



Asia-Pacific
Economic Cooperation

APEC WORKSHOP: Towards Digital Trade Ecosystem in the Asia-Pacific Region

Summary Report

APEC Committee on Trade and Investment
April 2026





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EXECUTIVE SUMMARY

Digital trade is rapidly reshaping economic activity across the Asia-Pacific region, prompting APEC economies to strengthen the regulatory, technical, and institutional foundations that enable trusted and efficient cross-border digital exchange. The 2025 APEC Workshop on “Towards a Digital Trade Ecosystem in the Asia-Pacific Region” brought together more than 100 policymakers, technical experts, private sector leaders, and international organisations to assess regional readiness, share implementation experiences, and identify practical pathways for accelerating digital trade facilitation.

Discussions underscored that while economies have advanced in adopting electronic transaction laws, developing single windows, and introducing digital identity and e-documentation initiatives, significant gaps persist in regulatory coherence, technical interoperability, and institutional capacity. Participants highlighted the continued fragmentation of legal frameworks, with uneven adoption of international instruments such as UNCITRAL’s MLETR and MLES, which undermines mutual recognition of electronic signatures and documents. Technical systems also remain incompatible, with differences in data formats, communication protocols, and legacy IT systems hindering integration across customs, logistics, port authorities, and private platforms. These challenges are compounded by limited institutional readiness, including insufficient skills among regulators in areas such as data governance, authentication systems, and standards implementation. MSMEs face particularly steep barriers, including duplicated documentation, inconsistent requirements, high compliance costs, and limited access to trusted digital tools. Despite these challenges, the workshop showcased meaningful progress across the region.

Presentations from ESCAP, ERIA, APEC PSU, ASEAN-BAC, and government agencies illustrated how economies are modernising trade processes, adopting structured international standards, and implementing integrated systems such as Indonesia’s National Logistics Ecosystem and New Zealand’s Peppol-based e-invoicing network. These examples demonstrated that whole-of-government coordination, clear governance structures, and strong public-private partnerships are essential for building trusted digital systems that reduce processing times, lower logistics costs, and increase predictability for traders. Across the four sessions, participants examined the legal and technical foundations of digital trade, approaches to negotiating and implementing digital provisions in trade agreements,

operational and institutional challenges faced by implementing agencies, and practical tools and partnership models to support MSME participation.

A cross-cutting theme was that negotiating advanced digital trade commitments is often easier than implementing them, with many economies struggling to update domestic laws, align with international standards, upgrade legacy systems, and coordinate across agencies. Participants agreed that strengthening regulatory and technical alignment is critical to reducing fragmentation, enabling interoperability, and building trust among businesses. The workshop highlighted five best practices that can serve as useful models for economies: aligning domestic legislation with international legal frameworks supporting electronic transactions; adopting structured, machine-readable technical standards to enable scalable and interoperable systems; implementing whole-of-government paperless trade platforms; establishing robust governance and trust frameworks that define roles, responsibilities, and security requirements; and institutionalising public–private dialogue to ensure systems are practical, market-driven, and inclusive.

Based on these insights, participants identified priority areas for APEC’s future capacity-building efforts, including structured training programs for regulators on digital identity, cybersecurity, data governance, and standards implementation; cross-border pilot projects to test interoperability in areas such as e-invoicing, digital identity federation, logistics data exchange, and instant payments; MSME-focused digital compliance toolkits providing templates, checklists, and accessible guidance; technical assistance for API development, data model alignment, and legacy system upgrades; and the creation of a regional platform to share best practices, case studies, and technical guidelines. Strengthening long-term regulatory and infrastructure readiness, including alignment with emerging regional frameworks such as DEFA and DEPA, was also emphasized as essential for future-proofing digital trade.

Overall, the workshop reaffirmed that digital trade represents a major opportunity for APEC economies to enhance competitiveness, resilience, and regional integration, but that realizing this potential will require coordinated regional action, sustained investment in institutional capacity, and deeper public–private collaboration. Through targeted support, knowledge sharing, and pilot-based cooperation, APEC can play a central role in advancing a more coherent, interoperable, and inclusive digital trade ecosystem that benefits all member economies and ensures that MSMEs and larger businesses alike can fully participate in the emerging digital economy.

1. INTRODUCTION

Digital trade has become a central element of economic growth, resilience, and integration across the Asia-Pacific region. With increased reliance on digital platforms, data-driven services, and electronic transactions, APEC economies are placing greater emphasis on enabling regulatory environments, interoperable systems, and institutional capacities that support trusted and efficient cross-border digital exchange. In this context, the APEC Workshop on “Towards a Digital Trade Ecosystem in the Asia-Pacific Region” was convened over two days in 2025 to assess the region’s readiness, review current practices, and identify practical pathways for strengthening digital trade facilitation.

The workshop brought together experts and officials from international organizations, regional institutions, government ministries and agencies, private sector representatives, and academic organizations. Speakers included representatives from the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the Economic Research Institute for ASEAN and East Asia (ERIA), the APEC Policy Support Unit (PSU), ASEAN Business Advisory Council (ASEAN-BAC), and government agencies from multiple APEC economies. Their presentations provided timely insights into legal frameworks for electronic transactions, technical standards for data exchange, emerging approaches to digital identity and authentication, and ongoing implementation challenges faced by border agencies, regulators, and businesses.

The workshop served as a platform for participants to share experiences in promoting digital trade through advancing paperless trade, strengthening logistics interoperability, improving the governance of digital systems, and supporting micro, small, and medium enterprises (MSMEs) to participate in digitally enabled trade. These discussions emphasized that while significant progress has been made across the region, gaps remain especially in regulatory coherence, cross-border system connectivity, data governance, capacity building, and the practical implementation of standards.

This summary report consolidates the key findings from the workshop discussions and speaker presentations. It highlights challenges and opportunities related to digital trade, identifies five best practices demonstrated across economies, and provides five recommendations for future APEC capacity-building initiatives. The report aims to support policymakers, regulators, and stakeholders in their efforts to establish an efficient, inclusive, and trusted digital trade ecosystem aligned with

APEC's broader objectives of promoting trade facilitation, digital innovation, and regional economic cooperation.

2. BACKGROUND

The expansion of digital trade across the Asia-Pacific region reflects a broader structural transformation in how goods and services are produced, exchanged, and regulated. Digital trade encompasses a wide range of activities, including digitally ordered goods, digitally delivered services, cross-border data flows, electronic transactions, digital identity systems, and the use of digital platforms to facilitate trade in both goods and services. As economies increasingly adopt digital tools and technologies, traditional trade processes are being replaced or complemented by electronic documentation, automated customs procedures, and interoperable digital systems that allow faster and more secure cross-border exchanges.

APEC has acknowledged the importance of digital trade through various ministerial statements, frameworks, and work streams—including the APEC Internet and Digital Economy Roadmap (AIDER), the APEC Digital Transformation Framework, and work led by the Committee on Trade and Investment (CTI) and the Digital Economy Steering Group (DESG). These initiatives collectively aim to promote innovation, reduce trade costs, enhance cross-border collaboration, and support the participation of MSMEs in the digital economy.

Despite clear benefits, economies in the region continue to face gaps in digital trade readiness. These gaps can be observed across three broad dimensions: regulatory frameworks, technical infrastructure, and institutional capacity.

REGULATORY FRAMEWORKS

Legal certainty remains a fundamental requirement for digital trade. Economies vary significantly in their adoption and implementation of key international instruments such as the UNCITRAL Model Law on Electronic Transferable Records (MLETR), Model Law on Electronic Signatures (MLES), and other frameworks supporting electronic transactions and authentication. While many APEC economies have enacted legislation enabling electronic documents, fewer have implemented comprehensive frameworks that support cross-border mutual recognition or legally robust digital identity systems. This fragmentation contributes to inconsistent requirements, duplicated procedures, and uncertainty for businesses engaged in cross-border trade.

TECHNICAL INFRASTRUCTURE AND STANDARDS

Interoperability is another critical issue influencing the effectiveness of digital trade systems. As highlighted by speakers from ESCAP and ERIA, economies use different

technical standards for data exchange, cybersecurity controls, and message structures. These inconsistencies limit connectivity between single windows, logistics platforms, customs clearance systems, and commercial platforms. International standards such as the World Customs Organization (WCO) Data Model and ISO/IEC specifications are increasingly being adopted, but implementation remains uneven, and legacy domestic systems often lack the scalability needed to integrate with modern digital platforms.

The challenges associated with interoperability were illustrated in discussions of cross-border e-invoicing frameworks, particularly through the Peppol model shared by New Zealand. The adoption of structured, machine-readable data formats and clear governance mechanisms supported by accreditation and liability frameworks has enabled seamless, low-cost exchange of electronic documents. However, many economies still face significant barriers in adopting such systems due to technical lock-in, financial constraints, or institutional readiness.

INSTITUTIONAL CAPACITY AND IMPLEMENTATION READINESS

While regulatory and technical frameworks form the foundation of digital trade, successful implementation depends on institutional capacity. Many government agencies, particularly in developing economies, face skills gaps related to data governance, cybersecurity, standards adoption, system interoperability, and digital identity management. Workshops, such as this one, help identify these gaps and highlight opportunities for targeted capacity building.

The Indonesian experience with the National Logistics Ecosystem (NLE) and the electronic Certificate of Origin (e-CO) system demonstrates both the benefits and challenges of implementation. These initiatives show how integrating port systems, customs procedures, and logistics service providers can streamline trade processes, reduce processing times, and lower costs. However, they also reveal operational obstacles, such as the need for coordinated inspections, agency buy-in, and ongoing platform maintenance.

MSME CHALLENGES AND OPPORTUNITIES

MSMEs play a critical role in regional economic growth but often face the steepest barriers in cross-border digital trade. Findings from the workshop noted that MSMEs encounter repeated documentation requirements, high compliance costs, and limited access to trusted digital tools. Despite these challenges, evidence presented showed that MSMEs can benefit substantially from digitalization—including improved access to markets, increased revenue potential, and reduced operational

costs—when provided with the necessary support and simplified regulatory processes.

NEED FOR COORDINATED REGIONAL ACTION

Overall, the background context highlights a strong need for coordinated regional action to address regulatory misalignment, technical fragmentation, and institutional capacity gaps. The digital trade ecosystem requires more than the adoption of digital tools; it requires interoperable systems, trusted frameworks, and effective cross-border cooperation. The workshop served as an important step in building shared understanding, identifying promising practices, and laying the groundwork for future capacity-building initiatives across APEC.

3. WORKSHOP OVERVIEW

The APEC Workshop on “Towards Digital Trade Ecosystem in the Asia-Pacific Region” was held over two days in 2025 and brought together policymakers, technical experts, private sector representatives, and international organizations to discuss emerging issues in digital trade. The workshop was designed to support APEC economies in strengthening regulatory coherence, improving interoperability, and identifying practical steps to operationalize digital trade commitments.

OBJECTIVES

The workshop aimed to:

1. Enhance understanding of the legal and technical foundations of digital trade ecosystem, including electronic transactions frameworks, digital identity, and authentication mechanisms.
2. Share experiences and lessons learned from negotiation and implementation of digital trade provisions in modern agreements, including DEPA, DEFA, CPTPP, and RCEP.
3. Identify key capacity gaps in regulatory readiness, cross-border infrastructure, institutional coordination, and private sector compliance.
4. Highlight best practices and case studies from APEC and ASEAN economies, demonstrating scalable models for digital trade facilitation.
5. Develop actionable recommendations for future capacity-building activities, with a particular focus on enabling MSME participation.

The workshop’s design emphasized practical insights drawn from real implementation experiences and sought to translate high-level commitments into operational guidance.

PARTICIPANTS

The workshop gathered more than 100 participants from across APEC economies and beyond. Speakers and panelists represented:

- a. United Nations ESCAP – presenting legal and technical foundations of digital trade ecosystem;
- b. ERIA – highlighting the growing importance of digitally delivered services and data flows;


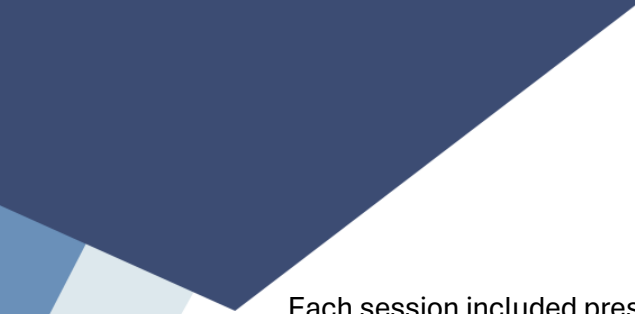
- c. APEC PSU – offering empirical evidence on the economic value of digital trade provisions;
- d. ASEAN-BAC – sharing regional private sector perspectives and updates on Digital Trade Connect;
- e. Government agencies such as New Zealand’s Peppol Authority, Indonesia’s government representative from the Coordinating Ministry of Economic Affairs, Customs and Excise;
- f. Private sector stakeholders including technology solution providers, consulting firms, and service sector council.

Participants represented a diverse range of expertise, including trade negotiations, customs operations, digital identity management, cybersecurity, standards development, and MSME policy.

STRUCTURE OF THE WORKSHOP

The workshop was organized into four substantive sessions, complemented by opening remarks and a closing reflection session:

- **Session 1: Digital Trade Standards**
Explored legal and technical underpinnings of digital trade ecosystem, including international standards and cross-border interoperability requirements.
- **Session 2: Negotiation and Implementation Practices**
Presented insights from negotiators and practitioners on how economies incorporate digital trade provisions into bilateral and regional agreements.
- **Session 3: Capacity Gaps and Implementation Challenges**
Highlighted operational constraints, technical readiness issues, and whole-of-government coordination challenges.
- **Session 4: MSME Realities and Public–Private Partnerships**
Examined MSME barriers to digital trade participation and private sector-led initiatives that support system integration. This session is also followed-up by focus group discussion to allow participants which include economies, industry representatives, and experts to reflect on the workshop’s key themes and identify practical recommendations for future cooperation.



Each session included presentations from experts, a moderated discussion, and an opportunity for audience engagement.

4. DETAILED SESSION SUMMARIES

SESSION 1

Session 1 examined the foundational regulatory and technical elements required to support digital trade. Speakers from ESCAP, ERIA, and the APEC PSU emphasized the importance of legal certainty, interoperability, and alignment with international frameworks. The session provided conceptual clarity on standards, their purpose, and their relevance to cross-border data flows, electronic transactions, and the broader digital trade ecosystem. Presentations also highlighted the interconnected nature of legal and technical standards and the challenges economies face in aligning them. The key themes were as follows:

1. Legal frameworks for electronic transactions

ESCAP emphasized key legal principles underpinning digital trade, including technology neutrality, functional equivalence, and non-discrimination between electronic and paper-based documents. The UNCITRAL MLETR and the MLES were identified as foundational instruments that support mutual recognition and legal certainty.

2. Technical standards and interoperability

ERIA highlighted how the growth of digitally delivered services and data-driven business operations creates increased demand for interoperable systems. Technical standards such as the ISO/IEC specifications and the WCO Data Model were discussed as crucial for structured, machine-readable data exchange.

3. Economic benefits of digital provisions

The PSU presented empirical findings showing that economies adopting comprehensive digital trade provisions, including e-signature recognition, cross-border data frameworks, and paperless trade systems, experience measurable reductions in trade costs and increased participation in global value chains.

Some issues identified during this session were:

- Fragmentation of domestic frameworks: many economies have introduced electronic transaction laws but with varying degrees of scope, terminology, and compatibility.

- Limited interoperability across platforms: single windows, customs systems, and logistics platforms often use different data standards or legacy systems.
- Gaps in mutual recognition: differences in authentication and trust frameworks hinder cross-border acceptance of e-signatures and digital identity solutions.
- Capacity constraints: some economies continue to face institutional and technical skills gaps that limit their ability to adopt global standards.

During this session, some examples as follows were also presented:

- UNCITRAL alignment: several economies are progressing toward MLETR-aligned frameworks, providing potential pathways for cross-border recognition of e-documents.
- Regional standardization efforts: ESCAP highlighted work under the Framework Agreement on Facilitation of Cross-Border Paperless Trade as a model for structured cooperation.
- Digital service growth trends: ERIA presented evidence of rapidly increasing digitally delivered services, underscoring the urgency of convergent standards.

The discussions confirmed that aligning standards remains a central challenge for digital trade. Legal and technical alignment is essential for reducing compliance burdens, improving predictability for businesses, and enabling cross-border system connectivity. Participants noted that APEC can play a key role in developing shared guidelines, model provisions, and coordinated capacity-building activities to advance standards adoption.

SESSION 2

Session 2 focused on policy approaches used by economies to negotiate, incorporate, and implement digital trade provisions in bilateral and regional agreements. Speakers included academia, representatives from Indonesia and Australia, as well as private sector. The session provided insights into how digital trade rules are interpreted in practice and how domestic institutions prepare for implementation. This session's key themes are:

1. Principles for digital trade commitments

Presenters emphasized common principles found in modern digital trade agreements, including non-discrimination, functional equivalence,

technological neutrality, and open data flows subject to legitimate public policy objectives.

2. Different approaches to digital regulation

Comparative perspectives highlighted variations in how economies structure their data governance regimes. For example, one economy focuses on data flow commitments and interoperability, while another prioritizes protection and regulatory oversight.

3. Domestic legal readiness

Australia emphasized the importance of aligning domestic regulations, including electronic transactions frameworks, privacy laws, and cybersecurity measures, with commitments made in trade agreements.

This session talked about some issues around those themes, which were:

- Balancing openness with regulatory autonomy: economies struggle to reconcile open data flow commitments with domestic privacy and cybersecurity concerns.
- Variation in digital chapters: although convergence is increasing, major agreements still use different language and regulatory approaches.
- Implementation timelines: domestic legal processes often lag behind treaty commitments, causing delays in operational readiness.

Session 2 also presented some examples as follows:

- DEPA and DEFA modular cooperation: presenters noted that modular cooperation allows economies to collaborate on specific technical issues without requiring simultaneous comprehensive alignment.
- CPTPP's electronic commerce chapter: demonstrated early adoption of advanced digital provisions, including paperless trading and prohibitions on data localization.
- Economy's implementation preparation: Australia's experience illustrated the importance of early stakeholder consultation and whole-of-government coordination.

Also outlined in this session were the need for economies to strengthen coordination between negotiating ministries, technical agencies, and private sector stakeholders to ensure that commitments are implementable and aligned with economies' capacities. APEC has an opportunity to facilitate shared learning, comparative

analysis, and the development of model templates that economies can adapt to their economies' contexts.

SESSION 3

Session 3 examined operational, technical, and institutional challenges that economies face when implementing digital trade measures. Presentations included those from New Zealand's Peppol Authority, Indonesia's NLE team, representative from International Institute for Trade and Development of Thailand, as well as academia. The key discussion themes were:

1. Institutional capacity limitations

Speakers emphasized the importance of skills and expertise in data governance, cybersecurity, identity management, and standards implementation.

2. Legacy system constraints

Many government agencies continue to rely on outdated IT systems that cannot easily connect to modern digital platforms, creating bottlenecks for interoperability.

3. Cross-agency coordination challenges

Implementation efforts often require significant coordination across border agencies, port authorities, logistics providers, and the private sector.

Issues highlighted in session 3 revolved around:

- Limited digital literacy among regulators and MSMEs
- High costs of system upgrades and integration
- Inconsistent requirements across agencies, leading to duplicated documentation
- Data security and privacy concerns when connecting multiple platforms

Examples presented during this sessions were:

- Peppol implementation in New Zealand: demonstrated how clear data structures, governance rules, and secure certification mechanisms enable predictable cross-border e-invoicing.
- Indonesia's NLE: showed how single submission, integrated inspection processes, and interoperability with port community systems reduce costs and processing times.

- Electronic Certificate of Origin (e-CO): Indonesia's e-CO initiative provided an example of how digitalization reduces fraud risks and facilitates downstream integration.

Throughout the session, participants agreed that targeted capacity building, including technical training, system interoperability support, and regulatory alignment, remains essential for operationalizing digital trade commitments. These efforts must be accompanied by improved institutional coordination and resource mobilization.

SESSION 4

Session 4 panel discussion focused on MSME needs, private sector perspectives, and public-private partnership models that can support digital trade adoption. Speakers included representatives from ASEAN-BAC, private sectors, and service sector council. The fourth session key themes were:

1. MSME barriers to participation

MSMEs face challenges related to compliance costs, documentation requirements, limited understanding of digital tools, and fragmented procedures across borders.

2. Need for harmonized processes

Speakers emphasized the importance of consistent rules, simplified documentation, and interoperable systems to reduce burdens on small enterprises.

3. Role of the private sector

Private sector-led pilots, including ASEAN-BAC's Digital Trade Connect initiative, demonstrate the value of collaboration in improving system linkages.

Some issues were also identified in this session, which included:

- Duplicate documentation and inconsistent formats
- Limited financing for digital upgrades
- High onboarding costs for e-invoicing and trade platforms
- Insufficient guidance for compliance requirements

The emphasized points in this session were that digital trade requires targeted MSME support, clear compliance pathways, and continuous public-private dialogue.

MSME considerations should be embedded in all regional initiatives related to digital identity, e-documents, and cross-border data sharing.

Following up the panel discussion, the moderator conducted a focus group discussion where participants were divided into small groups, and each group shared their reflections in a plenary session, offering insights on institutional coordination, standards alignment, public–private collaboration, and targeted capacity building.

Each group was asked to discuss two out of the following four guiding questions:

1. **Contribution and Engagement:**
How can policymakers, academics, and business stakeholders best contribute to digital trade integration efforts? What development benefits and challenges arise?
2. **Reducing Fragmentation:**
What mechanisms are needed across regional and international forums to help APEC economies reduce fragmentation in digital trade standards and move more consistently toward interoperable, digital-based practices?
3. **Capacity Gaps:**
What are the most urgent capacity gaps facing government agencies and industry actors that must be addressed in order to effectively implement emerging digital trade rules?
4. **Regional Integration:**
What steps should APEC consider to support progress toward a more integrated and seamless regional digital market?

5. CROSS-CUTTING FINDINGS

The workshop presentations and discussions revealed several overarching themes that cut across the four substantive sessions. These themes reflect shared challenges, opportunities, and structural considerations relevant to developing a trusted, interoperable, and inclusive digital trade ecosystem across the Asia-Pacific region.

IMPORTANCE OF STANDARDS ALIGNMENT

Across multiple sessions, speakers emphasized that alignment of legal and technical standards is essential to facilitating digital trade. While many APEC economies have adopted electronic transaction laws or begun implementing paperless trade systems, differences in terminology, scope, and application continue to create barriers. Variations in authentication methods, data protection frameworks, and electronic signature requirements can add friction and limit the potential for cross-border recognition of digital documents, although these regulations are often legitimate and necessary.

The need for alignment extends beyond legal frameworks to include technical standards. Presenters from ERIA, ESCAP, and PSU stressed that structured, machine-readable data formats, such as those embedded in the WCO Data Model and ISO/IEC specifications, are vital for system connectivity. Without alignment on these standards, economies face persistent challenges integrating single windows, customs systems, logistics platforms, and private sector tools.

NEED FOR WHOLE-OF-GOVERNMENT COORDINATION

A consistent observation across sessions was the importance of strong inter-agency coordination. Effective digital trade implementation often requires the involvement of customs, port authorities, trade ministries, standards bodies, ICT agencies, and private intermediaries. Indonesia's experience with the NLE and e-CO highlighted that coordinated inspections, data sharing, and system integration can significantly reduce processing times and logistics costs.

In contrast, limited coordination can lead to duplicated requirements, inconsistent standards across agencies, and fragmented procedures. Whole-of-government approaches not only reduce administrative burdens but also improve the predictability and transparency of digital trade processes.

PERSISTENT CAPACITY GAPS

The workshop revealed notable institutional and technical capacity gaps across APEC economies. Many regulators lack advanced skills in data governance, cybersecurity, digital identity, and standardization. Limited availability of technical expertise affects the quality of implementation and slows the adoption of interoperable digital systems. MSMEs also face substantial knowledge gaps, particularly in understanding digital compliance requirements and access to trusted tools.

Capacity constraints were also evident in IT infrastructure and platforms. Legacy systems remain a major barrier to interoperability, limiting the ability of agencies to adopt modern authentication systems, real-time data sharing mechanisms, and integrated logistics solutions.

CHALLENGES IN NEGOTIATING AND IMPLEMENTING DIGITAL TRADE COMMITMENTS

Speakers noted that negotiating digital trade provisions is often easier than implementing them. These findings also highlight that effective digital trade integration requires not only policy commitments, but sustained efforts to translate regulatory and technical frameworks into interoperable and operational solutions. Economies frequently commit to advanced paperless trade or digital identity obligations but later struggle to update domestic laws, align with international standards, or upgrade systems. Differences in regulatory philosophies further complicate implementation, as seen in varying approaches to data governance across major economies.

The importance of policy coherence—ensuring that commitments are actionable and consistent with domestic regulatory frameworks—was repeatedly discussed. Presenters stressed that economies require technical expertise, legal guidance, and stakeholder engagement throughout the negotiation and implementation process.

MSME INCLUSION REQUIRES TARGETED SUPPORT

The workshop underscored that MSMEs face disproportionately high barriers in accessing the benefits of digital trade. These include duplicated documentation, inconsistent data requirements, high compliance costs, limited digital literacy, and challenges in adopting digital payment and logistics systems. MSMEs often cannot afford specialized compliance services, making it difficult for them to meet evolving regulatory expectations.

Presentations from ASEAN-BAC and private sector representatives highlighted the value of simplified procedures, interoperable platforms, and targeted tools such as digital compliance checklists and onboarding support. MSMEs benefit significantly from measures that harmonize procedures, reduce fees, and provide access to secure and trusted digital solutions.

VALUE OF PUBLIC–PRIVATE PARTNERSHIPS

Across all sessions, participants emphasized the important role of the private sector in digital trade implementation. Private sector systems, including logistics platforms, digital identity providers, and e-invoicing networks, often serve as operational hubs for cross-border trade. Public–private partnerships provide opportunities to improve system linkages, test interoperability solutions, and gather feedback from users.

ASEAN-BAC’s Digital Trade Connect (DTC) initiative and New Zealand’s Peppol e-invoicing experience demonstrated how the partnerships can support system integration and generate measurable improvements in time and cost savings. The partnerships also help governments understand emerging technology trends and identify bottlenecks affecting businesses.

REGIONAL COOPERATION IS CRITICAL

Digital trade challenges are inherently cross-border, and participants agreed that regional cooperation is essential in advancing interoperability, mutual recognition, and coordinated capacity building. APEC’s role as a voluntary, non-binding forum makes it well-positioned to promote dialogue, exchange best practices, and develop model guidelines that economies can adapt to their domestic contexts.

Several speakers noted that growing regional initiatives, including ASEAN’s Digital Economy Framework Agreement (DEFA), cross-border e-invoicing pilots, and efforts to promote interoperable digital identity systems, provide important reference points for APEC cooperation.

6. BEST PRACTICES

This section identifies five best practices highlighted through the presentations, case studies, and discussions during the workshop. These practices reflect approaches that have proven effective in advancing digital trade readiness and can serve as guiding reference points for APEC economies.

ADOPTION OF INTERNATIONAL LEGAL FRAMEWORKS FOR ELECTRONIC TRANSACTIONS

A consistent message across the workshop was that the adoption of internationally recognized legal frameworks, such as the UNCITRAL MLETR and the MLES, provides economies with a strong legal foundation to support electronic transactions. These instruments enhance legal certainty, support functional equivalence between paper and electronic documents, and enable cross-border mutual recognition.

Speakers from ESCAP highlighted that such frameworks help reduce ambiguity for businesses, facilitate smoother data flows, and ensure that electronic documents can be validated and enforced across jurisdictions. Economies that have adopted or aligned with these instruments have been able to improve their regulatory environments and reduce barriers to digital trade.

Relevance for APEC: these frameworks support regional consistency and can serve as building blocks for cross-border interoperability in areas such as e-invoicing, e-certificates, and electronic bills of lading.

USE OF RELEVANT INTERNATIONAL STANDARDS

International standards such as the WCO Data Model, UN/CEFACT standards, and various ISO/IEC specifications enable efficient cross-border data exchange by ensuring that systems can “speak the same language.”

Presentations from ERIA and PSU demonstrated how economies that adopt and implement these standards benefit from reduced processing errors, faster customs procedures, and improved predictability for businesses. The New Zealand Peppol experience further illustrated how interoperable message formats enable low-cost, scalable, and secure cross-border e-invoicing networks.

Relevance for APEC: broader adoption of standards supports system connectivity across the region and facilitates integration between logistics platforms, and private sector systems.

IMPLEMENTATION OF PAPERLESS TRADE SYSTEMS

The experience of Indonesia's NLE and e-CO system provides an example of a whole-of-government approach to paperless trade. These systems integrate customs, port authorities, logistics service providers, and other government entities through a single digital interface.

The workshop highlighted that whole-of-government systems can reduce duplicative processes, streamline documentation, and improve transparency and predictability. Integrated systems allow for joint inspections, single submission processes, and improved coordination across agencies.

Relevance for APEC: implementing comprehensive digital platforms enhances efficiency and strengthens the foundation for cross-border interoperability, especially when aligned with international standards.

STRENGTHENING GOVERNANCE AND TRUST FRAMEWORKS


Governance structures that define roles, responsibilities, liability, accreditation, and data security requirements are essential to building trust in digital trade systems. The Peppol model, as presented by New Zealand, provides a practical example of how strong governance frameworks support the scaling of digital services.

Governance clarity is important not only for technical reliability but also for ensuring accountability and managing risks associated with data exchange. Trust frameworks that underpin digital identity systems, authentication mechanisms, and secure communication channels are critical for cross-border use of digital tools.

Relevance for APEC: strengthening governance helps economies improve consistency in implementation and enhance trust among users, including traders, service providers, and government agencies.

INSTITUTIONALIZING PUBLIC-PRIVATE DIALOGUE

The workshop discussions reaffirmed that ongoing engagement with the private sector is essential for understanding operational challenges, identifying opportunities for streamlining procedures, and ensuring that digital systems meet user needs. ASEAN-BAC's Digital Trade Connect initiative was presented as an example of how structured public-private collaboration can support the development of interoperable solutions and generate measurable improvements in cost and time savings.



The dialogues allow for the identification of bottlenecks that may not be visible from a policy perspective alone. They also ensure that digital tools are designed with user needs in mind, supporting increased adoption among MSMEs.

Relevance for APEC: by institutionalizing public-private dialogue mechanisms, economies can promote better regulatory design, strengthen cooperation across sectors, and ensure that digital trade systems are practical and scalable.

7. RECOMMENDATIONS FOR FUTURE CAPACITY BUILDING

The workshop identified several areas where targeted capacity-building efforts would support APEC economies in strengthening digital trade readiness. The recommendations below reflect the collective insights of presenters and participants and are designed to align with APEC's broader objectives of enhancing trade facilitation, supporting MSME participation, and promoting regulatory coherence across the region.

DEVELOP STRUCTURED CAPACITY-BUILDING PROGRAMS FOR REGULATORS

Economies consistently noted gaps in institutional capacity related to digital identity, data governance, authentication, , and standards implementation. Many regulators face challenges keeping pace with rapid technological developments and evolving international frameworks.

A structured, multi-level capacity-building program—comprising online modules, in-person workshops, peer exchanges, and technical advisory support—would enable officials to better interpret, implement, and enforce digital trade provisions. Training should address both legal and technical dimensions, including:

- Electronic transaction frameworks (MLETR, MLES)
- Digital identity and authentication models
- Standards alignment (WCO Data Model, ISO/IEC)
- Risk management
- Cross-agency coordination

Rationale: improved regulator capacity directly supports more consistent implementation, reduces compliance burdens on businesses, and enhances regional interoperability.

SUPPORT CROSS-BORDER PILOT PROJECTS TO TEST INTEROPERABILITY

Speakers emphasized the value of pilot-based cooperation, particularly in technical areas such as e-invoicing, digital identity verification, logistics data exchange, and interoperable instant payments. Pilot projects allow economies to identify operational challenges, test interoperability between systems, and build evidence for scaling.

Potential pilot topics include:

- Cross-border e-invoicing using structured data formats
- Digital identity federation across selected economies
- Interoperable logistics data exchange platforms (e.g., shipping manifests, port information)
- Cross-border QR or instant payment mechanisms

Rationale: pilot projects generate measurable results, support evidence-based policymaking, and build confidence among policymakers and the private sector.

DEVELOP MSME-FOCUSED DIGITAL COMPLIANCE TOOLKITS

MSMEs frequently lack the knowledge, resources, and tools needed to comply with digital trade requirements. Toolkits tailored to MSME needs, while also being available in multiple languages and accessible formats, would help reduce barriers to participation.

Toolkits could include:

- Step-by-step guides for adopting e-signatures, e-invoicing, and digital certificates
- Templates for commonly required documents
- “How-to” checklists for meeting compliance obligations
- Links to low-cost digital tools and government support programs

Rationale: simplifying compliance supports inclusiveness and ensures MSMEs benefit directly from cross-border digital trade initiatives.

PROVIDE TECHNICAL ASSISTANCE FOR SYSTEM INTEGRATION AND INTEROPERABILITY

The workshop identified significant demand for targeted technical assistance to support, including:

- API development
- Data model alignment
- System integration between customs, logistics, and port platforms
- Upgrades to legacy systems
- Adoption of secure communication protocols and trust frameworks

Experiences from Indonesia’s NLE and e-CO system, New Zealand’s Peppol network, and ASEAN-BAC’s Digital Trade Connect illustrated the challenges and opportunities of integrating multiple systems across agencies and borders.

Rationale: technical assistance improves implementation readiness and accelerates the adoption of interoperable digital trade systems.

ESTABLISH A REGIONAL KNOWLEDGE AND DATA HUB ON DIGITAL TRADE

Participants emphasized the value of consolidating information into a regional digital trade knowledge hub. This platform could house:

- Case studies
- Model provisions
- Technical guidelines and toolkits
- Training modules
- Metrics and KPIs for pilot evaluation
- Updates on standards and regulatory developments

Such a hub would support policymakers, regulators, and the private sector by making best practices accessible and facilitating coordinated capacity-building activities.

Rationale: a shared platform enhances transparency, supports regional learning, and provides a centralized mechanism for disseminating tools and knowledge.

8. CONCLUSION

The two-day APEC Workshop on “Towards Digital Trade Ecosystem in the Asia-Pacific Region” underscored the growing importance of strengthening regulatory, technical, and institutional foundations for digital trade ecosystem. As economies continue to experience rapid growth in digitally delivered services, cross-border e-commerce, and data-driven business models, the need for coherent and interoperable systems becomes more evident. The workshop provided an important opportunity for policymakers, technical experts, and private sector representatives to share insights, exchange experiences, and identify practical approaches to building a more trusted and efficient digital trade environment in the region.

Discussions throughout the workshop highlighted several persistent challenges, including fragmented standards, varying levels of legal readiness, limited institutional capacity, and the continued presence of legacy systems. These issues contribute to higher compliance burdens, particularly for MSMEs, and inhibit the seamless functioning of cross-border digital transactions. At the same time, the workshop illustrated significant progress across the region, such as the adoption of interoperable data standards, the development of digital identity frameworks, and the implementation of whole-of-government paperless trade systems.

Participants agreed that advancing digital trade requires a balanced focus on legal frameworks, technical standards, governance models, and capacity building. The best practices identified during the workshop, including alignment with international legal instruments, the use of structured technical standards, integrated paperless trade systems, strengthened governance, and institutionalized public-private dialogue, serve as practical reference points for economies seeking to build or enhance their digital trade infrastructure.

The recommendations put forward in this report provide actionable steps for APEC’s continued support in this area, including the development of regulator training programs, the facilitation of cross-border pilot projects, the creation of MSME-focused compliance tools, the provision of technical assistance for system integration, and the establishment of a regional knowledge hub. These initiatives can contribute meaningfully to greater coherence, interoperability, and inclusiveness across APEC economies.

As digital trade continues to evolve, APEC remains uniquely positioned to convene stakeholders, support the exchange of experiences, and develop practical resources that help economies navigate emerging challenges. Through sustained cooperation

and targeted capacity building, APEC can play a central role in advancing a digital trade ecosystem that supports economic growth, strengthens regional integration, and ensures that the benefits of digital transformation are widely shared across the Asia-Pacific region.

Finally, the workshop successfully achieved its objective of raising awareness among policymakers, including trade negotiators, government officials, and other stakeholders, on the critical role of digital trade standards in promoting efficiency, reducing costs, and enhancing transparency across the digital trade ecosystem, and it was well attended by representatives from a wide range of APEC economies. Participation and representation exceeded expectations, particularly with strong involvement from women, who accounted for 50% of survey respondents and whose presence among both speakers and participants contributed to an inclusive and well-balanced dialogue.

The workshop provided an effective platform for trade negotiators to deepen their understanding of the role and practical application of digital trade standards, particularly those related to trade and customs documentation, and to appreciate their importance in shaping broader domestic and regional digital trade strategies. Participants reported significant improvements in their understanding and expressed clear intentions to apply the insights gained in drafting regulations, developing negotiation guidelines, strengthening their economies' positions in regional and international discussions, and improving coordination across government agencies involved in digital trade governance. Lastly, the event also facilitated substantive knowledge sharing among APEC economies, helping identify best practices and existing standards while fostering dialogue on future cooperation toward a more coherent and resilient regional digital trade ecosystem.

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