Enhancing Interoperability Beyond Data Exchange

Bridging the Gap between National Customs Systems and Field Operations

Presented by

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1. E-commerce Growth and Customs Responses

The Challenge

· Sharp increase in small, diverse, and low-value express consignments

· Growing pressure on existing customs clearance systems

Global Customs Responses

· Enhanced digitalization and data-driven risk management

· Increasing adoption of AI-supported customs operations

International Standards

· Structured data requirements (*WTO TFA*)

· Risk-based clearance procedures (*WCO Revised Kyoto Convention*)

→ Supporting proactive customs adaptation

2. The Emerging Challenge: Customs-Field Data Gaps

Two Different Challenges

- Enhanced e-clearance & ACI-based risk analysis

- Real-time integration with field-level logistics flow

Field-Level Data Gaps

- Time gaps between physical cargo movement and system updates

- Fragmented data across transport, storage inspection, and release stage

Result

- Weakened real-time inventory visibility and cargo control

- Increased reliance on manual checks and delayed verification

🗒 **Key Issue**: Lack of real-time, end-to-end data synchronization between national customs systems and field operations

3. Korea's Approach: A Public-Led Cooperation Model

Public-Led Governance Model

· KCS provides the policy framework and national customs system (UNIPASS)

· A non-profit operator (KCTDI) manages on-site clearance operations

· Support customs inspections and address risks such as tax evasion and hazardous goods

<Collaboration Model>

KCS
Korea Customs Service

KCTDI
Non-profit Operator
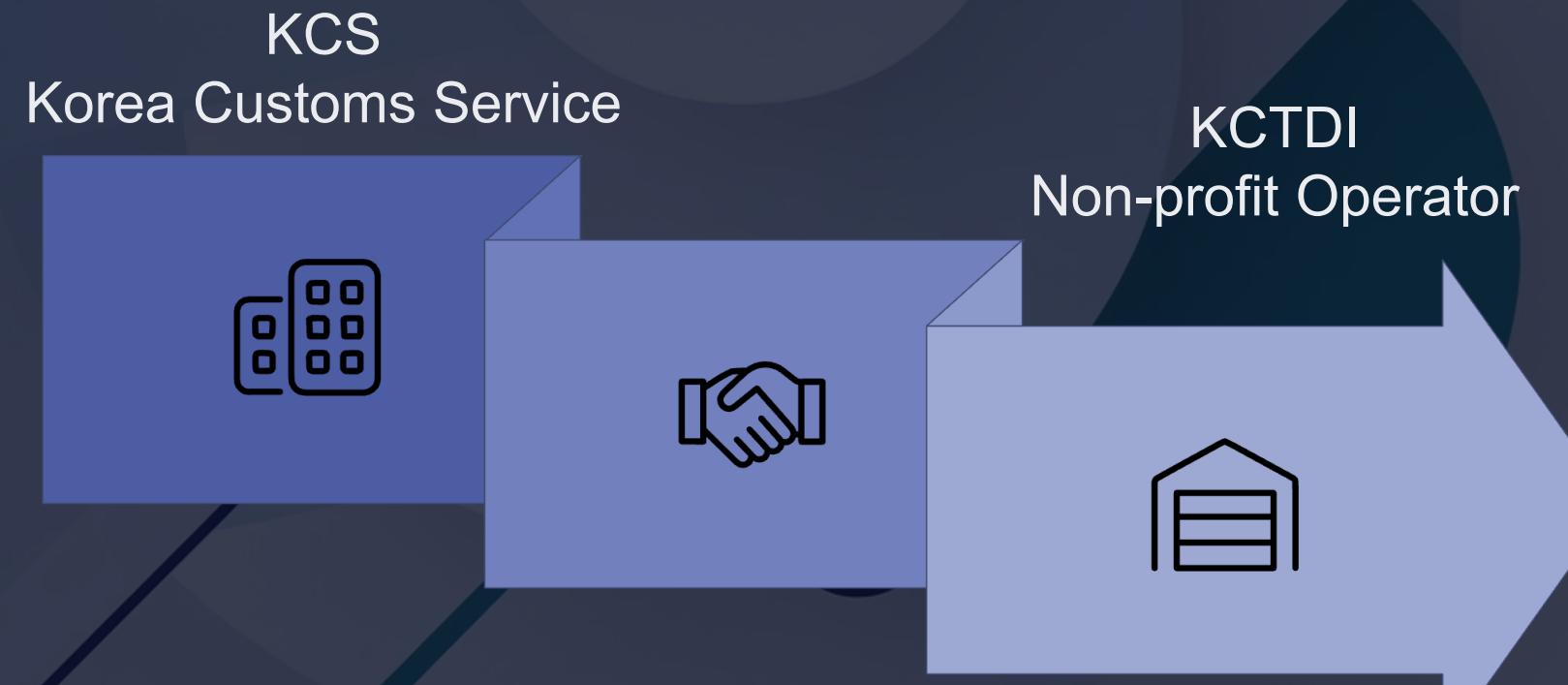
4. Integrating UNIPASS with Smart Customs Platform

From E-declaration to On-site Operations

Data linkage expanded to customs clearance facilities

Role of Platform

- Integrated data hub connecting on-site operations with UNIPASS

- Real-time exchange of cargo data and inspection results

< Data Linkage Model >

Advance Cargo Information

Shipping Lines or Airlines

Manifest

Express carriers

Item List

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Clearance Facilities

KCTDI

Smart

Customs Platform

DB-to-DB connections

Timeliness Reliability Synchronization

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E-clearance System

KCS

Korea Customs Service e-Clearance System

UNI-PASS

KOREA CUSTOMS SERVICE
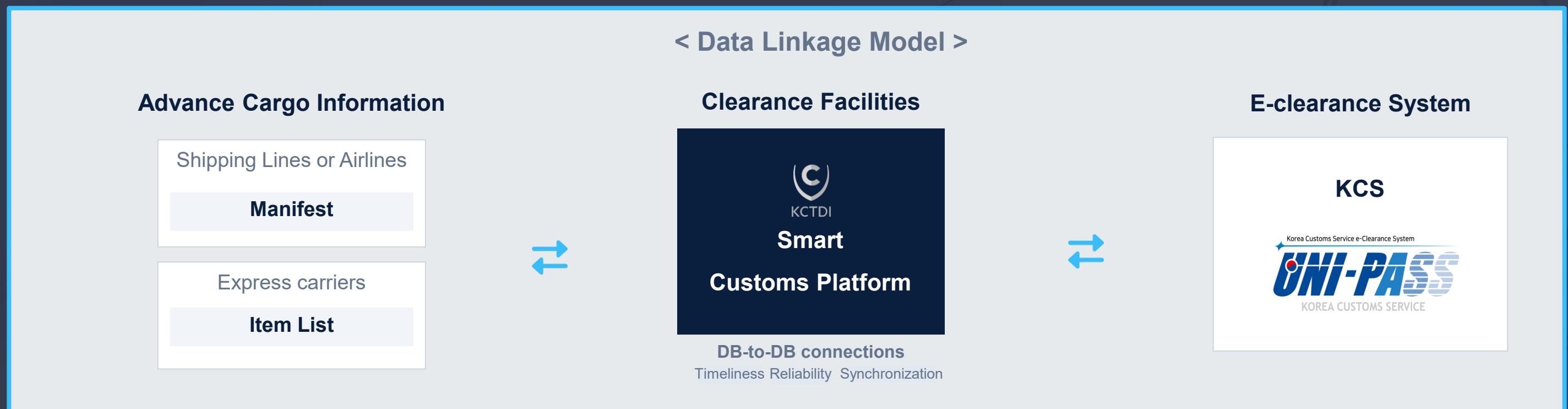
5. Extending Data Connectivity after Customs Clearance

Extend Data Linkage to Door-to-Door(D2D) Logistics

→ Key to addressing data discontinuity

Strengthening Post-Clearance Risk Management

- Exceptional cases *(e.g. misrelease, unforeseen situations)*

- Post-clearance data linkage **enables**

  → Tracking of cargo routes, delivery status, consignees

Improving Service Quality and Operational Efficiency

- Real-time clearance-to-delivery data flow

  → Enhanced ETA/EDD accuracy

  → Reduced waiting time & fewer manual checks

  → More efficient resource allocation *(vehicles, staff, warehouse operations)*

🗒 End-to-End Data Integration = Safer, Faster, More Cost-Effective Logistics

Thank You

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