



TrainForTrade blended learning strategy to boost the digital economy in Small Island Developing States of Africa, the Caribbean and Asia and the Pacific

Technical cooperation outcome

The findings, interpretations and conclusions expressed herein are those of the authors and do not necessarily reflect the views of the United Nations or its officials or Member States.

The designations employed and the presentation of material on any map in this work do not imply the expression of any opinion whatsoever on the part of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Mention of any firm or licensed process does not imply the endorsement of the United Nations.

This publication has not been formally edited.

UNCTAD/TCS/DTL/INF/2025/8

Acknowledgements

This report was prepared by the team of the UNCTAD TrainForTrade programme. The team, led by Mark Assaf, includes Dominique Chantrel, Gonzalo Ayala, Maria Luz Jaureguiberry, Tomasz Kulaga, Johanna Bruehlmann, Janjarang Kijtikhun, Mika Jouhki, Liliane Rose Flour and Isha Abbasi.

The project under which this report is produced, *TrainForTrade blended learning strategy to boost the digital economy in small island developing States of Africa, the Caribbean and Asia and the Pacific (2022–2025)*, was implemented by the UNCTAD TrainForTrade programme in collaboration with the Economic and Social Commission for Asia and the Pacific (ESCAP), Economic Commission for Latin America and the Caribbean (ECLAC), United Nations Economic Commission for Africa (ECA), United Nations Statistics Division (UNSD), United Nations Commission on International Trade Law (UNCITRAL), United Nations resident coordinator system, World Trade Organization (WTO), Pacific Islands Forum and Caribbean Community (CARICOM).

The project was financed by the United Nations Development Account (Tranche 14).

The project received support from the following experts: Anu Peltola, Benny Salo, Laura Cyron, Dominic Leong, Thierry Coulet and Dan Svantesson (UNCTAD); Markie Muryawan (UNSD); Luca Castellani (UNCITRAL); Witada Anukoonwattaka (UNESCAP); Tanya Rang (Rajah & Tann); Daniel Wong Hoe Han (Boston Consulting Group); and Dan Jerker B. Svantesson (Bond University, Australia).

Table of contents

1. Introduction	1
Small Island Developing States.....	2
2. Development measures	3
3. Needs assessment (2022).....	5
4. Three special courses on the digital economy (2023–2025)	7
5. Policy recommendations	9
Digital identity for trade and development	9
Legal aspects of e-commerce.....	10
Statistics on the digital economy, e-commerce and digital trade	11
Cross-cutting recommendations.....	12



1. Introduction

TrainForTrade blended learning strategy to boost the digital economy in Small Island Developing States of Africa, the Caribbean and Asia and the Pacific (2022–2025)¹ was a project that empowered SIDS to adopt trade policies that support the growth of the digital economy and strengthen resilience during crises. It aimed to:

- Improve understanding of legal and practical aspects of the digital economy
- Strengthen capacities in designing digital economy policies and developing digital authentication methods
- Build sustainable knowledge networks to enhance national ownership and South-South and triangular cooperation
- Promote digital solutions and innovative thinking

The project was structured in three different components:

- Digital identity for trade and development
- Legal aspects of e-commerce
- Statistics on the digital economy, e-commerce and digital trade

This document summarizes the project's background, describes the three special courses and their outcomes, and presents 18 policy recommendations to enhance the digital economy in Small Island Developing States.

Trade policies can strengthen resilience during crisis

¹ tft.unctad.org/projects/current-projects/digital-economy-in-small-island-developing-states/

Small Island Developing States

SIDS have
special
challenges in
developing
digital trade

Scattered across the globe and facing similar challenges, the 39 Small Island Developing States (SIDS) can benefit from digital technologies and their application in electronic trade. Embracing digital trade offers numerous advantages, enabling these countries to connect more seamlessly with international and regional markets.

The benefits of e-trade extend to crucial social issues, including the protection of human rights, the empowerment of women, and the inclusion of minorities. Collectively, these efforts can help advance the achievement of the United Nations Sustainable Development Goals.

Digital trade requires investments and solid infrastructure to ensure everyone has reliable and affordable internet access. This challenge is particularly critical in SIDS. Due to their geographic isolation and lack of resources, many SIDS currently face disproportionate challenges associated with the development, implementation and use of digital infrastructure, digital know-how and policies related to this emerging and important sector.

SIDS face similar social, economic, and environmental challenges primarily due to a range of common features:

- smallness
- remoteness
- vulnerability to external shocks
- exposure to global environmental challenges

These characteristics have numerous consequences, including volatility in economic growth, limited opportunities for the private sector, the significant role of the public sector in the economy, and high costs for services, transportation, energy, infrastructure, and communication. Additionally, these characteristics affect the digitalization process in these countries. Nonetheless, the extent to which the 39 SIDS face these challenges differs significantly. Variations in size, remoteness, and vulnerability to external shocks and disasters influence their development.



Pexels / Florian Knechbaumer



© Adobe Stock

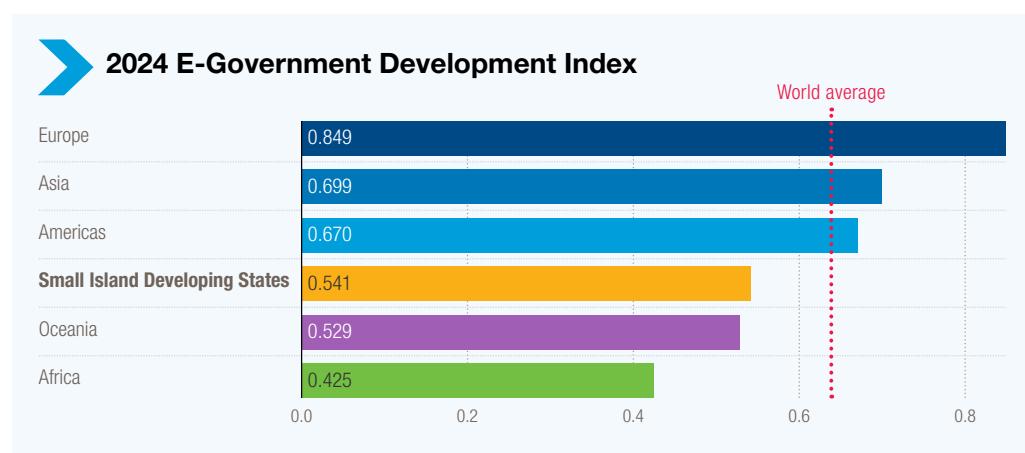
2. Development measures

SIDS have stated that traditional development measures are inadequate to capture their vulnerabilities.

The UN's new Multidimensional Vulnerability Index (MVI)² recognizes the difficulty in assessing countries' development and well-being. It highlights how external shocks and stressors affect the sustainable development of Small Island Developing States. The MVI will provide a standardized quantitative assessment of vulnerability and resilience for all developing countries, offering a detailed, tailored view of each country's vulnerability factors.

The United Nations E-Government Development Index (EGDI)³ is a composite measure of three key factors of e-government: the provision of online services, telecommunication connectivity, and human capacity. The EGDI for SIDS is 0.541, well below the world average of 0.638. Remoteness and the high costs of building telecommunication infrastructure play a central role in this situation.

Remoteness complicates e-government in SIDS



² www.un.org/ohrls/mvi, the MVI was launched in September 2025

³ publicadministration.un.org/egovkb/en-us/About/Overview/-E-Government-Development-Index

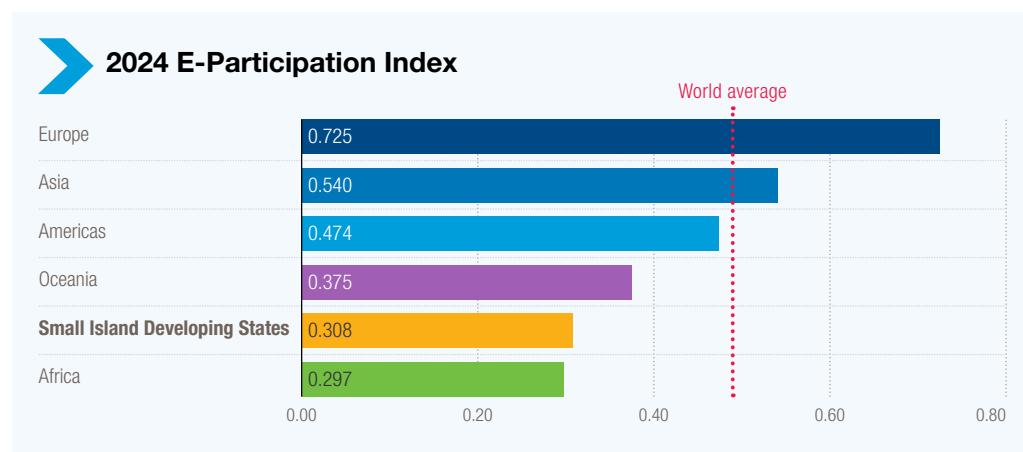
Capacity building is crucial in shaping digital landscape

The UN E-Participation Index (EPI)⁴ is an important tool that highlights how governments connect with their citizens through digital methods. It consists of three core components: e-information, e-consultation, and e-decision-making. This index provides insights into how different countries use online tools to encourage real interaction between the government and its citizens, as well as among the citizens themselves, all with the goal of benefiting everyone involved. The EPI of SIDS (0.308) is significantly lower than the global average (0.489).

It is essential to establish a clear and solid institutional framework that helps shape the digital landscape into a rule-based environment. This kind of transition depends on sharing knowledge and building capacities together⁵.

Artificial intelligence (AI) provides various opportunities for Small Island Developing States. However, AI adoption faces barriers similar to those in the broader digital economy. A UNESCO survey (2024)⁶ reveals disparities in AI and data readiness among SIDS. The survey shows that 71% of SIDS lack high-quality data for AI, while 50% do not have any official initiatives related to the use of AI. Key findings highlight gaps in awareness, media coverage, and government engagement with AI technologies. There is also an uneven emphasis on AI's potential for sustainability.

To address these challenges, SIDS must strengthen their data ecosystems and enhance data management for AI. This involves developing capacities to understand AI, data, and digital transformation, as well as rethinking data accessibility and transparency.



⁴ publicadministration.un.org/egovkb/en-us/About/Overview/E-Participation-Index

⁵ For further information on UNCTAD work related to digital economy, e-commerce and AI, see:
unctad.org/topic/ecommerce-and-digital-economy
unctad.org/topic/science-technology-and-innovation
unctad.org/publication/technology-and-innovation-report-2025

⁶ www.unesco.org/en/articles/needs-assessment-artificial-intelligence-digital-transformation-and-open-data-small-island



3. Needs assessment (2022)

As the initial phase of TrainForTrade's project, a thorough needs assessment⁷ was carried out in 2022. Its purpose was to adopt a more comprehensive approach to addressing the challenges of e-commerce and the digital economy. The needs assessment also identified vulnerable groups and their specific needs in each region.

The assessment revealed that the development levels of SIDS in connectivity and digital progress vary, reflecting their socioeconomic disparities. While some countries were already well-equipped to participate in the digital economy, others faced significant obstacles. However, most of the 38⁸ beneficiaries had a solid digital foundation and were actively working to adopt and benefit from digital transformation. Building a digital economy could help SIDS reach their goals.

Digital identity for trade and development

Developing a digital identity was a high priority for nearly all respondents in the assessment. According to the International Telecommunication Union, only 7 out of 38 SIDS had a national digital identity system or programme in place at that time.

Cybersecurity plays a vital role in shaping our digital identity and the overall process of digitalization. The National Cyber Security Index serves as an important tool that assesses how well countries are prepared to tackle cyber threats and handle incidents. Unfortunately, many SIDS

Levels of digital development vary significantly in SIDS

⁷ unctad.org/system/files/non-official-document/DA2225F-needs-assessment-en.pdf

⁸ The number of SIDS was 38 in 2022. In 2023, the Cook Islands and Niue were added, and Bahrain was removed.

found themselves ranked below the 100th position in this global evaluation. However, e-governance and digital identity have become key priorities for numerous SIDS governments as they strive to enhance online access to government services.

Legal aspects of e-commerce

SIDS lag behind the global average in five areas of cyberlaws: e-transactions laws, consumer protection laws, data protection and privacy laws, cybercrime laws, and indirect taxation. For 23 countries, developing e-commerce legislation was a priority, and for 17, it was even a high priority. In the assessment, several respondents noted that the COVID-19 pandemic increased the urgency of developing their e-commerce laws, as digital trade use has grown significantly since 2020.

Over the three years following the needs assessment in 2022, and two years after the TrainForTrade's course on the legal aspects

of e-commerce in 2023, legislation has been developed in many SIDS, particularly laws related to cybercrime and e-transactions.

The table below shows the summary of adoption of e-commerce legislation in December 2025, taken from the UNCTAD Global Cyberlaw Tracker⁹ (37 SIDS included).

Statistics on the digital economy, e-commerce and digital trade

Most SIDS produce a fair number of statistical indicators on their economy, but their skills and dynamism remain limited. The needs assessment showed that in 15 of the 23 responding countries, the national statistical legislation was either established or last updated over a decade ago. In 12 countries, laws on data collection in the digital economy are missing. Additionally, at least 11 SIDS have yet to develop any statistics related to the digital economy.

Percentage of countries with e-commerce legislation⁹

Countries with:	SIDS	World average	Developed countries
Cybercrime legislation	81%	90%	98%
E-transactions legislation	78%	90%	98%
Data protection and privacy legislation	51%	79%	98%
Consumer protection legislation	30%	61%	79%
Indirect taxation	19%	50%	83%

SIDS lag behind the global average in cyberlaws

⁹ unctad.org/topic/ecommerce-and-digital-economy/ecommerce-law-reform/summary-adoption-e-commerce-legislation-worldwide

Current Practices in Data Management and Dissemination

- Data collected: cargo flow, vessel traffic, lease data, HSE metrics.
- Tools used: Excel dashboards, manual logs, internal tracking forms.
- Challenges: fragmented systems, limited inter-agency data sharing.
- Progress: Strategic Action Plan (2024–2029) prioritizes digitization.



TrainForTrade

4. Three special courses on the digital economy (2023–2025)

A thriving digital economy rests on three essential pillars: establishing collective rules, ensuring access to data, and developing a reliable administrative system.

TrainForTrade's project reinforced these areas with its three engaging courses:

Digital identity for trade and development

Objective: Increase knowledge on solutions for common challenges in implementing e-commerce at the policy level and for small to medium-sized enterprises; raise awareness of the risks and challenges related to digital authentication in the changing landscape of e-commerce and security.

The legal aspects of e-commerce

Objective: Improve the skills of lawmakers, government officials, and other stakeholders across all areas involved in drafting electronic commerce laws.

Statistics on the digital economy, e-commerce, and digital trade

Objective: Achieve a clear understanding of key concepts, definitions, and data sources; address challenges in developing national digital trade statistics; organize and distribute statistics effectively; and develop a comprehensive dissemination policy tailored to digital trade data.

These courses have bolstered the capacities of lawmakers, government officials, and other stakeholders in all aspects necessary for drafting e-commerce legislation, enhancing statisticians' ability to manage digital economy data, raising awareness about the challenges and risks of digital authentication, and equipping everyone with the tools necessary to develop the most effective systems possible.

Courses supported target groups in developing digital economy

Blended learning provides flexibility in the training

The project activities were open to Small Island Developing States and SIDS associate members¹⁰. Participants had access to course manuals, multimedia presentations, tests, surveys, forums, and webinars.

The project's courses followed TrainForTrade's blended learning approach¹¹.

It provides trainees and trainers with more flexibility in the training process. With current technologies, interactive access to knowledge and information can be achieved across different times and locations.

Between February 2023 and July 2025, TrainForTrade's three courses engaged **920 participants across 58 countries**. Sixty percent of the participants were women. The overall satisfaction rate was 87%. Participants contributed 1212 messages to the discussion forum.



¹⁰ SIDS Associate Members are non-UN member territories and entities that share the vulnerabilities and characteristics of SIDS. They are listed at www.un.org/ohrls/content/list-sids

¹¹ Read more about blended learning and the content of the three courses at tft.unctad.org/projects/current-projects/digital-economy-in-small-island-developing-states



5. Policy recommendations

Participants in the project's courses suggested insightful strategies to address current challenges and boost their countries' digital economies. These ideas were transformed into policy recommendations to strengthen the digital economy in Small Island Developing States.

Digital identity for trade and development

Develop a national digital ID strategy

Invite Governments to develop a coherent national digital ID strategy that clarifies objectives in line with national priorities, coordination mechanisms with relevant stakeholders, governance structures, and digital infrastructure. The strategy, ideally implemented in phases, should clarify the role of the digital ID in enabling access to services, facilitating trade and supporting inclusive development.

Review the legal frameworks

Encourage Governments to review, and where necessary, revise legal frameworks related to digital identity, including data protection, cybersecurity, privacy and ID in general, such that they are inclusive by design, prevent function creep, encourage resilience, and ensure accessibility for all (allowing for offline/low-bandwidth use).

Ensure secure implementation

Recommend that digital ID systems are designed so that systems separate identification from authorization functions and incorporate robust security and redress mechanisms. Adopt a public digital infrastructure that is secure and minimizes centralized data storage,

A national strategy clarifies the role and implementation of a digital ID

in line with national sovereignty and local realities, and includes execution and recovery mechanisms in place.

Promote regional cooperation and interoperability

Support regional and inter-regional collaboration to enhance interoperability of systems for cross-border trade, including mutual recognition, data exchange and possibly cooperation and cost-sharing to build joint infrastructure. Regional frameworks should align with international standards, while reflecting local contexts and capacities.

Foster buy-in

Encourage Governments to launch targeted awareness campaigns for citizens and stakeholder engagement initiatives to build trust, reduce the digital divide and increase understanding of the systems. Further encourage introduction of digital IDs tied to immediate use cases (e.g., access to government services, financial inclusion) to onboard users and demonstrate benefits.

Legal aspects of e-commerce

Modernise the legal framework

Adopt legislation to technological change

Encourage Governments to formulate national strategic frameworks to provide a vision and concrete roadmaps for the development of e-commerce and accordingly adopt and revise relevant legislation and regulatory frameworks so that they are adaptable to technological change and aligned with international standards¹². Special attention should be given to the unique challenges of SIDS, including the reliance on imported digital services and limited legislative drafting capacity.

Enable trust through coherent data governance

Invite Governments, in collaboration with relevant stakeholders, to develop coherent and context-appropriate data protection and privacy frameworks that facilitate trust in e-commerce, encourage public-private partnerships, enable cross-border data flows, and are interoperable with regional and international frameworks taking into account human rights and inclusion. Emphasis should be placed on capacity building for enforcement authorities and on minimizing compliance burdens for MSMEs.

Encourage regional and international negotiations

Encourage Governments to actively participate in regional and international negotiations on digital economy governance, including those related to emerging technologies, data, digital trade and e-commerce, and to leverage regional cooperation mechanisms to amplify their voice and ensure their specific development needs are reflected in global standards and agreements.

Support regional harmonization

Support efforts to harmonize e-commerce enabling aspects of legislation at the regional level in line with regional needs and global agreements, including on electronic transactions, consumer protection and dispute resolution, and to explore mutual recognition agreements that reduce legal uncertainty and facilitate cross-border e-commerce/digital trade.

Build capacity for policymakers

Recommend that Governments invest in capacity-building for policymakers, regulators and negotiators to understand and apply e-commerce related laws and regulation, including through regional

¹² In areas such as digital infrastructure, trade, competition, local content, consumer protection, data protection, electronic transactions, cybersecurity, online dispute settlement, taxation, linguistic diversity, education, skills development, labour, and AI governance.

and international training programmes to encourage exchange of experiences and best practices and knowledge-sharing platforms, and call on international organizations and development partners to support such capacity-building endeavours. Further develop and implement stakeholder awareness programmes on e-commerce enabling legislation beyond the public sector. Programmes and exchanges should be scalable, taking into account adoption by all.

Statistics on the digital economy, e-commerce and digital trade

Establish institutional and strategic framework

Encourage Governments to develop and implement national strategies for comprehensive e-commerce, digital economy and digital trade statistics, aligned with national capacities (capabilities) and priorities and in support of evidence-based policymaking and international reporting. In this context, further call for designating a lead agency, establishing inter-agency coordination mechanisms and integrating relevant indicators into national statistical development strategies in line with internationally recognized frameworks, including the approaches put forward by the UNCTAD Manual for the Production of Statistics on the Digital Economy 2020 and the IMF-OECD-UNCTAD-WTO Handbook on Measuring Digital Trade. These strategies may involve a focus on specific services such as the tourism sector.

Invest in statistical capacity

Recommend that Governments invest in capacity building for national statistical offices, central banks and other relevant institutions through targeted training, apprenticeships and the provision of

statistical tools, taking into consideration gender equality and the inclusion of persons with disabilities and other vulnerable groups. Encourage cooperation in international capacity-building programmes, such as UNCTAD's Trade-in-Services Statistics Information System (TiSSTAT).

Implement statistical frameworks in a phased manner

Recommend national statistical offices/lead agencies to implement statistical frameworks, based on national priorities and in a phased approach, with metadata systems aligned with international standards to document data sources, methodologies, limitations and revisions, thereby enhancing transparency, international comparability and user trust. Furthermore, national statistical offices/lead agencies are encouraged to introduce indicators relevant to SIDS, such as on digital data readiness and resilience as well as the environmental sustainability of the digital economy. Further, they are encouraged to compile disaggregated data, including, but not limited to, by gender, persons with disabilities and other vulnerable groups.

Align national strategies with local capacities and priorities

Promote the use of administrative and alternative data

Encourage national statistical offices/lead agencies to use administrative data (e.g., VAT returns, customs declarations, International Transaction Reporting Systems) and alternative data sources (e.g., web scraping, mobile phone data, card payments) to complement traditional data collection, reduce costs and improve timeliness, including through public-private partnerships.

Allocate
resources to
strengthen the
digital economy

Enhance regional and international cooperation

Encourage regional cooperation among SIDS, including through South-South cooperation and partnerships with regional organizations, to set a common list of priority indicators on digital trade, e-commerce and digital economy, as well as to share tools, methodologies and data sources. Further recommend national statistical offices/lead agencies to actively participate in international discussions around statistical frameworks on e-commerce, digital economy and digital trade, such as through joining the Task Group on measuring e-commerce value, established under UNCTAD's Working Group on measuring e-commerce and the digital economy.

Cross-cutting recommendations

Work for government buy-in

Call on Governments to allocate human and financial resources to realize the priorities for legislation and statistics of the digital economy in line with national,

regional and international standards. Governments should leverage regional organisations to ensure collaborative approaches in support of their interests.

Assure institutional scalability

Recognising the hurdles that may prevent SIDS from effectively participating in international law, policy and statistical frameworks and standards development in relation to e-commerce and the digital economy, the work on such development should include a 'scalability assessment' examining: 1) what potential impacts the proposed or developed approaches will have on SIDS and their capacity to participate effectively, and 2) what will be the practical and long-term implications for SIDS if such approaches are adopted widely.

Seek support from development partners

Call on the donor community and Governments to support methodological development, capacity-building, training, and technical assistance for statistics on digital trade, e-commerce and digital economy.