



**World Customs
Organization**

Innovative Tech-Solutions for Cross-border E-commerce: Opportunities and Challenges

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**Asia-Pacific Trade Facilitation Conference 2025:
Integrating Technologies for Sustainable Trade Facilitation
4-5 March 2025**

Introduction to the WCO



- Independent intergovernmental organization exclusively focused on Customs matters
- Established in 1952 as the Customs Co-operation Council
- 186 Members
- Mission - The WCO develops international standards, fosters cooperation and builds capacity to facilitate legitimate trade, to secure a fair revenue collection and to protect society, providing leadership, guidance and support to Customs administrations

WCO Membership



186 Members divided into 6 regions, responsible for processing 98% of international trade



South America, North America,
Central America and the Caribbean

Europe

Far East, South and South East Asia,
Australasia and the Pacific Islands

North of Africa, Near and Middle East

West and Central Africa

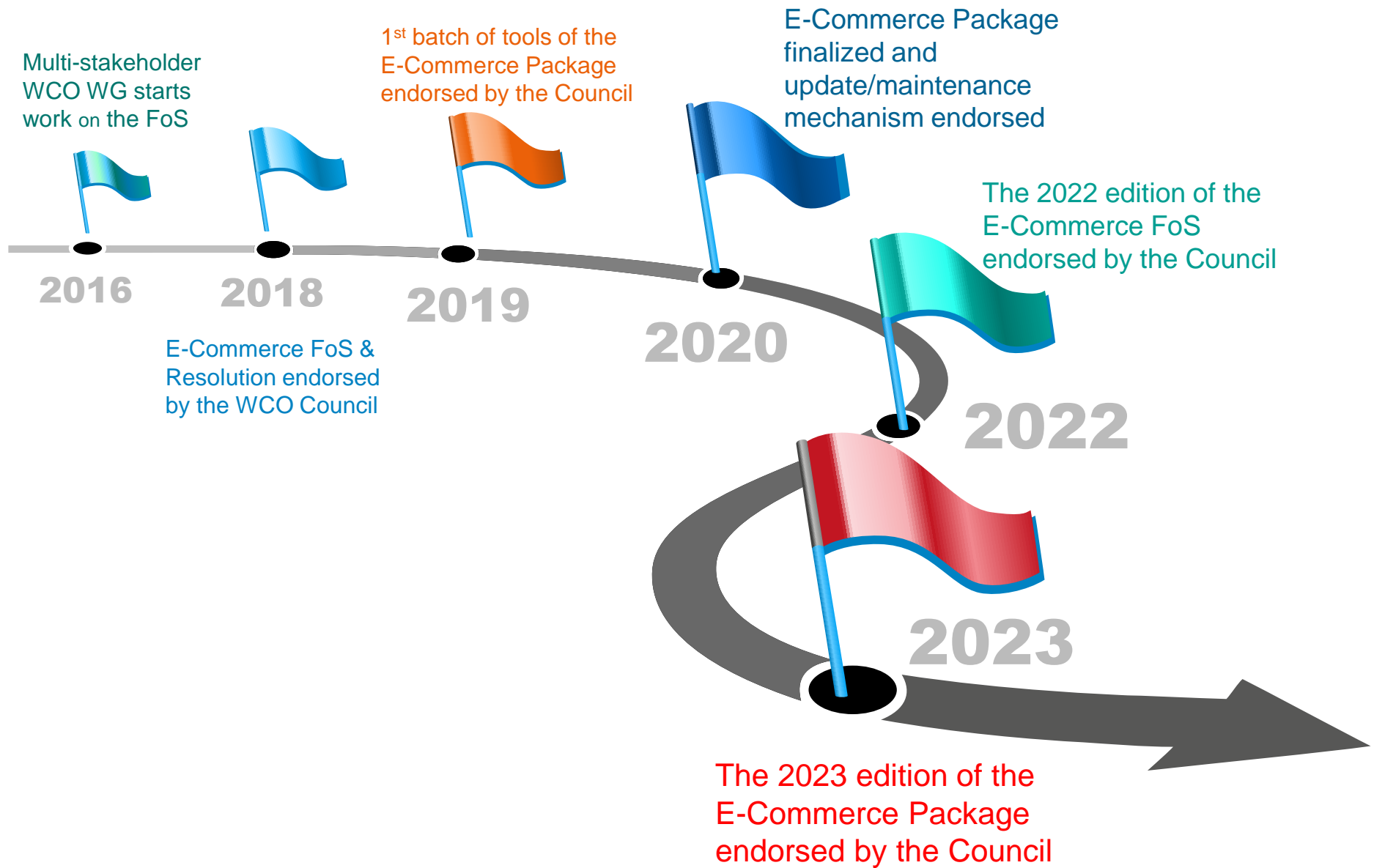
East and Southern Africa

The Global E-Commerce Landscape

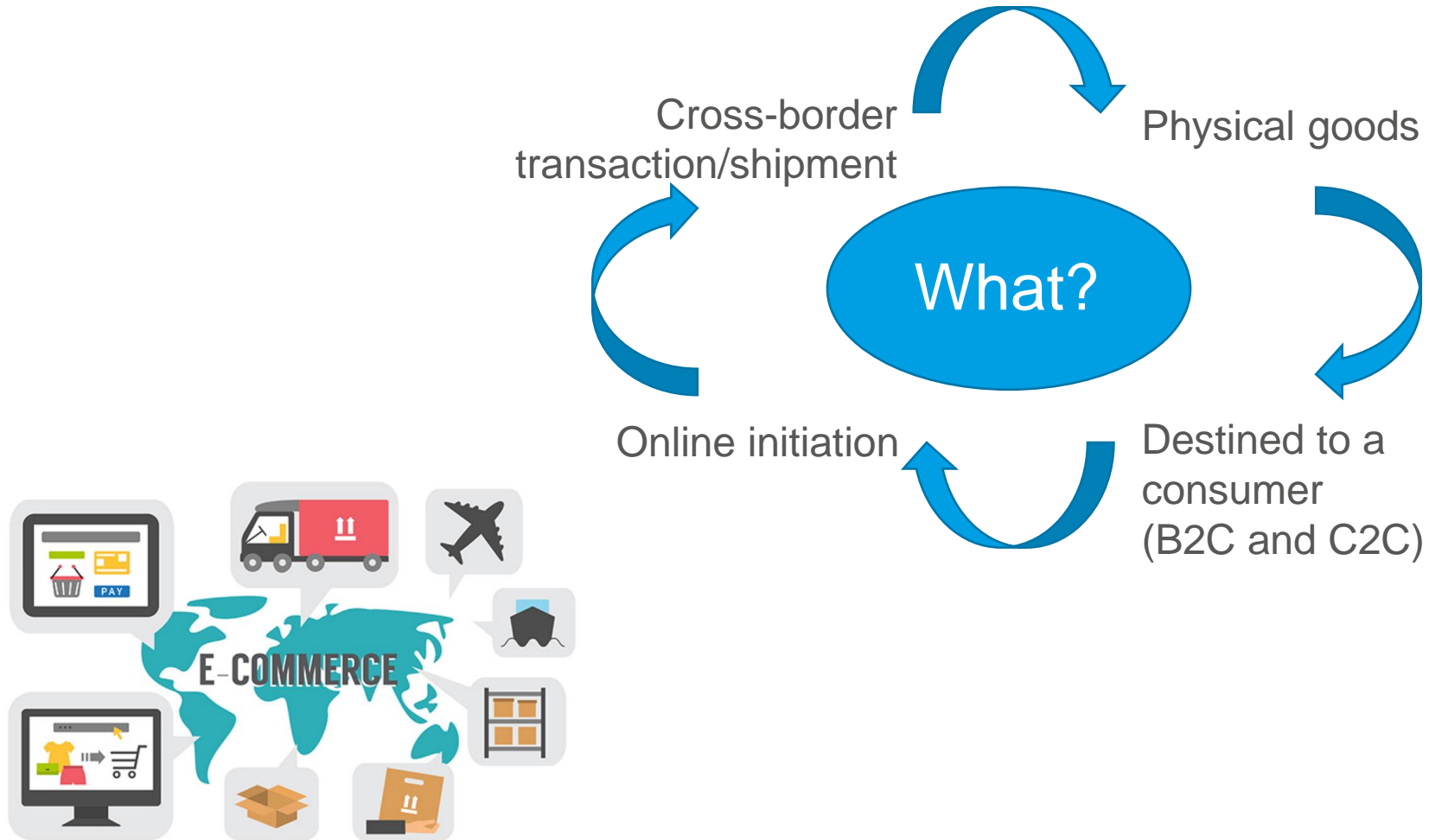
Rapid Growth: Global e-commerce is rapidly evolving, driven by increased internet penetration, mobile commerce, and consumer preference for online shopping.

Customs Challenges: High volumes of low-value shipments strain traditional customs processes, requiring enhanced compliance and revenue management.

Need for Standardization: Standardized procedures across Customs administrations are essential for efficient trade flow and effective regulatory enforcement.



Cross-Border E-Commerce – the WCO Perspective



WCO and Cross-Border E-Commerce



8 Principles of the E-Commerce FoS



- ✓ Advance Electronic Data and Risk Management
- ✓ Facilitation and Simplification
- ✓ Fair and Efficient Revenue Collection
- ✓ Safety and Security
- ✓ Partnerships
- ✓ Public Awareness, Outreach and Capacity Building
- ✓ Measurement and Analysis
- ✓ Leveraging Transformative Technologies



WCO E-Commerce Package



<http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/frameworks-of-standards/ecommerce.aspx>

Framework of Standards on Cross-Border E-Commerce



- Technical Specifications
 - E-Commerce Business Models
 - E-Commerce Flow Charts
 - Reference Datasets for E-Commerce
 - Revenue Collection Approaches
 - E-Commerce Stakeholders
- Definitions (June 2019)
- Implementation Strategy, Action Plan and Capacity Building Mechanism (June 2019)



- Resolution on the Guiding Principles for Cross-Border E-Commerce (December 2017)
- Resolution on the Framework of Standards on Cross-Border E-Commerce (June 2018)
- WCO Study Report on E-Commerce (March 2017)
- Compendium of Case Studies on E-Commerce (annual updates)
- KPIs for the E-Commerce FoS implementation
- Secretariat Notes

Other WCO tools supporting E-Commerce



- Immediate Release Guidelines**: Image showing a person at a computer with boxes and a stopwatch.
- WCO Data Model**: Image of a shipping container yard with a 'DATA MODEL' label.
- SAFE Package**: Image of a customs officer and a truck with a 'SAFE Framework of Standards 2011' label.
- Risk Management Compendium (Access to Volume II is restricted to Members only)**: Image of a red circular logo with a white 'WCO Customs Risk Management Compendium' label.
- Single Window Compendium**: Image of a 'VOL. I' label and the text 'BUILDING A SINGLE WINDOW ENVIRONMENT'.
- WCO UPU Postal Customs Guide**: Image of a white oval with the text 'WCO-UPU Postal Customs Guide (Final edition of 2024)'.
- Joint WCO-UPU Guidelines on the exchange of electronic advance data between Post and Customs**: Image of a white oval with the text 'WCO-UPU guidelines on the exchange of electronic advance data (EAD) between designated operators and customs administrations'.
- Guidelines on Customs - Tax Cooperation**: Image of a white oval with the text 'Guidelines for Strengthening Cooperation and the Exchanging of Information between Customs and Tax Authorities at the National Level'.

Advance Electronic Data, Risk Management and Use of Technology



Advance Electronic Data and RM

- Standard 1: Legal Framework for AED
- Standard 2: Use of International Standards for AED
- Standard 3: Data Quality
- Standard 4: Risk Management for Facilitation and Control
- Standard 5: Use of Non-Intrusive Inspection Technologies and Data Analytics

Use of technology

- Standard 16: Explore Technological Developments and Innovation

Supporting tools:

- ✓ Technical Specifications
- ✓ Reference Datasets for Cross-Border E-Commerce
- ✓ E-Commerce Compendium
- ✓ KPIs
- ✓ WCO Data Model
- ✓ Joint WCO-UPU Guidelines on the exchange of electronic advance data between Post and Customs
- ✓ Tools on Data Analytics
- ✓ Risk Management Compendium
- ✓ SAFE Framework of Standards
- ✓ Single Window Compendium
- ✓ WCO TEG-NII, Technology Conference
- ✓ Workshops on DT, etc.

Technology Development Trends



- ✓ Blockchain
- ✓ Internet of Things (IoT)
- ✓ Big data, data analytics, artificial intelligence (AI) and machine learning (ML)
- ✓ Drones
- ✓ Augmented reality (AR), virtual reality (VR) and mixed reality (MR)
- ✓ Biometrics
- ✓ Robotics and Automation

...



Members' Explorations on Use of Technologies in E-commerce



- **Blockchain** for identity management and revenue collection

Develop a cross-border e-commerce platform based on blockchain technology to facilitate and track e-commerce movements, within the network of Customs, e-commerce companies, ports, couriers, third-party logistics, free zone authorities, and permit-issuing authorities.

- **Big data analytics** for risk management and trade efficiency

Boost data analysis to address challenges.

Explore the application of big data to analyse and monitor the changing trends of online intellectual property (IP) crimes in cross-border e-commerce.

- **Drones** for cross-border e-commerce delivery to consumers directly

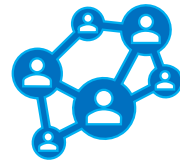
Further explore in harmony with existing regulations, and in close cooperation with civil aviation, other relevant government agencies and private sector stakeholders.

Facilitation and Simplification



Facilitation and simplification

- Standard 6: Simplified Clearance Procedures
- Standard 7 : AEO



Supporting tools:

- ✓ Technical Specifications
- ✓ E-Commerce Stakeholders – Roles and Responsibilities
- ✓ E-Commerce Compendium
- ✓ KPIs
- ✓ Secretariat Note on expanding the concept of AEO to cross-border e-commerce
- ✓ Immediate Release Guidelines
- ✓ SAFE Package, etc.

SAFE Framework of Standards



SAFE Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework)



Pillar II – Customs – to – Business

Standard 4 – Technology

All parties will maintain cargo and container integrity by facilitating the use of modern technology.

Customs administrations should encourage and facilitate, through appropriate incremental incentives, the voluntary use by AEOs of more advanced technologies, including **smart security devices**.

Study Report on Smart Security Devices (SSDs)

Use of Technologies in AEO Programme

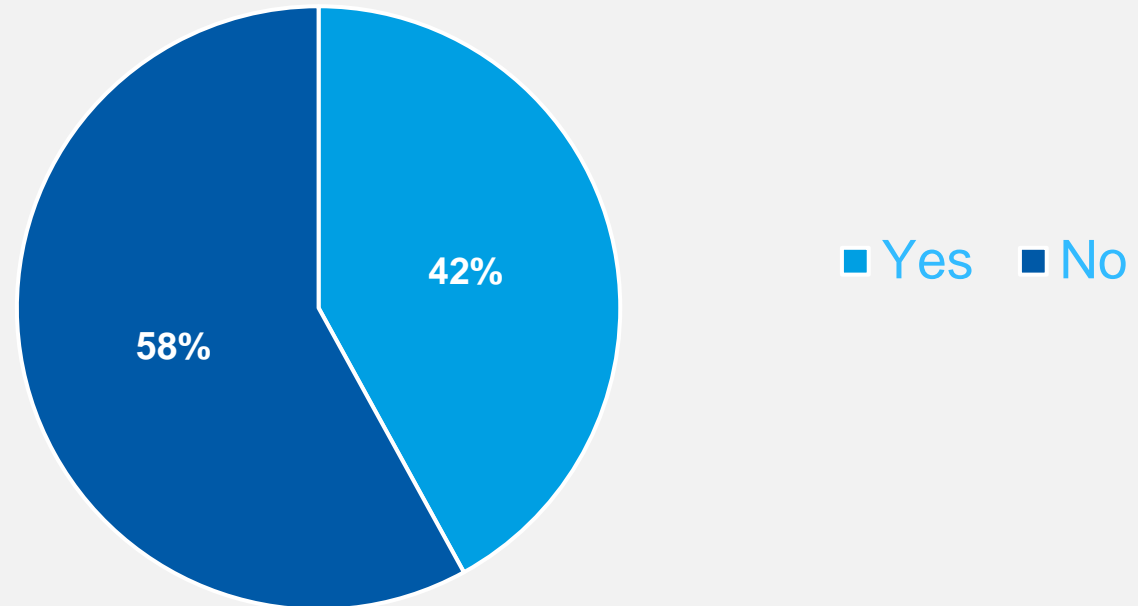


Blockchain & Biometrics

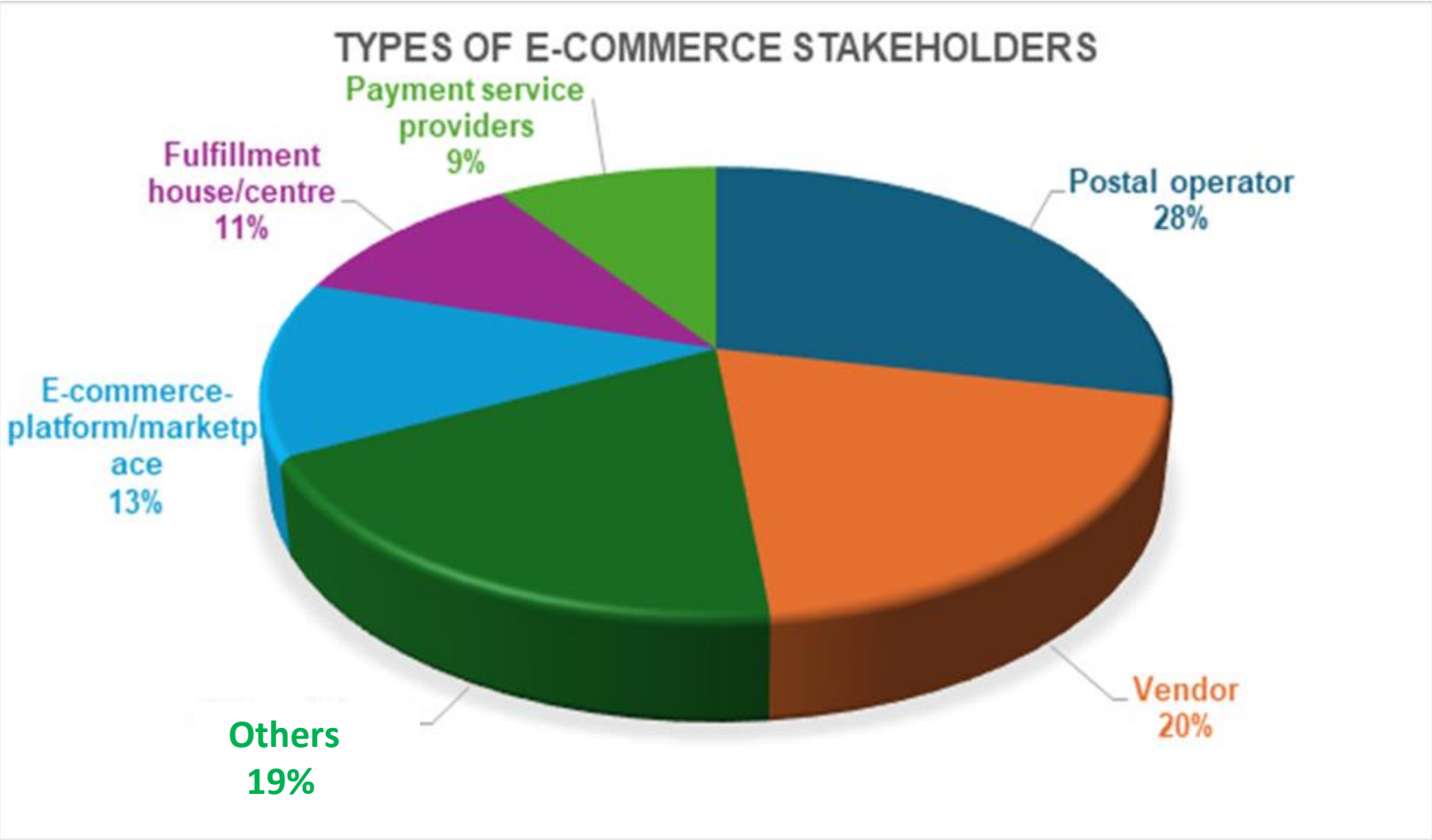


- ❖ Facilitate information exchange on AEOs
- ❖ Improve implementation of AEO mutual recognition agreements
- ❖ Help to assess AEO programmes, such as AEO certification and mutual recognition
- ❖ CADENA

Members with provisions allowing e-commerce stakeholders to apply for AEO status



Expanding the concept of AEO to cross-border e-commerce





NEW PROJECT!

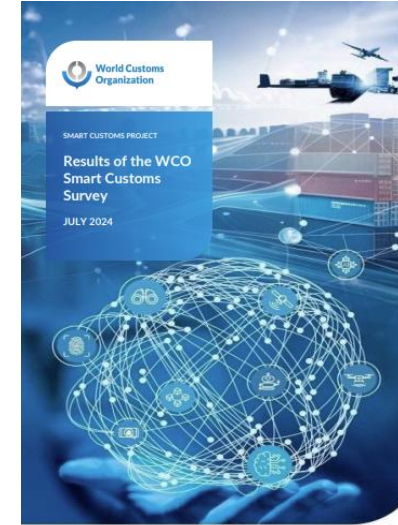
Objectives



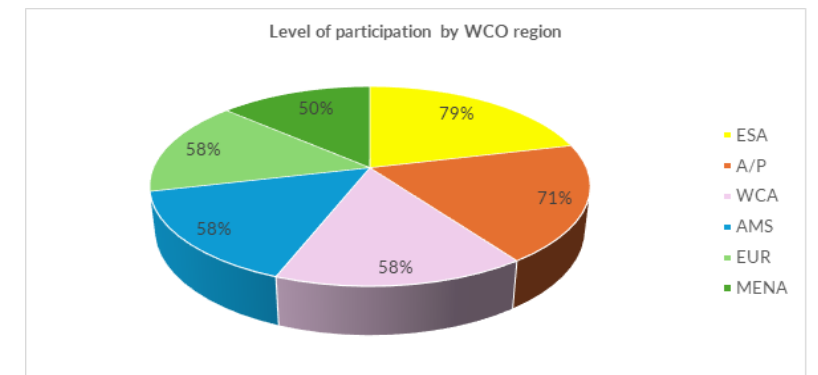
Scope

- Expand on the WCO/WTO Study Report on Disruptive Technologies
- Identify Members' **needs and status** of technological adoption
- **Share knowledge** on technologies and innovative solutions applied to Customs
- Better understand the technologies available for Customs
- Investigate the **challenges** related to appropriation of technologies

- ❖ **Global**
- ❖ **Disruptive, emerging and the innovative application** of existing technologies
- ❖ Key aspects of **technology implementation**, such as business processes, legal requirements, policy arrangements, technical specifications, costs, and trends



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New Nominations are
welcome!**

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categories tags Latest Hot Categories

Category

Getting started

Welcome to the Smart Customs Community Portal! This space is dedicated to NCP interactions. Designed as a vibrant hub for collaboration and partnership, the Portal fosters peer-to-peer learning and knowledge-sharing. It serves as a launchpad for Customs administrations to boost their performance, ...

Artificial Intelligence and Machine Lea...

Exchanging ideas, experiences, challenges, views and requests related to the adoption of AI and ML

- Request for Advice
- Call for collaboration and partnership
- Sharing Research, Innovations and Trends
- Sharing Experiences and Use cases

Big data and data analytics

Exchanging ideas, experiences, challenges, views and requests related to the adoption of Big data and data analytics

- Requests for Advice
- Call for collaboration and partnership
- Sharing Research, Innovations and Trends
- Sharing Experiences and Use cases



**World Customs
Organization**

Thank you!

Procedures and Facilitation Sub-Directorate

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