

The investment dimension of digital strategies

HIGHLIGHTS

- ▶ **Adoption of digital strategies is accelerating, but gaps persist in their integration with other policies.** By 2024, 86 per cent of developing countries and 80 per cent of least developed countries (LDCs) had a national digital strategy, up from under 50 per cent and 25 per cent in 2017. Although recent strategies are more comprehensive, many lack alignment with broader development, investment, industrial and environmental policies.
- ▶ **The investment promotion dimension remains limited.** Many strategies address enabling conditions, such as regulatory frameworks and infrastructure, but explicit investment targets and promotion measures are rare: fewer than half mention foreign direct investment (FDI), and only 20 per cent refer to investment promotion agencies (IPAs).
- ▶ **Environmental sustainability is insufficiently embedded.** Despite the growing environmental footprint of the digital economy—including energy use, emissions, water consumption and electronic waste—only 55 per cent of developing countries' strategies mention environmental sustainability, often in broad terms. This is notable given its growing importance for investment decisions, particularly in sectors such as data centres and semiconductors.
- ▶ **Sector- and technology-specific strategies are scarce.** Strategies for artificial intelligence (AI), data centres and semiconductors can boost investment attraction by clarifying priorities, regulatory needs and, in some cases, sustainability standards, thus offering concrete tools to mobilize investment. However, their adoption remains limited, particularly in developing countries.
- ▶ **Regional digital strategies differ in investment focus and national uptake.** These frameworks promote policy harmonization, interoperability and coordinated infrastructure development. However, uptake at national level is uneven, and so is their emphasis on investment.
- ▶ **Aligning digital strategies with investment and sustainability objectives is key to investment attraction.** Integrated frameworks linking digital, industrial, investment and environmental policies improve policy coherence and send clearer signals to investors, while supporting coordinated implementation.

Introduction

The digital economy is expanding rapidly, creating new opportunities for economic growth and structural transformation worldwide. In developing countries, digitalization is increasingly recognized as a key driver of productivity, innovation and sustainable development. However, UNCTAD's recent World Investment Report 2025 shows that investment in the digital economy remains highly concentrated: over 80 per cent of greenfield FDI in digital sectors flows to just 10 developing economies, mainly in Asia. Growth is also uneven across sectors. In 2024, international investment in digital services in developing countries reached \$37 billion in 2024, while investment in core infrastructure remained limited, at \$9 billion. Globally, greenfield investment in ICT infrastructure amounted to \$15 billion – far below the \$62 billion needed annually. Data centres and fintech investment also tend to favour middle-income economies, with just 3 per cent reaching least developed countries (UNCTAD, 2025).

To close these gaps and unlock digital investment, countries increasingly require a comprehensive policy toolbox with diverse instruments capable of creating virtuous dynamics across different levels of government and markets. A key consideration is understanding how regional, sub-regional and national strategies — together with technology- and sector-specific strategies — can complement each other to foster investment and accelerate digital transformation. These strategies help shape the enabling environment for the development of the digital economy, including infrastructure expansion and technology adoption. Their introduction also signals a government's commitment to digital transformation, offering investors greater predictability and confidence in the country's digital trajectory.

This Investment Policy Monitor builds on the findings of the World Investment Report 2025: International investment in the digital economy. It reviews regional, national and sectoral or technology specific digital strategies, focusing on their investment-related components and identifying common gaps. Section 1 analyses regional digital strategies, highlighting commonalities and differences in policy approaches. Section 2 maps the investment dimensions of national digital strategies in developing countries, assessing coverage of regulatory frameworks, infrastructure development, digital skills and investment promotion. Section 3 reviews selected technology- and sector-specific strategies, focussing on AI, data centres and semiconductors.

1. Regional digital strategies

Regional digital strategies have become important tools for guiding national digital policy development, fostering cross-border policy coherence and facilitating regional cooperation on digital infrastructure. By promoting the alignment of standards, facilitating interoperability and encouraging joint policy action and regulatory harmonization, these frameworks can enhance a region's attractiveness to FDI. This section reviews several regional digital strategies in Africa, Asia, Europe, and Latin America and the Caribbean, highlighting their main objectives, institutional mechanisms and policy priorities, with a focus on investment-related components.

a. Africa

The continent's digital transformation is guided by an expanding network of continental and subregional strategies aimed at unlocking the continent's digital potential, advancing socio-economic inclusion and attracting investment for technology-driven growth. The African Union's Digital Transformation Strategy for Africa (2020–2030) serves as the overarching blueprint, envisioning an integrated digital economy that empowers citizens, reduces poverty, stimulates innovation and expands access to both public and private services.

The strategy emphasizes cross-sectoral and cross-border initiatives, prioritizing infrastructure development, digital skills enhancement, policy harmonization and the creation of a Digital Single Market by 2030. Regulatory coherence and regional coordination, in particular, are considered central to positioning Africa as an attractive destination for international investment in the digital economy.



Investment promotion is a core pillar of the strategy, which calls for infrastructure mapping, innovative financing, blended finance, conducive regulatory frameworks and active participation by African and foreign investors, including through joint ventures. Key priorities include establishing a single African payments area, supporting digital innovation centres, and creating a digital sovereignty fund to finance infrastructure gaps.

To operationalize the strategy, the African Development Bank's Digital Transformation Action Plan (DTAP) 2024–2028 focuses on scaling inclusive digital infrastructure through public-private partnerships (PPPs) and blended finance, alongside investment in digital entrepreneurship, skills and Fourth Industrial Revolution technologies. Complementary support comes from the World Bank's Digital Economy for Africa (DE4A) initiative, which has financed over 70 projects in 37 countries since 2019, in broadband, digital public infrastructure and regulatory reforms (World Bank, 2024).

Additional initiatives reinforce these objectives:

- The Smart Africa Alliance is a multi-stakeholder initiative involving over 40 countries, development partners and private sector actors working with governments to accelerate digital transformation through PPPs. Its focus spans broadband expansion, digital identity, e-commerce and cross-border data systems, with an emphasis on bankable projects and scalable digital solutions.
- The African Continental Free Trade Area (AfCFTA) Protocol on Digital Trade aims to establish a regulatory framework for cross-border e-commerce and digital services, covering data governance, cybersecurity, e-signatures, digital identity and consumer protection. It aims to reduce costs and complexity in cross-border digital trade, benefiting startups, small and medium-sized enterprises and investors.

At the subregional level, the East African Community (EAC), the Economic Community of West African States (ECOWAS) and the Southern African Development Community (SADC) have adopted strategies aligned with the continental agenda. They focus on policy harmonization, connectivity and private sector engagement. Yet, only about half of African countries explicitly reference continental or subregional strategies in their national digital strategies, which may limit their impact on policy alignment, regional coordination and investment attraction.

b. Asia

Asia's regional approaches vary across subregions but share the goal of accelerating digital development and integration.

Central Asia: The Central Asia Regional Economic Cooperation (CAREC) Digital Strategy 2030, adopted in 2022 with support from the Asian Development Bank, seeks to build a shared Digital Space to boost inclusive growth, competitiveness and post-pandemic recovery. It prioritizes investment in infrastructure, policy harmonization, digital skills and innovation. Recognizing that investment is essential for bridging connectivity gaps, the strategy calls for public-private funding, incentives for investors and start-ups, and targeted projects, such as rural broadband, in underserved areas, as well as high-potential ventures like e-commerce platforms, smart cities and digital agriculture.

Southeast Asia: the Association of Southeast Asian Nations' (ASEAN) digital integration efforts trace back to ASEAN Vision 2020 and early ICT masterplans, which have evolved into a comprehensive regional strategy. The ASEAN Digital Masterplan 2025 and the Bandar Seri Begawan Roadmap promote cross-border digital trade, e-commerce, payments and cybersecurity, while the ASEAN Digital Economy Framework Agreement (under negotiation) aims to create a legally binding unified digital market with greater interoperability.

The Masterplan acknowledges that persistent infrastructure gaps stem partly from limited domestic financing and encourages regulatory harmonization and reform to attract private investment. The forthcoming Framework Agreement aims to harmonize digital trade rules, enable interoperable digital payments and e-invoicing. The agreement also emphasizes several regulatory reforms crucial to investment attraction, including the mutual recognition of digital identities, secure and trusted cross-border data flows with strong privacy protections, and robust frameworks for online safety and cybersecurity. Additionally, it addresses fair competition policy, regulatory cooperation on emerging technologies like AI, and regional collaboration to develop digital skills and promote talent mobility.



While member States retain autonomy over their national policies, ASEAN's initiatives provide shared objectives, policy recommendations and regulatory guidelines that help shaping national agendas. For example, Singapore and Malaysia have aligned policies with ASEAN's cross-border trade and payments goals, while Viet Nam and Indonesia have incorporated ASEAN's cybersecurity and digital talent priorities.

c. Latin America and the Caribbean

The Digital Agenda for Latin America and the Caribbean (eLAC), first launched in 2005, is a non-binding cooperation framework for policy alignment, regional integration and the exchange of best practices to accelerate digital transformation. Initially focused on Internet access and e-government, it has expanded to broadband, cybersecurity, emerging technologies and AI.

The current eLAC2026 centres on three axes: connectivity and infrastructure, digital governance, and innovation with emerging technologies and AI. It fosters regional cooperation and promotes policy coordination to tackle persistent challenges such as low economic growth, inequality and weak governance. Approximately 70 per cent of countries in the region explicitly reference regional strategies and frameworks in their national digital strategies, with Brazil, Chile and Colombia being particularly aligned on broadband expansion, AI adoption and digital inclusion.

While investment promotion is acknowledged in eLAC2026, the framework concentrates on enabling conditions – such as universal access funds, regulatory frameworks and infrastructure-sharing strategies – rather than large scale private capital mobilization initiatives. Financing remains project-based, from national budgets, multilaterals, donors and private partners, with regional support coordinated through initiatives like the EU–LAC Digital Alliance.

d. Europe

The 2030 Digital Compass, the European Way for the Digital Decade, sets out the European Union's vision for achieving digital transformation. The strategy is structured around four key targets: a digitally skilled population and workforce, secure and sustainable digital infrastructure, digital transformation of businesses and digitalization of public services. Priorities include full gigabit connectivity, cloud and edge infrastructure development, semiconductor production and quantum computing.

The Compass underscores the need for large-scale investments from both public and private sources. Investment mobilization relies on European Union budget instruments, national contributions and private sector financing. Key European Union funding sources include the Cohesion programmes, the Technical Support Instrument, the Digital Europe Programme and the Recovery and Resilience Facility.

The Digital Decade Policy Programme 2030, adopted in 2022, makes the strategy binding by setting measurable targets and requiring national roadmaps. It introduces joint monitoring, coordinated investment via multi-country projects, and European Digital Infrastructure Consortia (EDICs) for large-scale infrastructure. Member States must plan and report on mobilizing both public and private resources to meet the Digital Compass goals.

As highlighted in this section and in table 1, while all regional strategies promote interconnectivity and regional integration, they differ in their investment focus and in the extent to which they are embedded in national plans. Africa's framework prioritizes blended finance, PPPs and infrastructure investment, but is referenced in only about half of national strategies. In Asia, CAREC and ASEAN promote investment through regulatory alignment and interoperability, yet national uptake is uneven, although a binding framework is under negotiation. In Latin America and the Caribbean, eLAC2026 addresses investment mainly through enabling conditions, with 70 per cent of countries referencing it in their national strategies. The European Union combines strong investment provisions with binding requirements, ensuring full alignment at the national level.





Table 1
Regional digital strategies: objectives and investment focus

Region/strategy	Scope and main objectives	Investment-related focus
Africa – Digital Transformation Strategy for Africa (2020–2030)	Continental blueprint for integrated digital economy, priorities include infrastructure, skills, policy harmonization and Digital Single Market by 2030.	Investment in telecommunication infrastructure, infrastructure mapping, innovative and blended finance, conducive regulation, participation of African and foreign investors, single African payments area and digital sovereignty fund.
Africa – Subregional strategies (EAC, ECOWAS, SADC)	Align with continental agenda; focus on connectivity, harmonization, inclusion.	Promote private sector participation, regional PPPs, e-commerce readiness.
Asia – CAREC Digital Strategy 2030	Shared CAREC Digital Space; governance, policy, infrastructure, skills, entrepreneurship.	Mobilization of public/private funding, incentives for investors/start-ups, priority project pipeline, rural broadband, smart cities, e-commerce and digital agriculture.
Asia – ASEAN Digital Masterplan 2025	Cross-border trade, e-commerce, digital payments, cybersecurity.	Regulatory harmonization: enabling environment for private infrastructure investment and sharing of regulatory best practices for investment.
Asia – ASEAN Digital Economy Framework Agreement (negotiating)	Legally binding framework for unified digital market; interoperability.	Rules on digital trade, payments, data flows, privacy, AI, cybersecurity; talent mobility.
Latin America and the Caribbean – eLAC2026	Non-binding agenda; connectivity, governance, innovation/AI.	Focus on enabling conditions (universal access funds, infrastructure-sharing); investment environment enhancement.
European Union – 2030 Digital Compass	Four targets: skills, infrastructure, business transformation, public services.	Large-scale public/private investment; multi-country projects; cross-border infrastructure.

Source: UNCTAD, based on the review of individual strategies.



2. National digital strategies

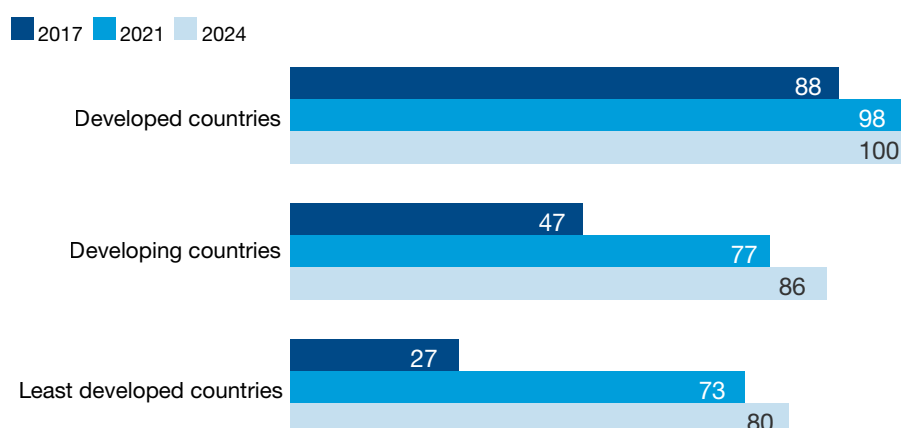
National digital strategies are central policy instruments for steering digital transformation at the country level. They set out the government's vision, priorities and implementation frameworks for developing the digital economy. These strategies typically address public administration, infrastructure development, private sector digital adoption, the growth of digital economy sectors and the use of digital technologies for broader societal goals. While their scope, structure and detail vary, most aim to create enabling conditions for digital economy development and to attract investment in digital infrastructure and services.

Progress in adoption has been significant. In 2017, fewer than half of developing countries and only about a quarter of LDCs had a national digital strategy (UNCTAD, 2017). By 2024, these shares had risen to 86 per cent and 80 per cent, respectively (figure 1). Some countries were early movers—including Armenia (2008), Colombia (2014), Kenya (2013), Mexico (2013), Nigeria (2012), Peru (2011), Rwanda (2015), Singapore (2006) and South Africa (2016)—and are now among the stronger performers in attracting digital economy investment.



Figure 1

Developing countries are closing the gap in digital strategy development
Share of countries that have adopted a national digital strategy
(percentage)

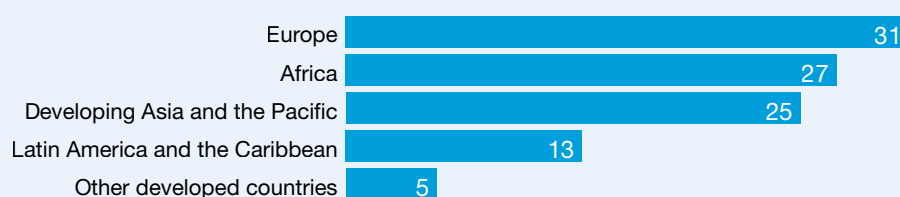


Source: UNCTAD and ITU.

Over time, these strategies have evolved from broad policy statements to more structured frameworks with operational priorities and measurable objectives. Earlier strategies often lacked specificity and varied markedly between developed and developing countries (WIR2017). In contrast, recent strategies, as analysed in the World Investment Report 2025 through the mapping exercise presented in box 1, tend to be more comprehensive, placing greater emphasis on regulatory frameworks, infrastructure development, digital skills and the digitalization of public services. While investment promotion is not always addressed explicitly, many strategies include measures to create enabling conditions for both domestic and foreign investment in digital infrastructure, services and technologies.

**Box 1**
Mapping methodology

This monitor defines national digital strategies as government-led policy frameworks that outline a country's vision, goals and actions for the development of the digital economy. The analysis does not include strategies that are solely focused on digital government.¹ Based on the International Telecommunication Union (ITU) database of digital strategies and additional desktop research, UNCTAD has mapped 101 national digital strategies from all regions (see box figure 1.1), representing 60 per cent of countries with a strategy in place. The coverage includes 36 developed countries, 45 developing countries (excluding LDCs) and 20 LDCs. While all strategies were in effect as of March 2025, their adoption dates span from 2015 to 2025.

**Box figure 1.1**
Number of digital strategies mapped per region

Among others, the mapping exercise examined the extent to which national digital strategies identify investment needs, indicate sources of financing, mention private sector investment, identify priority sectors and explicitly refer to FDI as a source of financing for the digital economy.

Source: UNCTAD

¹ The development of electronic government is often considered a key step in a country's digital transformation. Several countries, including Bhutan, Brazil, El Salvador, the Plurinational State of Bolivia, Saudi Arabia, the United Arab Emirates and the United Republic of Tanzania all adopted an e-gov strategy in the early 2000s, well before adopting a national digital strategy.

a. Cross-cutting policy priorities

Most national digital strategies also address key cross-cutting policy objectives with important implications for investment. Digital inclusivity remains a central focus, with 97 per cent of developed country strategies and 88 per cent of developing country strategies addressing it (figure 2). Common priorities include expanding digital infrastructure—especially in rural and underserved areas—and strengthening digital skills among vulnerable populations. These priorities not only require increased investment but also contribute to building a more skilled and digitally empowered workforce, thereby enhancing a country's overall investment attractiveness.

While earlier strategies concentrated on basic connectivity, many now include data centres and national computing infrastructure, recognizing their strategic importance and potential to attract both domestic and foreign investment. Their development often requires significant public and private capital, and governments are actively positioning such projects to attract foreign and domestic capital through PPPs, for instance.

Similarly, the growing emphasis on digital skills development supports investment by ensuring a pipeline of talent. Nearly all national strategies adopt a dual approach: extending basic digital competencies to underserved groups and developing advanced skills innovation ecosystems and support investment in high-value sectors such as AI, cybersecurity and data science.



**Figure 2****Inclusivity mainstreamed, but sustainability lags in digital strategies**

Share of strategies that refer to inclusivity and environmental sustainability (percentage)



Source: UNCTAD.

b. Environmental sustainability

Environmental challenges associated with the development of the digital economy include resource depletion from digital devices and infrastructure, high energy use, significant water consumption for data centre cooling and electronics production, and growing electronic waste (UNCTAD, 2024). A significant gap remains between developed and developing countries in addressing the environmental impacts of the digital economy in national digital strategies. While 86 per cent of developed countries mention or discuss such concerns, only 55 per cent of developing countries do so (figure 2).

In addition, environmental considerations are often framed broadly, emphasizing alignment with the Paris Agreement and the Sustainable Development Goals but lacking specific metrics or sector-specific policies. However, some developing countries, such as Burkina Faso and Samoa, as well as the regional strategy for Africa, explicitly highlight electronic waste as a major concern.

Energy consumption is rarely mentioned as a primary concern in digital strategies. Countries seeking to attract investment in data centres constitute an exception and usually develop industry-specific strategies addressing these concerns. For instance, Chile's recent data centres plan prioritizes energy concerns, China emphasizes the need for improved energy efficiency and renewable energy use in data centres, and Finland aims for all data centres to be carbon neutral. Qatar similarly stresses the need to transform its data centres into climate-neutral entities, ensuring that every investment in digital infrastructure is matched with investment in green and renewable energy. Singapore has also launched a standard for optimizing energy efficiency in data centres in tropical climates.

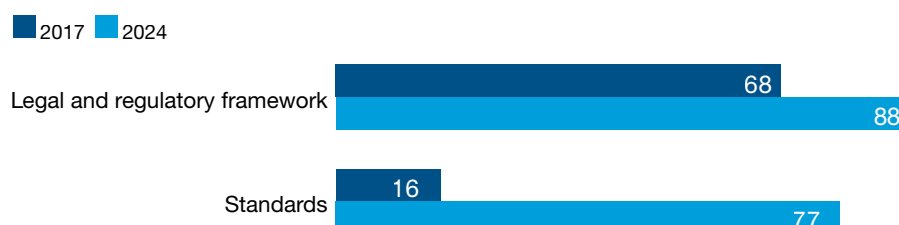
Most digital strategies in developed countries, as well as several in developing countries, highlight the positive role of the digital transition in advancing the green transition. The digital economy and AI are frequently cited as key enablers of the energy transition and the shift towards a circular, low-carbon economy. This is reflected, for instance, in the strategies of Austria, Bulgaria, the Islamic Republic of Iran, New Zealand, Rwanda, Spain, Sri Lanka, Thailand and Uruguay.

c. Enabling investment environment

National digital strategies have increasingly incorporated foundational conditions for investment attraction. In 2017, only about two thirds of strategies addressed key aspects of legal and regulatory frameworks for investment in the digital economy. By 2024, this had risen to 88 per cent (figure 3), reflecting growing awareness of the need for policy frameworks that keep pace with rapid digital developments.

**Figure 3****Regulatory framework increasingly addressed in national digital strategies**

Share of strategies that refer to the development of the legal and regulatory framework and standards for the digital economy (percentage)



Source: UNCTAD.

Most strategies prioritize a common set of horizontal policies that form the core of digital development agendas. Two regulatory areas stand out in particular: cybersecurity and data privacy. These topics, considered crucial to investment attraction in the digital economy, were largely absent from national strategies prior to 2017 but are now addressed in most strategies, often in dedicated chapters, reflecting the rising importance of digital governance. Standards development has also gained prominence, rising from 16 per cent of strategies in 2017 to 77 per cent in 2024, with higher prevalence in developed economies (89 per cent) than in developing ones (71 per cent).

Many strategies complement these horizontal measures with sector-specific priorities and objectives targeting key industries and technologies, though these are less common in developing countries (55 per cent), than in developed ones (78 per cent) (figure 4).

**Figure 4****Only half of developing country strategies specify priority sectors and industries**

Priority sectors and industries identified in national digital strategies (percentage)



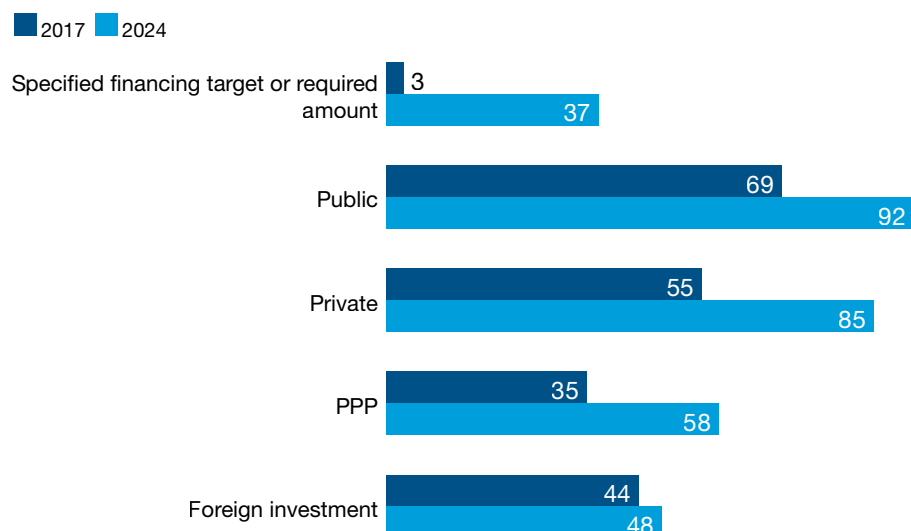
Source: UNCTAD.

d. Investment promotion in digital strategies

Despite the importance of investment, explicit targeting of FDI remains limited. Only half of national strategies refer specifically to FDI as a source of financing (figure 5), and targeted measures for sectors such as ICT infrastructure, AI or data services are rare. While some developing countries (e.g. Cambodia, Cuba, Dominican Republic, Panama) prioritize FDI in infrastructure, and others (e.g. Malaysia, Pakistan) target high-value segments like AI, cybersecurity or e-commerce, these remain exceptions.

**Figure 5****Half of national digital strategies refer to FDI**

Source of financing in national digital strategies
(per cent of strategies)



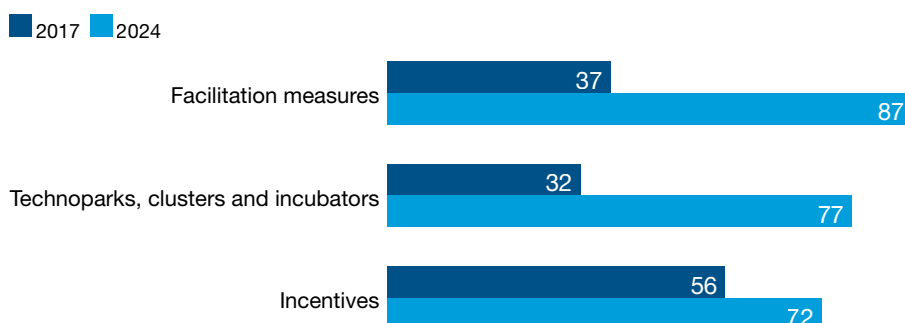
Source: UNCTAD.

Private sector participation is more widely acknowledged—85 per cent of strategies in 2024, up from 55 per cent in 2017—and PPP references increased. However, investment needs are specified in just 24 per cent of developing-country strategies, compared with 61 per cent in developed countries. Even fewer (37 per cent overall) specify financing targets or required amounts? (figure 5, with notable differences between developed countries (69 per cent) and developing countries (23 per cent)).

Mentions of IPAs are rare—20 per cent of developing-country strategies and 11 per cent of developed-country ones—despite their potential to provide a more structured approach to investment promotion in the digital economy (figure 6).

**Figure 6****Investment promotion initiatives, mainly absent in 2017, are now widespread**

Promotional measures in national digital strategies
(per cent of strategies)



Source: UNCTAD.

Facilitation measures are more common, including e-government services for business registration, visa facilitation for skilled professionals, start-up support, and the development of technoparks and industry clusters. Investment incentives are present in about 60 per cent of developing-country strategies and have increased sharply in developed economies (from 48 per cent in 2017 to 83 per cent in 2024), particularly in the EU where regional funding mechanisms encourage their inclusion.

3. Technology- and sector-specific digital strategies

The rapid evolution of technologies such as AI, data services and financial technologies underscores the need for targeted strategies and policies that look at specific sectors and technologies. Beyond fostering innovation and addressing challenges related to data privacy, cybersecurity, competition, energy use and environmental protection, these frameworks play a key role in helping attract investment. They clarify national priorities, provide regulatory certainty, and signal long-term commitment to sector development.

Despite growing recognition of their importance, targeted technology- and sector-specific strategies remain uneven across countries and sectors. This section reviews selected strategies in three increasingly critical areas for the digital economy: AI, data centres and semiconductors.

a. Artificial Intelligence

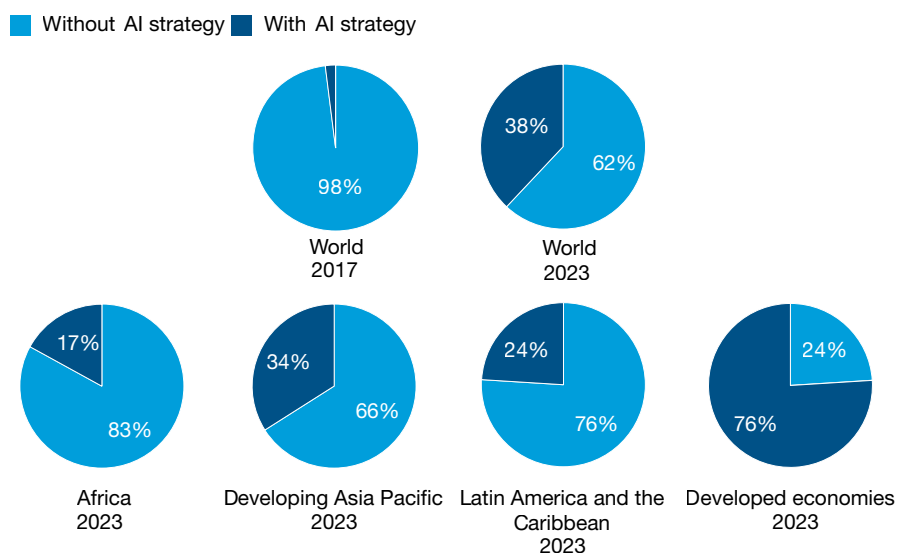
AI is both a transformative enabler of digital economies and a potential constraint if underlying policy frameworks, skills and infrastructure are lacking. AI can drive innovation, productivity gains and competitiveness across sectors, but without careful planning and governance, it may exacerbate inequalities, concentrate market power, and face resistance due to ethical and data privacy concerns. National AI strategies play a key role in defining priorities for investment, research and infrastructure development, while providing direction for the establishment of ethical and regulatory frameworks to ensure responsible and transparent use of AI, thereby building public trust.

In 2017, only three countries had adopted an AI strategy globally (Canada, China and Finland). By 2023, 38 per cent of countries globally did, though adoption varied widely: just 17 per cent of African countries and 24 per cent in Latin America had an AI strategy, compared with three quarters of developed economies (figure 7). Since then, uptake has accelerated with new strategies in countries such as Cote d'Ivoire (2025), Kenya (2025), Nigeria (2024) and Rwanda (2024). Several others are developing one, such as Azerbaijan, Bahrain, Brunei Darussalam, Cambodia, Jamaica, the Lao People's Democratic Republic and Morocco. In parallel, several countries have released updated versions of their national AI strategies to reflect new priorities and technological developments, including Brazil, Chile, Egypt and Singapore.



**Figure 7****The number of countries with national AI strategies has surged in recent years but progress remains uneven across regions**

Countries with national AI strategies, world and regions (percentage)



Source: UNCTAD based on AI Index Report (2025) – with minor processing by Our World in Data.

Approaches differ by context: some focus on economic competitiveness and technological leadership; others prioritize public service delivery, social inclusion or ethical safeguards. Most aim to balance these goals, using AI to support sustainable development and innovation, often through phased implementation and international cooperation (box 2). Although these strategies typically don't explicitly target FDI, they address foundational issues that enhance the overall investment climate for AI, thereby creating conducive conditions to attract such investments.

At the regional level, AI policy frameworks are also advancing. Two key examples are the African Union's Continental AI Strategy, adopted in 2024, and the ASEAN Responsible AI Roadmap (2025–2030), published in 2025. The African Union strategy focuses on harnessing AI for sustainable development while promoting responsible and ethical use that respects the rights, cultures and values of African populations. It prioritizes infrastructure development, skills training, regional and international cooperation, and the mobilization of public and private investment to build Africa's AI capabilities. The ASEAN roadmap similarly emphasizes regulatory development, capacity-building, inclusive AI adoption and regional cooperation, while highlighting the need to foster an enabling environment for investment in AI infrastructure, innovation ecosystems and responsible AI technologies across the region.

**Box 2****Examples of national AI strategies in developing countries**

Brazil – Brazilian AI Plan (AI for the Good of All), 2024–2028. Aims to position Brazil as a global leader in sustainable and socially beneficial AI. Structured around five axes: (a) infrastructure and national data centres, (b) training and capacity-building with focus on diversity and inclusion, (c) AI applications in health, education and public security, (d) support for business innovation, and (e) development of ethical, transparent and trustworthy governance frameworks. A budget of R\$23 billion (~\$4.2 billion) supports investment in infrastructure, innovation, talent and regulatory capacity.

Chile – National AI Policy, 2021. Seeks to establish Chile as a global leader through an AI ecosystem that integrates research, development and innovation across economic, academic and public sectors. Guided by principles of human well-being, human rights and security, sustainable development, inclusivity and global collaboration, it focuses on three pillars: enabling factors (talent, infrastructure, data), development and adoption (research, innovation, technology transfer, public services), and ethics, regulatory frameworks and socio-economic impacts.

China – Next Generation AI Development Plan, 2017. Aims to make China the world's primary centre for AI innovation. Organized in phases—achieving international competitiveness by 2020, global leadership by 2025 and industry dominance by 2030—the plan prioritizes fundamental research, high-end computing infrastructure, talent development and sectoral applications in manufacturing, agriculture, health, defence, smart cities and governance. Legal frameworks, ethical guidelines, data security and international cooperation support responsible deployment.

Kenya – AI Strategy 2025–2030. Seeks to position Kenya as Africa's leading hub for AI research, development and responsible innovation. Focus areas include digital infrastructure, sustainable data ecosystems, and promotion of local research and model development. Four cross-cutting enablers—governance and regulatory frameworks, talent development, investment mobilization, and ethical oversight—support the framework, which emphasizes data sovereignty, cybersecurity and inclusive, accountable AI.

Rwanda – National AI Policy, 2023. Aims to build Rwanda as Africa's innovation hub and a global leader in responsible, inclusive AI. Prioritizes infrastructure, data systems and digital skills to enable applications in both public services and private sector growth. Ethical guidelines ensure development of trustworthy and transparent AI. Focus sectors include health care, agriculture, transport, digital finance and e-commerce, with targeted investment and local capacity-building.

Singapore – National AI Strategy 2.0, 2023. Seeks to position Singapore as a global leader in trusted and impactful AI for public benefit. The strategy focuses on infrastructure, data ecosystems, talent development and responsible governance, with priority sectors including manufacturing, financial services, transport, biomedical sciences, health care and education. Ethical, transparent and accountable AI development is central, supported by the Model AI Governance Framework, which provides practical guidance for responsible adoption, and the AI Verify toolkit, which offers technical and process assessments to ensure trustworthy AI systems.

South Africa – National AI Policy Framework, 2024. Aims to establish South Africa as a continental leader in responsible and innovative AI. Focuses on digital and supercomputing infrastructure, research and innovation, national skills development, and ethical and transparent deployment. Data protection, cybersecurity and human oversight are integral safeguards. It emphasizes bridging digital divides and promoting socially beneficial and inclusive outcomes.

Viet Nam – National Strategy for AI Research, Development and Application through 2030, 2021. Aims to position Viet Nam as a centre for AI innovation in the ASEAN region and globally. Focuses on: (a) legal frameworks; (b) data and computing infrastructure; (c) ecosystem development through human resources and investment; (d) AI applications across enterprises, defence, security and socio-economic sectors; and (e) international cooperation.

Source: UNCTAD based on official document.



b. Data centres

Data centres are a cornerstone of the digital economy. They enable cloud computing, AI, digital services and secure data storage, acting as critical enablers of innovation, industrial transformation and digital public services. When strategically developed, they can attract major technology firms, stimulate related digital sectors and generate spillovers in skills, infrastructure and connectivity. However, without adequate planning, data centres can also become bottlenecks—placing strain on electricity grids, increasing environmental impacts and slowing digital economy expansion. These dual dynamics make a comprehensive policy approach essential, integrating investment promotion with energy and climate policy, industrial strategy and regulatory preparedness.

Countries with well-defined data centre strategies often combine competitive advantages—such as renewable energy availability, favourable climate, reliable infrastructure, suitable land and transparent data governance—with facilitation measures like streamlined permitting, fiscal incentives and targeted marketing. Increasingly, countries are also bundling data centre strategies within broader cloud policies, adopting a more comprehensive approach that addresses the entire value chain — from data management, standards and interoperability to interconnection, governance, business practices and cybersecurity. According to ITU data, 46 countries had adopted such cloud computing policies as of 2023.

Successful examples of strategies that promote investment in data centers are illustrated in box 3, which examines Guizhou Province's transformation into a national data hub, and in box 4, which provides examples of national and provincial strategies for attracting sustainable data centre investment.

**Box 3****Strategy promoting investment in data centres: The case of Guizhou Province, China**

Guizhou Province, located in southwestern China, was historically one of the country's less-developed and more remote inland regions. Recognizing its natural advantages—cool climate, abundant hydropower and lower land costs—the provincial Government launched the Big Data Guizhou Strategy in 2016 to drive industrial diversification and digital transformation by attracting investment in the data centre industry.

By prioritizing data centre development and related infrastructure, Guizhou positioned itself as a national hub for cloud computing, data storage and digital services. Investment promotion measures—such as fiscal incentives, preferential land policies and streamlined permitting—attracted major national and international technology firms, including Apple, Huawei and Tencent. By 2019, approximately 10,000 digital enterprises had been established, spanning data services, software development and cloud computing.

The launch of China's national Eastern Data, Western Computing strategy in 2020 reinforced Guizhou's role as a national digital infrastructure hub. By 2024, Guizhou accounted for approximately 23 per cent of China's total computing power and had facilitated computing transactions valued at 11.35 billion yuan (approximately \$1.56 billion). The province has implemented 26 incentive measures to attract enterprises from more developed regions, supporting business relocation and infrastructure development.

The digital economy has become a key contributor to Guizhou's development, representing 45 per cent of provincial gross domestic product as of 2024. Employment impacts are significant, with approximately 430,000 professionals engaged in digital economy sectors, supported by 20 specialized training centres and expanded digital skills education.

Guizhou's experience demonstrates how investment attraction strategies in data infrastructure can transform previously marginalized areas into dynamic digital economy hubs, supporting economic diversification, infrastructure upgrades and skills development.

Source: UNCTAD based on Guizhou Provincial Government (2025); The State Council of the People's Republic of China. (2024); China Briefing (2021 and 2024).



At the same time, regulatory misalignment and planning deficiencies can lead to constraints. In Ireland, rapid sector growth outpaced electricity grid capacity, prompting a de facto moratorium on new projects in the Dublin area and highlighting the need for better energy planning and coordination. These challenges, and the measures taken to address them, are detailed in box 5.

Sustainability considerations are increasingly integrated into data centre strategies. Measures such as renewable energy sourcing, efficiency standards and waste-heat recovery not only reduce environmental impact but also respond to investor demand for green infrastructure. Planning data centre development in parallel with energy system upgrades is critical to avoiding capacity bottlenecks and ensuring that investment in this essential infrastructure supports—rather than hinders—broader digital economy growth.

**Box 4****Example of data centre strategies and their investment focus**

Canada (Alberta): The *Alberta AI Data Centres Strategy*, adopted in 2024, aims to position Alberta as a North American hub for AI-driven data centres. It promotes investment through scalable natural gas power, cold climate for efficient cooling, low taxes, streamlined permitting and a dedicated investor concierge programme. It focuses on large-scale infrastructure development as part of economic diversification.

Chile: The *National Data Centres Plan (2024–2030)* seeks to position Chile as a regional digital hub. Investment attraction is a stated objective, leveraging renewable energy, streamlined permitting and modernized incentives to promote sustainable data infrastructure development.

China: The *Eastern Data, Western Computing Strategy*, launched in 2022, is a national strategy to shift data centre development to western provinces with lower energy costs and cooler climates. It promotes investment through regional incentives, streamlined approvals and access to lower energy costs and renewable energy, supporting national infrastructure expansion and industrial upgrading.

Norway: The *Norwegian Data Centres – Sustainable, Digital Powerhouses*, launched in 2021, aims to position Norway as a global hub for sustainable data centres by leveraging its surplus renewable hydropower, cool climate and political stability. It focuses on marketing, investment facilitation, permitting simplification and mandatory waste heat utilization to attract FDI.

Singapore: The *Green Data Centre Roadmap*, from 2024, manages sector growth under a national cap of 1.4 GW installed capacity due to resource constraints. It uses a government-led competitive approval process to allocate new capacity to the most energy-efficient and sustainable operators. Investment promotion focuses on attracting global firms through green technology incentives and by marketing Singapore's resource efficiency and regulatory stability as competitive advantages.

Source: UNCTAD based on official document and governmental websites.



**Box 5****Constraints to data centre investment in Ireland due to energy infrastructure limitations**

Investment in Ireland's data centre infrastructure has surged in recent years, but growth has been constrained by energy infrastructure limitations—particularly in the Dublin region. The rapid pace of new projects has outstripped the capacity of the national electricity grid, leading to delays in grid connections and restrictions on new investment. The grid, still heavily reliant on fossil fuels, has struggled to meet the continuous energy demands of data centres without undermining climate objectives or grid stability. In 2023, data centres accounted for 21 per cent of total electricity consumption.

In 2021, the Commission for Regulation of Utilities introduced stricter criteria for approving grid connections for data centres, imposing a de facto moratorium on new connections in the Greater Dublin Area. Implemented by EirGrid, this policy contributed to a slowdown in investment in the sector. Additional challenges, such as complex permitting processes and relatively slow roll-out of renewable energy deployment, have further limited the supply of sustainable and reliable power for new investment projects. As a result, some enterprises have considered alternative European locations for future investment.

In response, the Government of Ireland adopted a Strategy Statement on Private Wires in 2025, allowing data centres and other large energy users to build and operate private power lines. This measure aims to facilitate direct connections to renewable energy sources, easing pressure on the public grid. Key private sector stakeholders have welcomed the initiative, viewing it as a way to link facilities directly to wind and solar power.

Complementary actions include promoting on-site energy generation and storage, accelerating investment in renewable energy, modernizing the electricity grid, and supporting the development of decentralized energy infrastructure. These measures seek to ensure that future growth of the digital sector aligns with energy security and climate goals.

Source: UNCTAD based on Tohill & Dunleavy, 2025; Irue, 2025; Mason Hayes & Curran, 2025; Ember, 2025; Government of Ireland, 2025; Addleshaw Goddard LLP, 2025.

c. Semiconductors and manufacturing for the digital economy

Semiconductors are strategic enablers of digital transformation and advanced manufacturing. As global supply chains reconfigure in response to geopolitical shifts and rising demand, countries are adopting dedicated semiconductor strategies to attract FDI, strengthen domestic industries and enhance technological sovereignty.

These semiconductor strategies are, in most cases, closer to policy programmes or action plans — typically more specific and directly implementable than broader national-level or AI strategies. The adoption of such strategies in developing countries is relatively recent, and although approaches differ, they often blend fiscal and financial incentives with infrastructure investment, skills programmes and targeted promotion of specific value chain segments (box 6).



**Box 6****Example of data centre strategies and their investment focus**

Brazil's Semicon Programme (2024) aims to establish the country as a Latin American hub for back-end semiconductor activities such as assembly, encapsulation and testing. Integrated within the Nova Indústria Brasil policy, the strategy extends tax incentives for investment through 2073 and allocates up to R\$7 billion (approximately \$1.4 billion) annually in incentives through 2026. Development banks are mandated to finance infrastructure and research and development, targeting R\$24.8 billion (approximately \$5 billion) in investment by 2035. Regional development and public investment in CEITEC's silicon carbide production further support Brazil's integration into global supply chains.

Costa Rica's Semiconductor Ecosystem Roadmap (2024) focuses on attracting FDI in semiconductor assembly, testing and design, leveraging its recognition as a strategic partner under the United States CHIPS and Science Act. The strategy prioritizes human capital development, updated fiscal incentives, regulatory streamlining and targeted investment promotion to strengthen Costa Rica's role in global supply chain diversification.

India's Semiconductor Mission (2022) targets \$10 billion in public investment to develop fabrication, assembly and design capabilities. The strategy also offers substantial fiscal incentives and investment facilitation to attract multinational firms and technology partnerships, positioning India as a regional manufacturing and innovation hub.

Malaysia's National Semiconductor Strategy (2024) seeks to move beyond traditional assembly to advanced manufacturing, including wafer fabrication, integrated circuit design and equipment production. The plan targets RM500 billion (approximately \$106 billion) in private investment by 2030, supported by tax incentives, infrastructure development, research and development funding and workforce training.

Pakistan's National Semiconductor Plan (2022) focuses on entry into the global value chain through chip design and outsourced assembly and testing (OSAT). It includes investment promotion through tax incentives, the development of infrastructure in special economic zones, skills development and the establishment of investment promotion offices abroad.

Source: UNCTAD based on official documents.

Clear strategies can position economies to capture segments of the semiconductor value chain that match their capabilities—whether in fabrication, assembly, testing, design or materials—and to link these with broader digital economy objectives. By integrating investment attraction into a coordinated policy framework, countries can enhance their competitiveness in this critical industry while managing the risks of over-dependence on a single market or technology source.

4. Conclusion

As digitalization becomes a central driver of economic development, coherent national, regional and technology- and sector-specific digital strategies are critical to building enabling environments for investment in digital transformation. Regional frameworks promote policy harmonization, interoperability and cross-border cooperation, helping create broader digital markets attractive to investors. National strategies set country-specific priorities, combining infrastructure, regulatory frameworks, skills development and sectoral measures. Sector-specific strategies can serve as powerful investment promotion tools by clarifying priorities and, notably, aligning incentives in high-value sectors.

Most countries, including developing ones and LDCs, now have national digital strategies covering an increasingly broad agenda. However, investment-related provisions—especially in developing countries—are often underdeveloped. Many strategies remain disconnected from industrial and investment policies, and alignment with regional frameworks is uneven.



Investment considerations are also evolving. Beyond infrastructure and regulation, sustainability factors are becoming central to investment decisions, particularly in resource-intensive sectors such as data centres and semiconductors. Yet only about half of developing-country strategies reference environmental sustainability, often in broad terms. Countries that integrate sustainability into their investment proposition—by ensuring renewable energy access, setting sector-specific environmental standards or promoting green technologies—can strengthen their competitive edge.

To enhance the role of digital strategies in attracting investment, particularly FDI, countries should adopt a long-term, integrated policy approach. Key recommendations, drawn from UNCTAD's World Investment Report 2025 (UNCTAD, 2025), include:

- **Set a clear investment vision** – Define priority sectors, investor profiles and strategic infrastructure needs.
- **Align policy agendas** – Link digital strategies with industrial development, investment promotion and sustainability goals, ensuring complementary action in skills development, regulatory reform and infrastructure planning.
- **Integrate sustainability benchmarks** – Address the environmental footprint of digital infrastructure investment through sector-specific targets and standards.
- **Support investment planning** – Provide infrastructure gap assessments, demand projections and identification of strategic locations (e.g. for data centres and innovation hubs).
- **Target promotion efforts** – Specify the types of investments most relevant for advancing digital transformation and structural upgrading.
- **Leverage regional frameworks** – Enhancing coordination with regional strategies, to gain economies of scale, facilitate cross-border integration and promote regulatory consistency.
- **Engage investment promotion agencies** – Involve IPAs in the design and implementation of digital strategies and strengthen coordination with digital economy institutions.

The report also puts forward a multi-stakeholder action agenda to drive international investment in the digital economy and support countries at risk of being left behind. The Digital Infrastructure Investment Catalyser, launched by ITU and UNCTAD at the 4th International Conference on Financing for Development in July 2025, will be a key platform providing data, policy advice, technical assistance, and matchmaking to accelerate investment in digital connectivity.



References

- Addleshaw Goddard LLP. (2025). Energy update: Unlocking private wires in Ireland. <https://www.addleshawgoddard.com/en/insights/insights-briefings/2025/energy/energy-update-unlocking-private-wires-in-ireland/>
- China Briefing (2021). Guizhou: Investing in China's Big Data Valley and its Sustainable Development. Available at: <https://www.china-briefing.com/news/guizhou-investing-chinas-big-data-valley-and-its-sustainable-development/>
- China Briefing (2024). "Eastern Data, Western Computing" – China's Big Plan to Boost Data Center Computing Power Across Regions. Available at: <https://www.china-briefing.com/news/china-data-centers-new-cross-regional-plan-to-boost-computing-power-across-regions/>
- Ember (2025). Grids for data centres in Europe: Ambitious grid planning can win Europe's AI race. Available at: <https://ember-energy.org/app/uploads/2025/06/Report-Grids-for-data-centres-in-Europe-PDF.pdf>
- Government of Ireland (2025). Private wires policy statement. <https://www.gov.ie/en/department-of-climate-energy-and-the-environment/publications/private-wires-policy-statement/>
- Guizhou Provincial Government (2025). Guizhou poised to become major player in global digital economy. Available at: http://www.guizhou.gov.cn/2025-04/29/c_1097541.htm
- Mason Hayes & Curran (2025). Data centres in Ireland – energy concerns. <https://www.mhc.ie/latest/insights/data-centres-in-ireland-energy-concerns>
- The State Council of the People's Republic of China (2024). China's Guizhou eyes 1 trillion yuan digital economy in 2024. Available at http://english.www.gov.cn/news/202401/24/content_WS65b0f50ec6d0868f4e8e3713.html
- Tohill, P. & A. Dunleavy (2025). Data centres in Ireland: The Commission for Regulation of Utilities (CRU) Proposed Decision. Browne Jacobson LLP, 2 May 2025 available at: <https://www.brownejacobson.com/insights/data-centres-in-ireland-the-cru-proposed-decision>
- UNCTAD (2025). *World Investment report: International investment in the digital economy*. United Nations: Geneva.
- UNCTAD (2024). *Digital Economy Report 2024: Shaping an Environmentally Sustainable and Inclusive Digital Future*. United Nations: Geneva.
- UNCTAD (2017). *World Investment Report 2017: Investment and the Digital Economy*. (United Nations publication. Sales No. E.17.II.D.3. Geneva).
- Urie, M. (2025). Dublin: The Heart of Ireland's Data Centre Boom. Market Intelligence, 22 May 2025. Available at: <https://marketintel.gardiner.com/dublin-the-heart-of-irelands-data-centre-boom>
- World Bank (2024). Digital Transformation Drives Development in Africa. Result Brief. 18 January 2024. Available at: <https://www.worldbank.org/en/results/2024/01/18/digital-transformation-drives-development-in-afe-afw-africa>

Acknowledgments

This report was prepared by Mathilde Closset, Policy Research Section, Division on Investment and Enterprise (DIAE), under the supervision of Massimo Meloni, Chief, Policy Research Section, DIAE. Overall guidance was provided by Nan Li Collins, Director, DIAE.

Comments were provided by Susan Aghajani, Richard Bolwijn, Stephania Bonilla, Chantal Dupasquier, Maha El Masri, Anastasia Leskova, Yulia Lozanova, Abraham Negash, and Alex Wong.

UNCTAD gratefully acknowledges the cooperation of the International Telecommunications Union, which provided access to the database of national digital strategies.

Production of the report was supported by Beth Helfand.





Investment Policy Monitor

Division on Investment and Enterprise

