

Smart Port Transformation of Busan Port

2026 IAPH-KMI Port Forum



The Global Challenge: Fragile Interdependence



WHY?

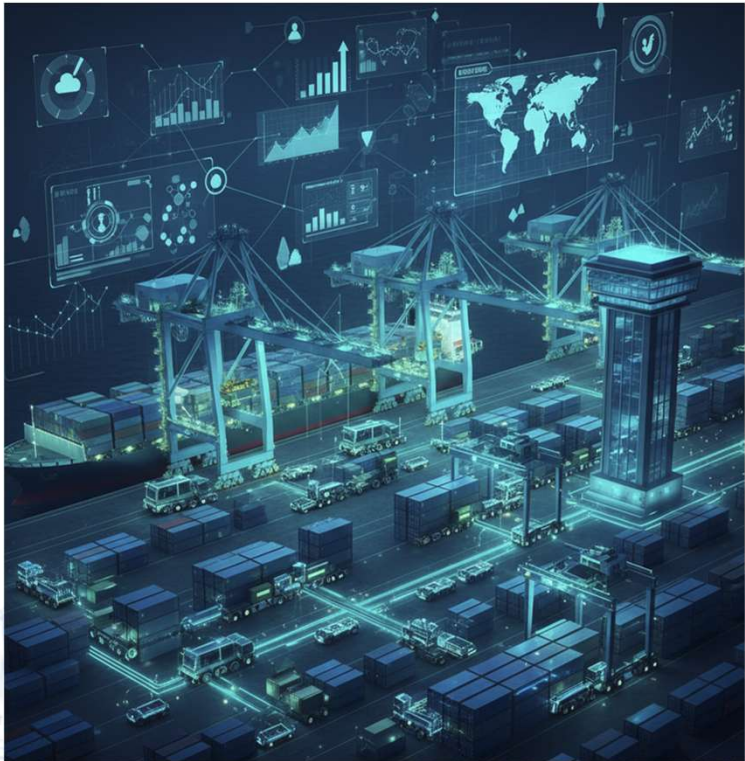
Congestion's Ripple Effect

- Highly Interdependent logistics chain
- Single port failure leads to a Global Systemic Crisis

➔ Severe Congestion,
Poor Schedule Reliability, etc.

- ✓ **Fundamental Issue:**
Lack of Cargo Visibility Across the Maritime and Port Network
- ✓ **Caused by:**
Fragmented and **Unstandardized Data** Among Stakeholders

The Digital Solution: Ports as the Connectivity Hub



Unique Position

- Ports - Start & End points of Global Maritime Logistic
- Only Node Connecting Network-wide Data

Core Goal

- Real-time Visibility of
 - ▲ Vessel Positions, ▲ Cargo Conditions, ▲ Logistics Flows

Future Statement

- Ports as Anchors of Stability through Integrated Data Management

Port Community System(PCS)

Port Community System = No Operational Delays

- Carrier
- TML Operator
- Port Authority
- Customs
- Shipper
- Forwarder
- Trucking Company
- Rail Operator
- Quarantine
- Logistics Company

Cargo Visibility ↑

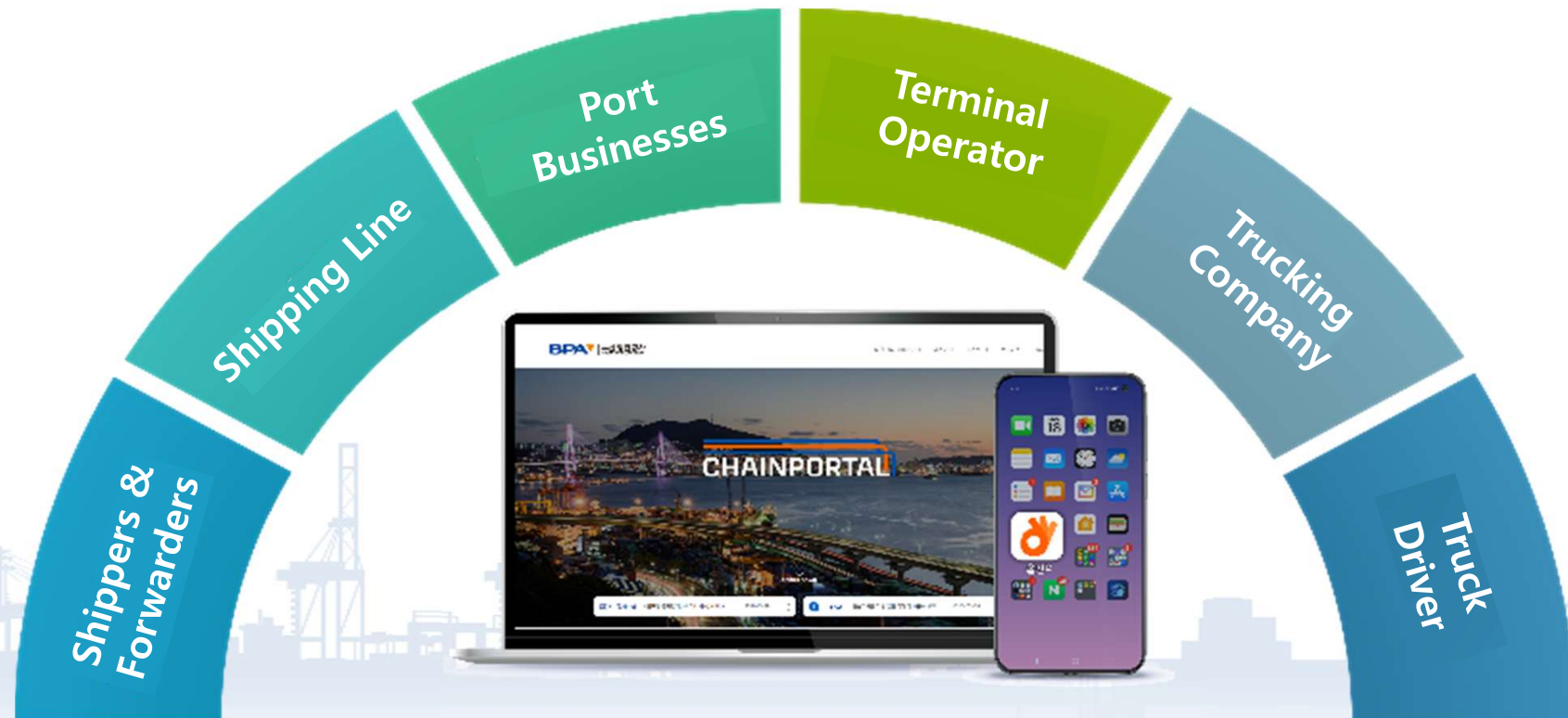
<World Bank>

- Singapore
- Rotterdam
- Busan

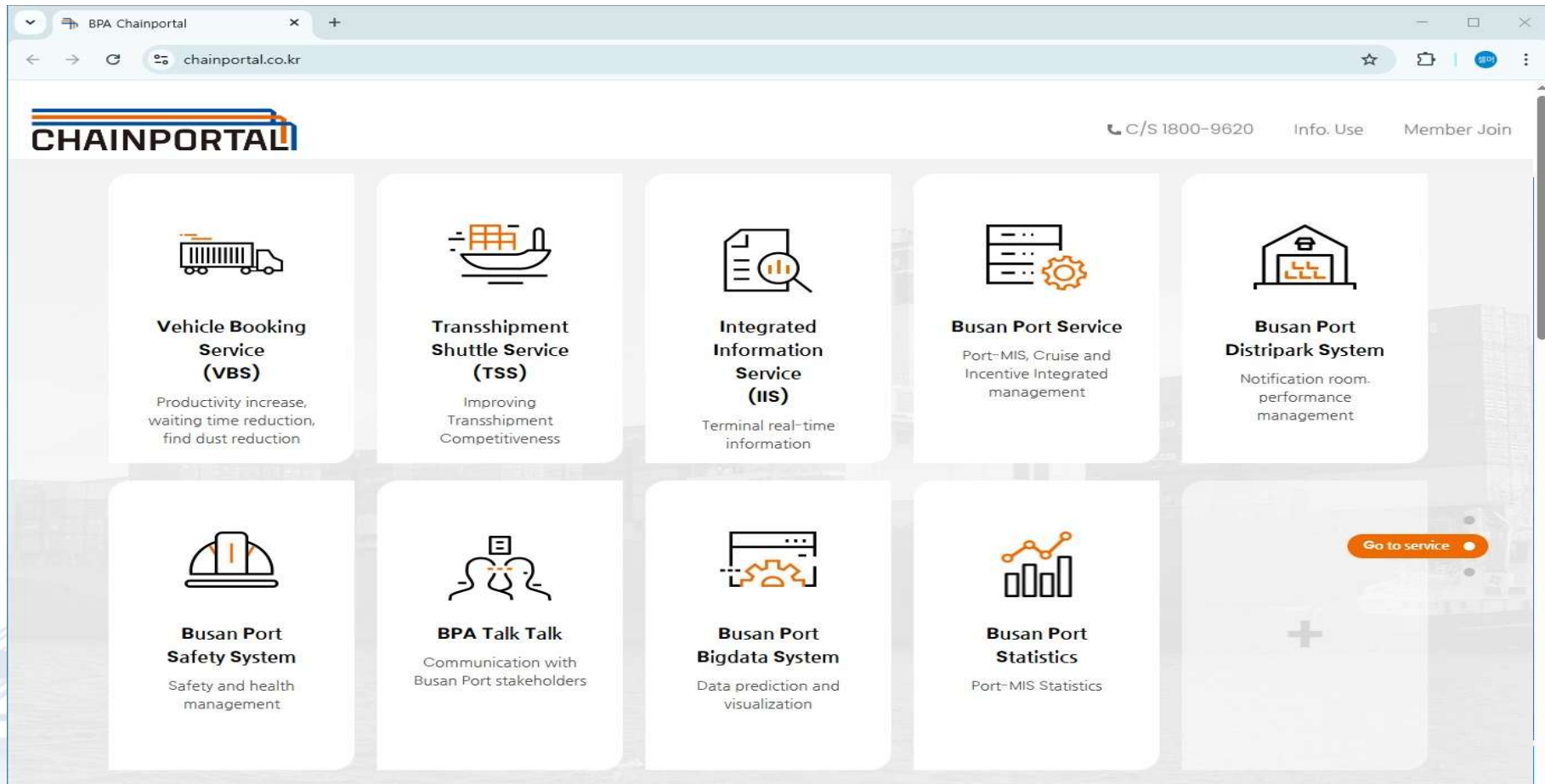


Chain Portal – Integrated Port Logistics Information Platform

Block Chain Based Real-Time Information and
Data Sharing Platform for Port Stakeholders



Busan Port PCS(Chain Portal)



Core Functions of Chain Portal

✓ e-Equipment Interchange Receipt

1 Identify risks

Truck Drivers

Frequent get offs are inevitable in terminals



A truck driver walking along right next to large heavy machineries

Port Personnel

Hard to communicate with the truck driver



Giving hand signs to the truck driver during container cleaning process

2 Coming up with solutions

- Establishing a **no-disembarkation process** for truckers
- Developing **real-time communication channel** between port personnel and truck drivers
- **Proactive dissemination of urgent alerts** to notify potential safety hazards within terminal premises

3 Decide adoption

Hardware



Installing dedicated e-EIR gates to facilitate efficient and secure entry and exit procedures

Software

Developing an integrated e-EIR application to enhance overall port logistics



Paper EIR



e-EIR

Core Functions of Chain Portal

✓ Transshipment Support System(TSS)

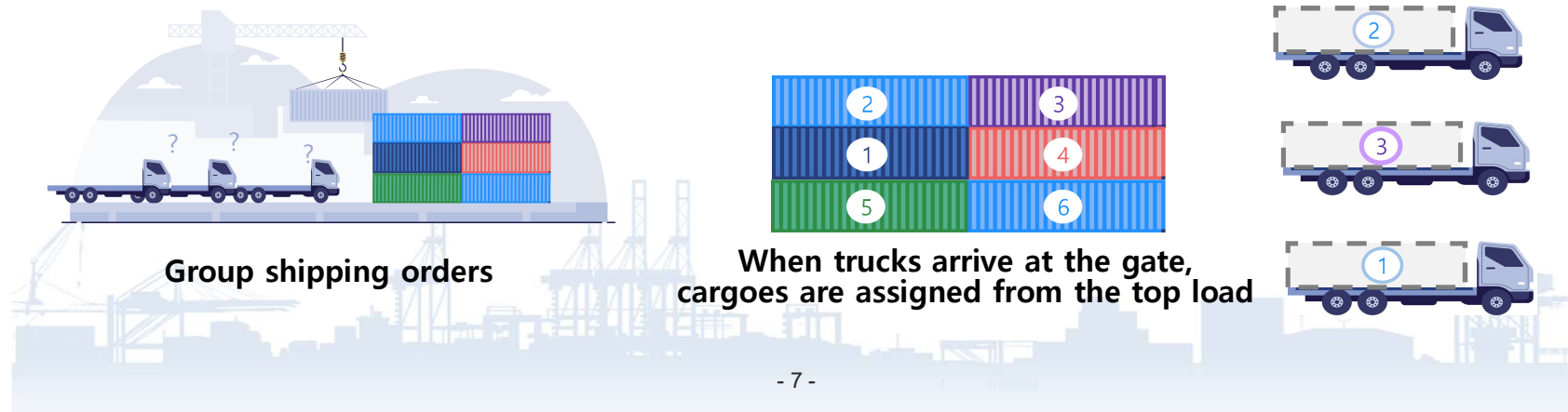
[Before] Single shipping order: Mapping one truck for one cargo

→ Inefficiency and increased waiting time due to the location of cargoes



[Now] Group shipping order : Multiple trucks and cargoes are mapped for group order

→ Orders are automatically placed in the optimal order



Core Functions of Chain Portal

✓ Busan Port-i

Transshipment Data Integration

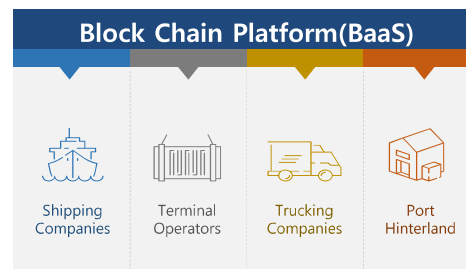
01 Real-time Integration of Terminal Data



- 9 Terminals at Busan Port
- Data sharing among shipping companies, terminals, etc.

Strengthening Data Security

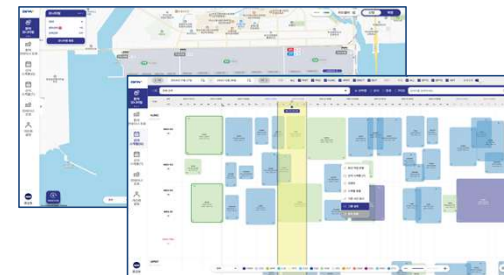
02 Utilization of Blockchain Technology



- Ensuring information integrity
- Guaranteeing the reliability of information

Enhancing Transshipment Competitiveness

03 Development of Transshipment Monitoring system(Port-i)



- Transshipment operations via a single platform
- Enhancing Transshipment efficiency

chainportal Usage & Achievements



Annual Visits
227,926

Cumulative Platform Access in 2025

Total Registered Users
24,065

Total Platform Registered Users

AllCon-E Users
17,447

Truck Driver Dedicated
Mobile App Subscribers

Awards & Key Achievements

REPUBLIC OF KOREA
**SMART
PORT OF BUSAN**



2026 WGS (World Governments Summit) Global Future Readiness Award

- Selected from over 1,500 entries worldwide
- First in port & logistics and inaugural maritime sector winner, proving global innovation

부산항만공사



2023 Korea Logistics Award Presidential Commendation

- Highest honor in the organizational category
- Korea's highest honorary commendation officially recognizing chainportal's national logistics innovation



2023 Northeast Asia's #1 PCS World Bank + IAPH Publication

- Best practice in port digitalization
- Outstanding case of global port digital transformation

Global Data Cooperation: Busan Port's Role

International Taskforce



Port Call Optimization

- ✓ Busan Port is taking an active role, joined by "10 global ports"

Driving International Standardization

- PCO: Led by Port of Rotterdam with Global Ports, Shipping Lines, and International Organizations
- Purpose: Standardizing Vessel arrival/departure Data and Enhancing Visibility



- ✓ **2025 December:** Official Guideline Publication
- ✓ **2026 March:** Introduction at **IMO FAL**
- ✓ **2026 April:** Pilot Application among **participating ports, including Busan Port**

THANK YOU



Sep. 23rd, 2025