, which includes 62 countries, Latin Americans are mainly in the bottom half of the ranking, with Brazil leading the region at 35th, followed by Colombia (48th), Argentina (49th), Mexico (51st), and Uruguay (53rd). In the *Center for AI and Digital Policy*'s index, which assesses governments' AI readiness according to democratic values, Colombia stands out in fourth place globally, followed by Argentina (11th) and Brazil (17th), even surpassing the US. Finally, the most recent 'Latin American Artificial Intelligence Index 2024' classifies Chile, Brazil, and Uruguay as 'pioneer' countries; Argentina, Colombia, Mexico as 'adopters'; while Jamaica, Venezuela, and Paraguay are classified as 'explorers'. This reflects the different levels of maturity in AI implementation in the region (ILIA, 2024).

The main challenges for AI adoption in Latin America and the Caribbean centre on five critical areas: human capital, infrastructure, data, technology dependence and lack of governance frameworks. The digital talent gap in Latin America and the Caribbean is a limiting factor in AI adoption. According to the United Nations Development Programme (UNDP), the lack of connectivity affects around 75% of the rural population, especially in terms of basic infrastructure. The regional electricity grid is also vulnerable to disruption from the growing consumption of data centres, which already account for around 1% of global consumption according to the *World Energy Outlook* (International Energy Agency, 2024). However, these challenges also represent strategic opportunities in that investments in renewable energy and robust electricity grids could not only meet growing technological demand, but also drive sustainable technology clusters.

Access to data is one of the biggest challenges facing the region (BCG, 2024). Meanwhile, only 26.6% of search engines, networks, and websites in the region are of local origin (González, 2021), while 75% and 85% of the data circulating in South America pass through Miami, according to ECLAC. These data confirm the region's deep technological dependence.

The adoption of ethical and responsible governance of AI represents a significant challenge at the global level, but also an opportunity for the region. According to the GSMA, if properly implemented, AI could generate US\$680 billion in revenues over the next 15-20 years. The partnership between the Development Bank of Latin America and the Caribbean (CAF) and UNESCO for the ethical and inclusive development of AI has made significant progress in a dozen countries in the region. Activities carried out under this collaboration include the establishment of a coordination mechanism at ministerial level, technical assistance in AI policy development, policy experimentation models and local capacity development (UNESCO, 2024).

However, before moving forward with comprehensive regulatory frameworks in AI, the region should adopt a phased strategy that allows it to prioritise according to its capacities and challenges. This requires placing greater emphasis on strengthening its institutional capacities, access to infrastructure, enhancing its oversight mechanisms and developing digital skills, especially basic ones.

Data governance emerges as an essential strategy, involving a multiplicity of actors and transcending regulation. Strong data governance is key to optimising the use of artificial intelligence in the public sector, improving administrative efficiency and data-driven decision-making (ECLAC, 2024). The region should benefit from regulatory dialogues under the EU-LAC Digital Alliance to address issues of mutual interest such as data protection, cybersecurity and AI, while maintaining the citizen-centred vision that brings the two regions closer together.

The European General Data Protection Regulation (GDPR) adequacy decisions with respect to Argentina, Uruguay and soon Brazil pave the way for closer data exchange and openness to mutual digital markets⁸. In addition, a structured dialogue between the Ibero-American Data Protection Network⁹, the European Data Protection Board (EDPB) and the national authorities of the member states would allow for greater convergence in regulatory frameworks and a space for sharing best practices among decision-makers and experts. Discussions and regulatory decisions are taking place in LAC in areas yet to be explored by the EU, such as neuro-rights in Chile and Colombia. The EU can benefit from the ground covered by its partners in these areas and advance in the protection of citizens' digital rights in collaboration with the region, with the ultimate goal of creating a Euro-Latin American

⁸ The full list of countries compliant with European General Data Protection Regulation is available on the European Commission's website: https://commission.europa.eu/law/law-topic/data-protection/international-dimension-data-protection/adequacy-decisions_en#:~:text=The%20European%20Commission%20has%20so,commercial%20organisations%20participating %20in%20the

⁹ To see the list of member countries: https://www.redipd.org/la-red/composicion

data space by relying on initiatives such as the *European Data Protection Academy*, which has held exchanges with the Brazilian authority and the Ibero-American Data Protection Network¹⁰.



FIGURE 4. AI adoption readiness in Latin America and the Caribbean, 2024

Finally, the promotion of strategic projects represents an opportunity for the region and cooperation with the EU. The European InvestAI initiative, which aims to mobilise EUR 200 billion by 2030, represents the largest AI investment programme in European history (Deutsche Welle, 2025). This fund combines public resources (20%) with private capital in risk-sharing models. The aim is to develop gigafactories that act as an economic engine but also to promote the establishment of bi-regional centres specialising in AI with shared use of infrastructure, for example in the field of supercomputing, in order to maximise the impact of the resources invested and foster joint innovation between European and Latin American companies (ECLAC, 2024).

Recommendations on Artificial Intelligence

1.Facilitate a structured dialogue between the Ibero-American Data Protection Network with the European Data Protection Board and the European national authorities to encourage regulatory convergence and the exchange of good practices.

2. Promote adequacy decisions by Latin American countries with the European GDPR in order to open up digital markets.

¹⁰ This initiative of the European Commission under DG JUST focuses on capacity building and interdisciplinary knowledge flow on data protection with European partners. More information at: https://commission.europa.eu/law/law-topic/data-protection/international-dimension-data-protection/data-protection-academy-o_en?prefLang=es

3. Facilitate discussion on cutting-edge issues related to technology and rights (such as neurorights) to promote a collective vision towards the challenges emerging from new technologies. Such a discussion could be inserted in the Working Group on AI Ethics led by CAF and UNESCO.

4. Promote the creation of a Euro-Latin American data space supported by initiatives such as the European Data Protection Academy.

5. Include the private sector of both regions in the European InvestAI initiative for the construction of gigafactories and specialised supercomputing and AI capabilities.

6. Accompany governments in developing AI strategies that combine institutional strengthening, policy, regulatory experimentation, and local capacity building (upskilling and reskilling) in cybersecurity, AI, cloud computing, etc.

7. Foster a regional AI market, with models applied to industries where Latin America and Europe have global leaders such as energy, finance, mobility, and health.

4.3. Cybersecurity

Connectivity is inconceivable without cybersecurity (Aguilar et al., 2023). Cybersecurity has established itself as a critical pillar for global stability, with an exponential increase in threats and vulnerabilities, especially for LAC, which is the fastest growing region in reported cybersecurity incidents, with an average annual growth of 25% (World Bank, 2024). SpyCloud reported that 81% of enterprises faced ransomware attacks in 2023. Of these, 41% agreed to pay ransom to get their data back. Chainanalysis documented an increase in ransomware extortion to 176 million US dollars in 2023. Finally, Cloudfare has counted that distributed denial-of-service (DDoS) attacks increased by 53% in 2024, reaching 21.3 million incidents.

The government sector was the main target of these attacks (31.3%), showing a critical vulnerability for regional stability. However, there are many regional asymmetries. While Venezuela assigns political motivations to 73% of cyber incidents, Argentina does so in only 15% of cases (World Bank, 2024). Given the limitations of many Latin American countries, global governance based on cooperation between states and different actors is necessary. An emblematic case was the attack by a group of cybercriminals, the Conti Group, on Costa Rica in April 2022, which paralysed 30 state institutions and caused tens of millions of dollars in losses, highlighting the vulnerability of critical infrastructures to transnational actors (BBC, 2022). This incident, described as an 'act of terrorism' by the Costa Rican government, required technical assistance from the US, Spain, Israel, as well as Microsoft and GBM.

Faced with this increase in the volume of cyberattacks in the region, some countries such as Chile and Paraguay are beginning to adapt international standards such as those of the US National Institute of Standards and Technology (NIST) or the OAS. Most of them, except for Bolivia, Cuba, El Salvador, and Nicaragua, have developed national cybersecurity strategies or policies and/or specific frameworks to fight cybercrime. However, only six countries have legislated on critical infrastructure protection; only 7 of the 32 countries in the region (21.8%) have operational protection plans, and only 20 have Computer Emergency Response Teams (CSIRTs) (Digi Americas Alliance, 2023). In addition, poor inter-agency and international communication, underinvestment in risk assessment and mitigation technologies, and the concentration of attacks in certain countries in the region where the greatest regional economic digitalisation is concentrated, hinder a coordinated response and expose inequalities in response capabilities.

Overcoming these difficulties would require the adoption of the following recommendations. First, the establishment of a voluntary risk management framework. Second, investment in infrastructure (although securing existing infrastructure could be a prioritised priority). Third, the creation of centralised cybersecurity management and reporting systems (WEF, 2024). One initiative in this regard is the CSIRTAmericas network launched by the Organisation of American States (OAS), of which 22 countries of the continent are part. This network connects response teams from Latin American countries to facilitate the exchange of real-time threat intelligence and establish unified protocols for cross-border crises. This platform seeks to technically train CSIRTs and develop shared tools to monitor regional threats.

To operationalise decision-making and regulatory processes on cybersecurity and data, the use of existing tools by regional governments such as ECLAC's Regulatory Sandbox Maturity Assessment (RESMA), or the European toolbox for 5G network cybersecurity, should be encouraged. The EU can also share successful models, such as the Estonian X-Road interoperability platform and the European Digital Identity initiative, which will be fully implemented in 2026 and aims to harmonise interaction with public administrations¹¹.

In the past, the US State Department's Global Engagement Center (GEC) has worked very effectively in Latin America, identifying hacktivist operations and protecting electoral processes through digital integrity audits (US Congress, 2024). After its closure last December by President Trump, the European Union could put to good use one of its most promising, albeit small, initiatives: the Latin American and Caribbean Cyber Competence Centre (LAC4), established in 2022 in Santo Domingo with European funding. The LAC4 stands as a node for regional training in cybersecurity, cyber incident management, critical information protection and cooperation against cybercrime. However, there is also room in its mandate for the incorporation of regulatory dialogues on AI, as well as training in cyber diplomacy and integration with the Latin American and European private sector.

The LAC4 is located under the umbrella of the European network EU CyberNet, which aims to harmonise regulatory frameworks with European standards and to promote critical infrastructure protection projects. However, it could benefit from the support and greater involvement of European countries. In addition, the creation of a regional network of cyber ambassadors, a counterpart to the Digital Diplomacy Network (DDN) led by the European External Action Service (EEAS), provides an opportunity to define positions ahead of votes in the United Nations and other multilateral fora. This will improve coordination and cyber diplomacy capacities in the region.

Finally, Brazil, the first regional economy, is leading initiatives to align its Civil Internet Framework and compliance with European data protection law. This cooperation strengthens investigations against cybercrime and has boosted the Secure 5G Project, adopting regulations based on European guidelines to reduce vulnerabilities in critical infrastructures and ensure compatibility between regions. In this regard, the EU and Brazil hold regular digital dialogues establishing a roadmap on key issues such as high-performance computing, ethics in AI, and digital inclusion¹². This initiative promotes projects such as the development of language models in Portuguese, the creation of regulatory sandboxes in sectors such as health and agriculture, and training in emerging sectors such as algorithmic auditing. However, the discussion on EU-Brazil cybersecurity, which has been relegated to a secondary plane but is nevertheless inseparable from the dialogue on connectivity, must be reopened.

¹¹ The European Digital Identity Framework Regulation, in force since May 2024, requires all European countries to offer an EU Digital Identity Wallet to citizens and residents by 2026, thus ensuring digital identity across the EU. A pilot project is underway, involving all 26 member states and other partners such as Norway, Iceland, and Ukraine.

¹² https://digital-strategy.ec.europa.eu/en/news/13th-eu-brazil-digital-dialogue-reinforces-digital-cooperation

Recommendations on Cybersecurity

1. Strengthen domestic capabilities to respond to cyberattacks, fostering interinstitutional and intra-regional collaboration, and investing in infrastructure with the support of initiatives such as CSIRT Americas.

2. Promote the use of existing tools such as ECLAC's Regulatory Sandbox Maturity Assessment, the European toolbox for 5G network cybersecurity, or the X-Road interoperability platform.

3. Promote the implementation of digital solutions for interaction with public administration and cross-border data flow using the support of the EU with its digital identity model.

4. Support governments in the region in monitoring and protecting electoral processes and in the fight against disinformation and online harm.

5. Expand the competences of LAC4 to include AI regulatory dialogues and cyber diplomacy training. Encourage the involvement of the bi-regional private sector to achieve financial autonomy. Promote greater institutional support from European member states for LAC4.

6. Establish a regional network of cyber ambassadors, a counterpart to the European DDN, to define positions ahead of UN voting and improve regional coordination and capacities in cyber diplomacy.

7. Ensure dialogue and regulatory compatibility with Brazil for the deployment of strategic projects in supercomputing, ethical AI, digital inclusion, and cutting-edge technology applications in sectors such as health and agriculture. Also, reopen the EU-Brazil cybersecurity dialogue, which is inseparable from the connectivity dialogue.

4.4. Green tech

The symbiosis between digital and green is already a reality. AI has the potential to extend the useful life of electric vehicle batteries, facilitate the integration of renewable energies in production processes, or improve water efficiency in agriculture. In addition, it is already being used to track threats to ecosystems in remote regions, predict natural disasters, and optimise the deployment of resources. AI is also autonomously moving towards greater energy sustainability by optimising the use of data centre capacities or even driving smart and sustainable mining of the rare earths required to manufacture the processors on which it is based. The next step will be to accelerate this symbiosis with EU-LAC cooperation strategies focusing on three areas: smart cities, the energy sector, and the agricultural sector.

Latin America and the Caribbean is one of the most urbanised areas in the world. According to the World Bank, 82% of the population will live in cities by 2023, the same as the OECD average. The implementation of efficient technological solutions based on the Internet of Things (IoT) represents a great opportunity. The agenda of so-called *smart cities* relies on IoT solutions, from urban mobility and transport to avoid traffic congestion and pollution, to energy efficiency or waste management thanks to sensors that measure weights, temperatures, and flows of people and vehicles in real time. IoT-based policymaking is not without its challenges, ranging from energy use to data privacy and security, platform fragmentation and lack of scalability. For Latin America and the Caribbean, a middle-income region, it is imperative to solve a number of challenges in the short term: human capital shortages; regulatory upgrading (data privacy and security, competition, taxation); and quality, affordable connectivity (Melguizo and Muñoz, 2022).

In the energy sector, AI's intensive use of energy may put most environmental and sustainability goals at risk. As the International Telecommunication Union points out, operational greenhouse gas emissions from Alphabet, Amazon and Microsoft increased by 62% since 2020, and electricity by 78%, reaching what Colombia and the Dominican Republic consume in a year (ITU, 2024). Added to this is the enormous water consumption required for the massive computing that underpins AI models. On the other hand, there is increasing evidence of AI-driven innovations in energy issues that lay the foundations for a more sustainable future. These innovations involve making their processes more sustainable through reduced energy use or energy from renewable sources, as well as advanced cooling technologies. AI also plays a transformative role in the energy sector through predictive analytics, optimising energy consumption in real time and adjusting demand based on environmental and operational data. In addition, AI facilitates the integration of renewable energy sources by forecasting the variability of solar or wind generation. Finally, through its machine learning, it can prevent grid failures, increasing reliability and sectoral security (Lebdioui, Melguizo and Muñoz, 2025).

Finally, the growing competition between the US and China for economic and technological dominance raises the food security risks that the region is facing. The agriculture sector accounts for approximately 10% of GDP in Latin America and the Caribbean and holds great potential for digitisation. The Latin American market for precision farming solutions is expected to grow from USD 1.21 billion to USD 2.13 billion between 2021 and 2026. Brazil and Argentina lead the region in number and variety of startups for improving on-farm processes with Industry 4.0 technology. This translates into farm management solutions, data integration systems, marketing and logistics platforms, and traceability (ECLAC, 2022).

AI is a catalyst for the triple energy, digital and social transition. In order to avoid the deepening of already existing social divides, coordinated management of these transitions is required (Aguilar et al., 2023). In this respect, European companies, given their experience and capacity to invest in cutting-edge sustainable technologies, have the potential to lead AI-driven sectors in Latin America and the Caribbean.

Recommendations on Green tech

1. Support, through public-private and development bank financing projects, the introduction of AI-based technologies to achieve efficiency in the energy sector, as well as the transition to renewable energy in energy-intensive sectors such as telecommunications, mobility, and finance.

2. Boost the technological development of the agri-food sector to consolidate the region as a global solution for food security.

3. Support Euro-Latin American start-ups that propose AI-based sectoral solutions and thus foster the reindustrialisation of bi-regional economies.

4. Encourage the development of smart cities with IoT and AI to favour the mobility of people, efficient use of resources and promote citizen security.

5. Promote a network of sustainable data centres, within productive development policies, to generate formal jobs and innovation clusters.

4.5. Governance of the Digital Alliance

The EU-LAC Digital Alliance has all the elements to become a positive agenda between the two regions. Both regions share not only the vision of the role that technology should play in economic and social development and the values on which to inspire and underpin its regulation and deployment. Moreover, the two regions are exposed to similar geopolitical and geo-economic pressures that lead them to seek to reduce their dependencies and vulnerabilities to the influence and coercion of third actors. Finally, they also share a fear of being left behind in both the development and deployment of critical technologies.

However, this agenda also faces multiple obstacles that may call into question its realisation. On the European side, even though in recent years the EU has been reviving its relations with the region, the response to the multiple challenges that the Trump administration is posing to the EU in the security, economic, trade and democratic spheres will inevitably absorb much of the energies of Brussels and European capitals. This is particularly evident in the resolution of the conflict in Ukraine, an existential question for the future of the continent, as well as in tariff-related issues.

On the Latin American side, the Trump administration's trade, migration, and security agenda also presents a major challenge for the region. Not only will it absorb equal energies and dedication, but it may further fragment it. This is not to say that the EU-LAC relationship cannot emerge stronger from this crisis. On the contrary, as we are seeing politically and commercially, it makes perfect sense. Precisely for this reason, the main sign of the strength of this vision and commitment should be the ratification of the EU-Mercosur Agreement.

However, this momentum in bi-regional relations, while necessary, faces some limitations. So far, the governance of the Digital Alliance has been hampered by several factors. One is the asymmetry between the two actors. On the one hand, the Latin American region is highly diverse and unequal, poorly integrated, and lacks regional institutions comparable to the EU.

CELAC, although it has inclusiveness and representativeness in its favour, can hardly provide the agency and leadership to sustain the Digital Alliance in the long periods between the biannual summits. Thus, the Digital Alliance should be endowed with a permanent coordination mechanism hosted by CELAC, in charge of monitoring and giving visibility to the bi-regional digital policy agenda. This mechanism should act as a node between networks and institutions already consolidated in the region. This is the case of RedCLARA¹³, which is fundamental to the progress of the BELLA scientific and academic connectivity project, or the Network of e-Government of Latin America and the Caribbean (Red GEALC). Such a mechanism should also act in coordination with regional groupings such as SICA (Central American Integration System) or CARICOM, and backed by bilateral efforts, in the European relationship with Mexico, Brazil, and Colombia. This can lead to a spillover effect, boosting leadership and collaboration between actors and countries in the region.

An added challenge for the region lies in the disparity and quality of regulation, sometimes accentuated by legal uncertainty and political instability. Often a consequence of the weakness of the state and its institutions, such uncertainties create a bottleneck for attracting foreign investment and signing trade liberalisation or services agreements. On the EU side, there has been a sharp contrast between the geopolitical rhetoric, visible in the launch of *Global Gateway* as an ambitious strategy to compete with China's global presence, and the reality of the programme's budgets, projects and implementation, which have been extremely modest and thus unable to make the EU competitive with China and the US.

Moreover, the coordination of the European Commission and the European Investment Bank (EIB) with development banks, such as the IDB, CAF and the World Bank, the private and financial sector

¹³ RedCLARA (the Latin American Cooperation of Advanced Networks) is the regional equivalent of GÉANT, the pan-European research and education network. https://www.redclara.net/en/

in both regions in the design and implementation of *Global Gateway* has not been sufficiently robust to allow the synergies of public-private collaboration to be explored and exploited to the full and to offer attractive investment conditions to companies and countries in the region.

As a result, the *Global Gateway* is far from being able to compete with the investment packages provided by China in the Belt and Road Initiative or the Digital Silk Road programmes, and the role of European companies, for example, in the telecommunications sector is declining, with the consequent loss of presence and influence in the region, in favour of large US and Chinese technology companies.

Similarly, the governance of the Digital Alliance has suffered from problems of fragmentation and agency, as well as coordination between the European Commission and member states, and between the European institutions themselves. Despite the *Team Europe* initiatives coordinated under the *D4D Hub*, member states have been very unevenly engaged, highlighting the lack of effective capacities to develop this agenda by EU member states' cooperation agencies and ministries of Foreign Affairs, Economy and Finance, and Digital Transformation.

The insufficient coordination between the High Representative and the European External Action Service (EEAS) with the Directorate-General for Partnerships (INTPA), and in turn between the latter and the Directorate General for Connectivity (CONNECT), has hindered the Alliance. To function properly, the Alliance needs to be more institutionalised, reflecting the continued commitment of both the Commission and the member states, as well as greater capacities on the ground, since EU delegations in the region currently lack the human and material resources to accompany the process effectively.

In the case of Spain, the absence of a development cooperation strategy for digital issues and the fragmentation of actors and initiatives among its relevant institutions (FIIAPP, COFIDES, ICEX, AECID) limit its ability to lead the Digital Alliance. It would therefore be advisable to have a more institutionalised strategy and better coordination.

The Digital Alliance would greatly benefit from a thorough review of existing trade and association agreements in order to incorporate the digital and technology cooperation agenda into them. Alternatively, the EU could promote the negotiation of free trade agreements on digital services, including the free flow of data within and between regions and cooperation on technology infrastructures. Despite decades of EU support for the region's digital development, it is not seen as a technological benchmark in Latin America and the Caribbean, where it competes at a distance with the US and China. To attract attention and position itself as a true alternative, the EU must overcome its shortcomings in leadership, agency, financing, internal coordination, and public-private cooperation.

Recommendations on governance of the Digital Alliance

1. Institutionalise the bi-regional political agenda between summits through a permanent mechanism under CELAC in collaboration with existing networks and institutions (GEALC Network, RedCLARA), regional groupings (SICA, CARICOM) and at the bilateral level in the European relationship with countries such as Colombia, Mexico, and Brazil.

2. Reduce regulatory asymmetry in the region and promote measures to alleviate legal and political insecurity in order to attract investment to the region.

3. Improve coordination between the European Commission and the European Investment Bank (EIB) with development banks (IDB, CAF, World Bank) and with the private and financial sectors of both regions in Global Gateway projects, to fully exploit public-private synergies.

4. Strengthen the European Commission's coordination with member states under the *Team Europe* initiatives in the framework of the *D4D Hub*, and also between the European institutions themselves (EEAS, DG INTPA, and CONNECT). Provide more resources and capacity to EU delegations in the region to support the Digital Alliance and Global Gateway projects.

5. At the level of European member atates, foster coordination between cooperation agencies and the Ministries of Foreign Affairs, Economy and Finance, and Digital Transformation. In the case of Spain, it is essential to design a strategy for development cooperation on digital matters, and to provide the necessary tools for effective coordination among all involved institutions.

6. Promote free trade agreements in digital services, including the free flow of data within and between regions, cooperation in technology infrastructures, and related areas.

5. Conclusions

In a context marked by international volatility and increasing geopolitical confrontation, digital cooperation between the European Union and Latin America and the Caribbean takes on renewed strategic importance. Both regions share interests that call for closer collaboration on economic security, digital development and the defence of democratic values. The two of them seek to reduce their technological and supply chain dependencies on China and the US. As a consequence, they need to establish partnerships in areas of strategic interest for industrial development, economic progress and national security, such as AI, supercomputing, cybersecurity and the sourcing of critical raw materials for the ecological transition and the reindustrialisation of their economies. In turn, Latin American and Caribbean countries need partners to promote sustainable development, technology transfer and the strengthening of their digital sovereignty. Such alliances would be facilitated if the region were to foster its own regional integration, which would align positions and integrate its economies in the face of common challenges: the return of protectionist measures to trade, the response to organised crime, climate change, or demographic decline.

Looking ahead to the next EU-CELAC summit in Colombia in 2025, a stronger partnership between the two regions will not only reduce economic vulnerabilities and technological dependencies, but also reinforce a common vision based on upholding multilateralism, free trade and the protection of democracy. Instead of relying on volatile geopolitics dictated by the interests of Washington or Beijing, the EU and Latin America and the Caribbean have the opportunity to build a cooperation bloc capable of being autonomous, interdependent, and resilient. Only in close cooperation will both regions be able to defend their interests in an increasingly fragmented world. The generation of digital talent, the creation of secure critical infrastructures, cyber diplomacy, and the creation of structures for continued political dialogue should mark the cooperation agenda and the roadmap after the next summit.

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