Initiatives to Improve the Efficiency and Advancement of Logistics and Promote the Expansion of Cold Chains

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- Cooperation between cargo owners and logistics companies

3. Improving the Standard of Living of the People Through the Cold Chain

- Building a high-quality cold chain

Comments from Japanese Businesses Regarding Logistics in Indonesia

(Current situation and issues at major ports)

- **Port of Tanjung Priok accounts for 50% of the total** and is reaching its capacity limit

- Remaining issues
  - Improving container yard utilization rates
  - **Waiting at anchorage** for a certain period
  - **Traffic congestion around the ports**
  - Improvement of **logistics efficiency and decarbonization**, etc.

(Challenges for expanding cold chain logistics)

- **Limited use of refrigeration and freezing**

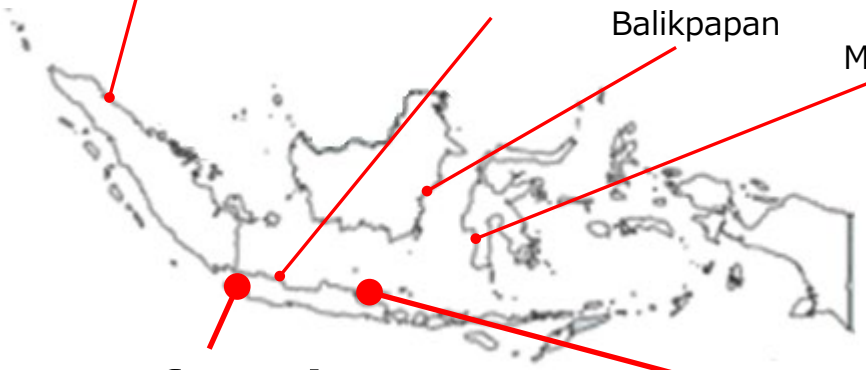
  (Maintaining the quality of agricultural and marine products through an appropriate cold chain)

- Raising **consumer awareness of “freshness”**

  (There is a strong sense that “freshly picked” means “freshness.”)

Comparison of Major Ports in Indonesia and Japan

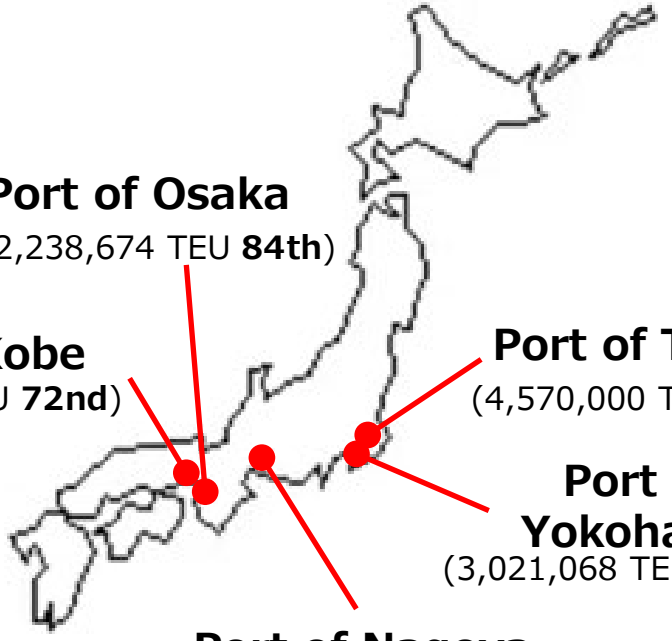
Indonesia



Port of Tanjung Priok
(7,290,000 TEU **26th**)

Port of Tanjung Perak (Surabaya)
(4,100,000 TEU **49th**)

JAPAN



Port of Osaka
(2,238,674 TEU **84th**)

Port of Kobe
(2,835,518 TEU **72nd**)

Port of Tokyo
(4,570,000 TEU **46th**)

Port of Yokohama
(3,021,068 TEU **68th**)

Port of Nagoya
(2,698,118 TEU **75th**)

* Created by MLIT Japan based on Lloyd's List in 2023 and statistical data from each port authority
() indicates container handling volume and world ranking (within the top 100)

Japan's International Container Hubs Policy

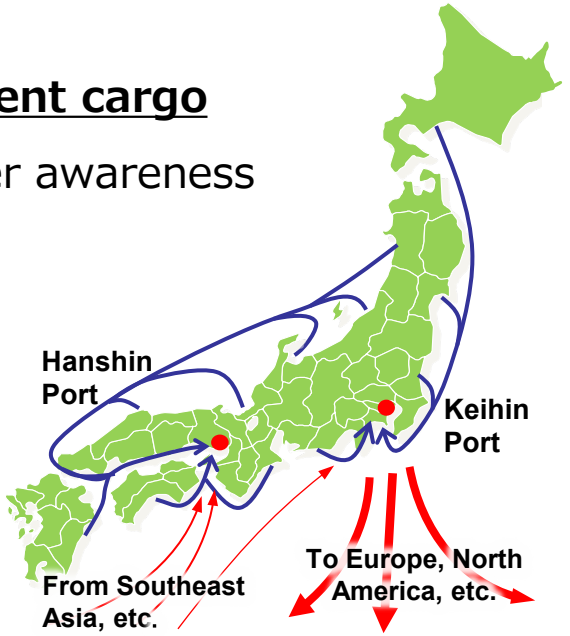
In order to maintain and expand port calls on major international shipping routes in Japan, we will promote initiative of **①Collection of Cargo**, **②Creation of Cargo**, and **③Improvement of Competitiveness**.

① Collection of Cargo

- **Domestic collection**
- **Collection of international transshipment cargo**
- **Cooperation with stakeholders** to foster awareness of our strategy and its goal

② Creation of Cargo

- Strengthening **logistics functions in the port area**
- Promoting **industrial location** that contribute to the creation of cargo

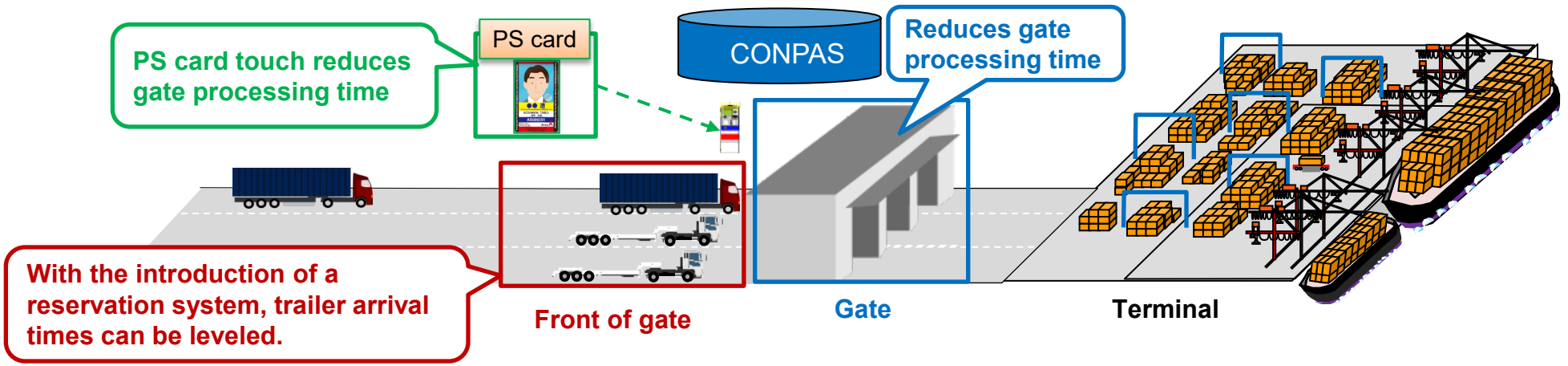


③ Improvement of Competitiveness

- **Facility development** aimed at facilitating **the use of larger vessels** and **smoother transshipment**
- **Logistics efficiency**, **cybersecurity** measures, **decarbonization**

Introduction of Container Fast Pass (CONPAS)

- Container Fast Pass (CONPAS) is a system that aims to **eliminate congestion in front of gates with the introduction of a reservation system**, thereby enhancing container logistics efficiency.



【Effective case】

[Yokohama Port Minami Honmoku Terminal]

(Reduction in waiting time)

Before introduction: **Average waiting time in front of gate was approx. 30 minutes**

⇩

After introduction: **Average waiting time in front of gate reduced to approx. 7 minutes**

[Kobe Port PC-18]

(Reduction in gate processing time)

Before introduction: **Average gate processing time was 1 minute 34 seconds**

⇩

After introduction: **Average gate processing time reduced to 23 seconds**

Reading a PS card

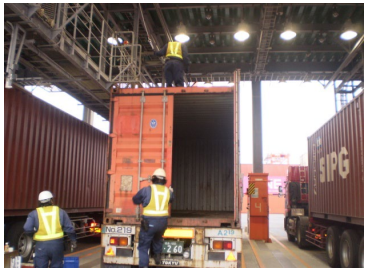
Upgrading Container Terminal Gates

● In response to trailer congestion in front of the terminal and labor shortages at land transport companies, we are supporting **upgrading of container terminal gates to speed up and streamline gate operations**.

<Current Gate Operation>

- On-site work is required, such as exchanging documents and checking for damage.
  * Each trailer takes a maximum of 3-5 minutes.
- Longer waiting time due to congestion in front of gates.

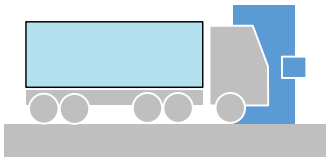
Hand over destination card (placard) in the terminal



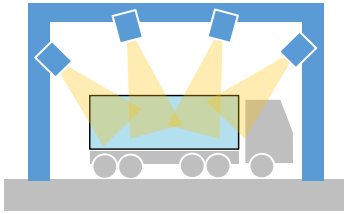
Visual inspection of container damage

<Introduction of highly functional gates>

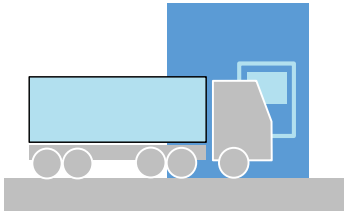
- Introduction of a visitor reservation system has helped to level out the number of trailers visiting the site and make reservation information checks more efficient.
- Introduction of a damage check system has made container visual inspections more efficient.
- Advanced verification of delivery information, electronic destination instructions, and more efficient document exchange.



○ Check reservation information



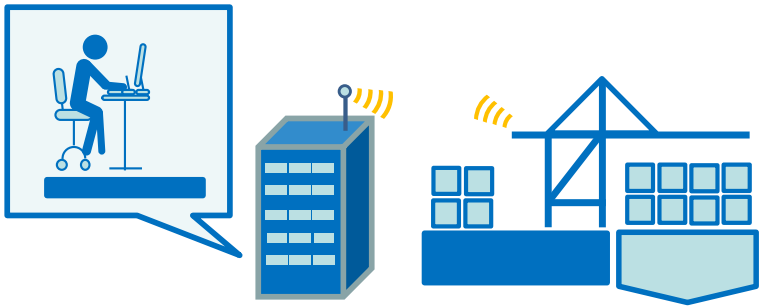
○ Check container damage
○ Check container & seal numbers



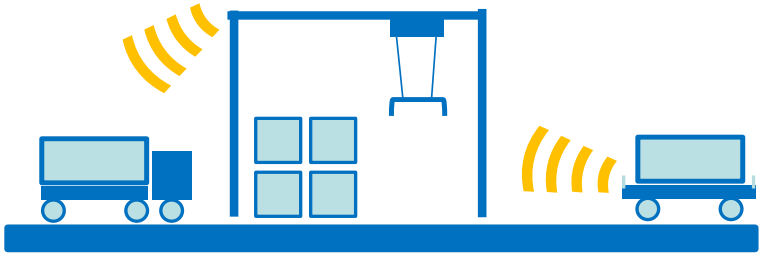
○ Pre-check delivery information
○ Issue destination instructions
○ Return Equipment Interchange Receipt (EIR)

Initiatives for Realizing AI Terminals

- We are aiming to ensure **a favorable working environment, improve productivity**, and promote the realization of **AI terminals** by introducing AI, ICT, and other technologies at Japanese container terminals.

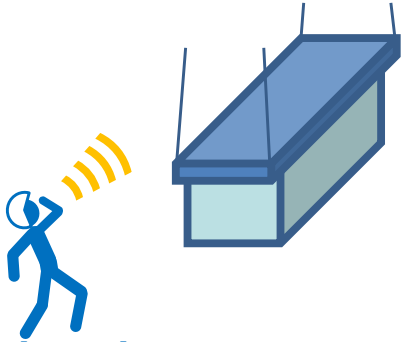


Improving the productivity of cargo handling equipment (Remote Control System)



Enhancing the efficiency of loading/unloading at terminals (Autonomous Operation)

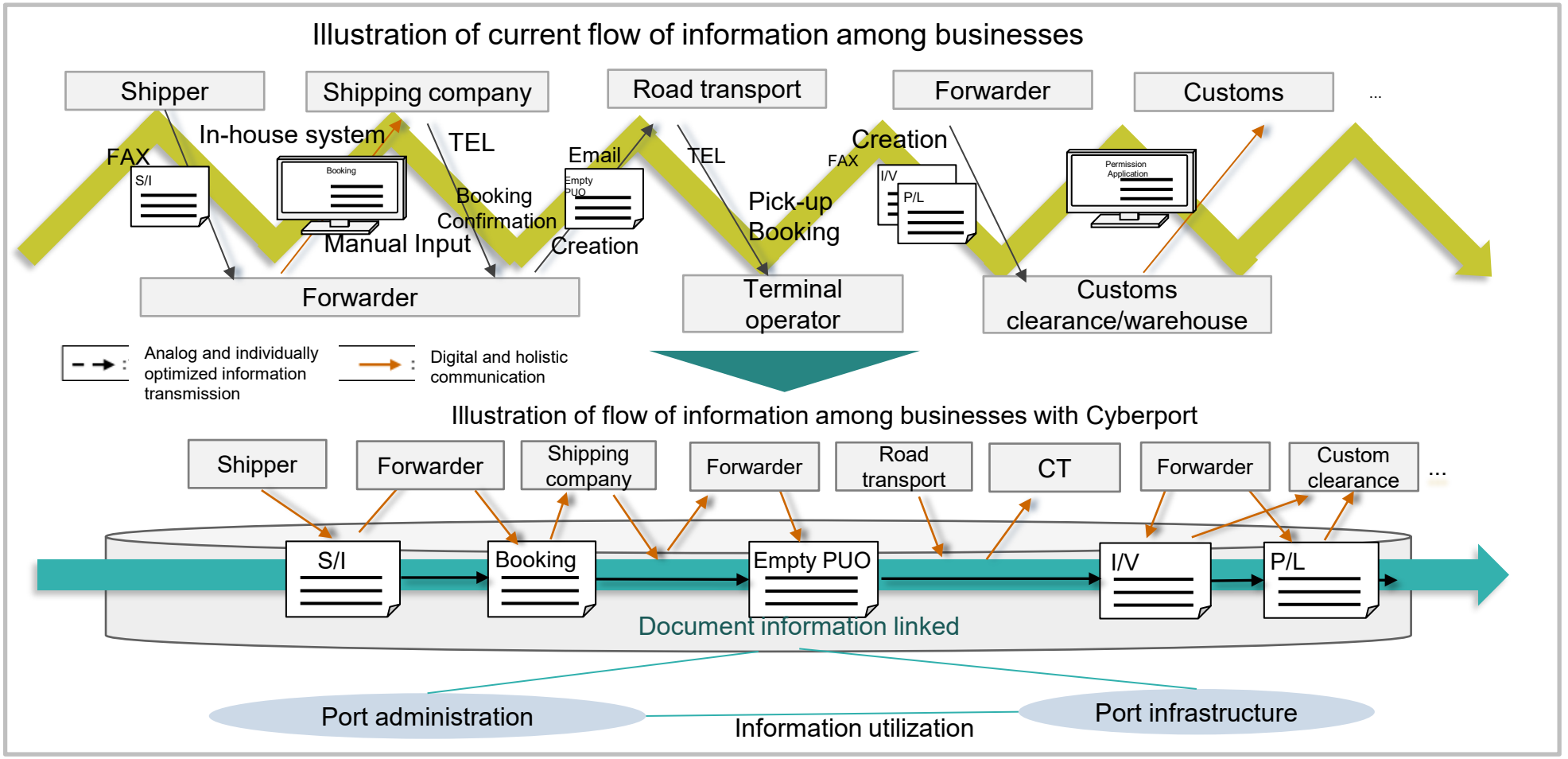
Advances in terminal operations (AI-based placement planning)



Enhancing port personnel safety and work efficiency (Accident prevention system)

Promotion of "Cyberport"

- Container logistics procedures for private operators, which are a mixture of paper, telephone, and e-mail, will be **digitized and optimized** with **Cyberport, a data platform** administered by MLIT, to **improve overall container logistics productivity.**



Cyber Attacks Caused System Outage at Japanese Port

- Growth in logistics digitalization requires **greater vigilance against cyber risks**, including thorough **information security measures**.

- On July 4, 2023, a system outage occurred at **Nagoya Port due to a cyber attack**, resulting in a loss of **port functions for approximately three days**.

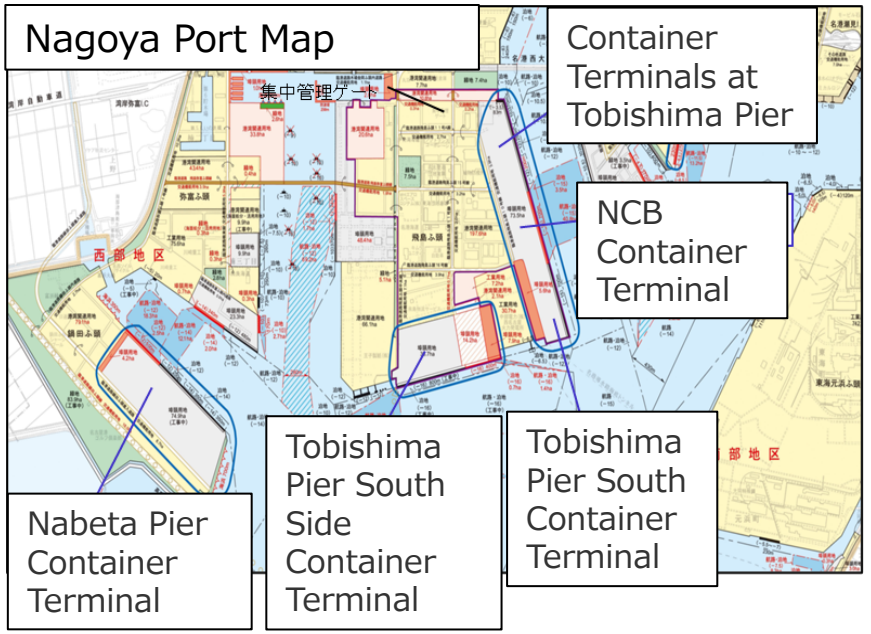
[Overview of system outage]

<Target>
Nagoya Unified Terminal System (NUTS) *

* The system centrally manages container loading and unloading, as well as arrival and dispatch at Nagoya Port's five container terminals.

<Cause>
Malware (ransomware)

<Impact>
During the three days from July 4 to 6, 2023,
- 37 ship loading/unloading schedules affected
- Approximately 20,000 containers affected (estimate)



Development of Carbon Neutral Port

- Promoting **competitive ports that meet cargo owners' and shipping companies' needs for decarbonization** and are ports of choice from the perspective of **sustainability**.

[Examples of decarbonization initiatives at terminals]

[Plan creation]
- ✓ Creation of plans at each port
- ✓ Public-private partnership initiatives

[For vessels]
- ✓ Provide shore power supply, etc.
- ✓ Supply zero- and near zero-emission fuel to ships

[At container terminals]
- ✓ Use renewable energy
- ✓ Decarbonize cargo-handling equipment (Gantry cranes, transfer cranes, etc.)
- ✓ Switch to LED lighting in yards

[In back yards]
- ✓ Introduce reservation system to reduce vehicle congestion at gates

Development of New Port Hubs for Improving Logistics Efficiency

- The development of a new **container terminal** and **automobile terminal** at Patimban Port is expected to **reduce traffic congestion and port congestion in the Jakarta metropolitan area**.
- **Port of Patimban and the surrounding industrial area** are expected to become a supply base for **carbon-neutral fuels** in the future.

Location of the Jakarta Metropolitan Area and Port of Patimban

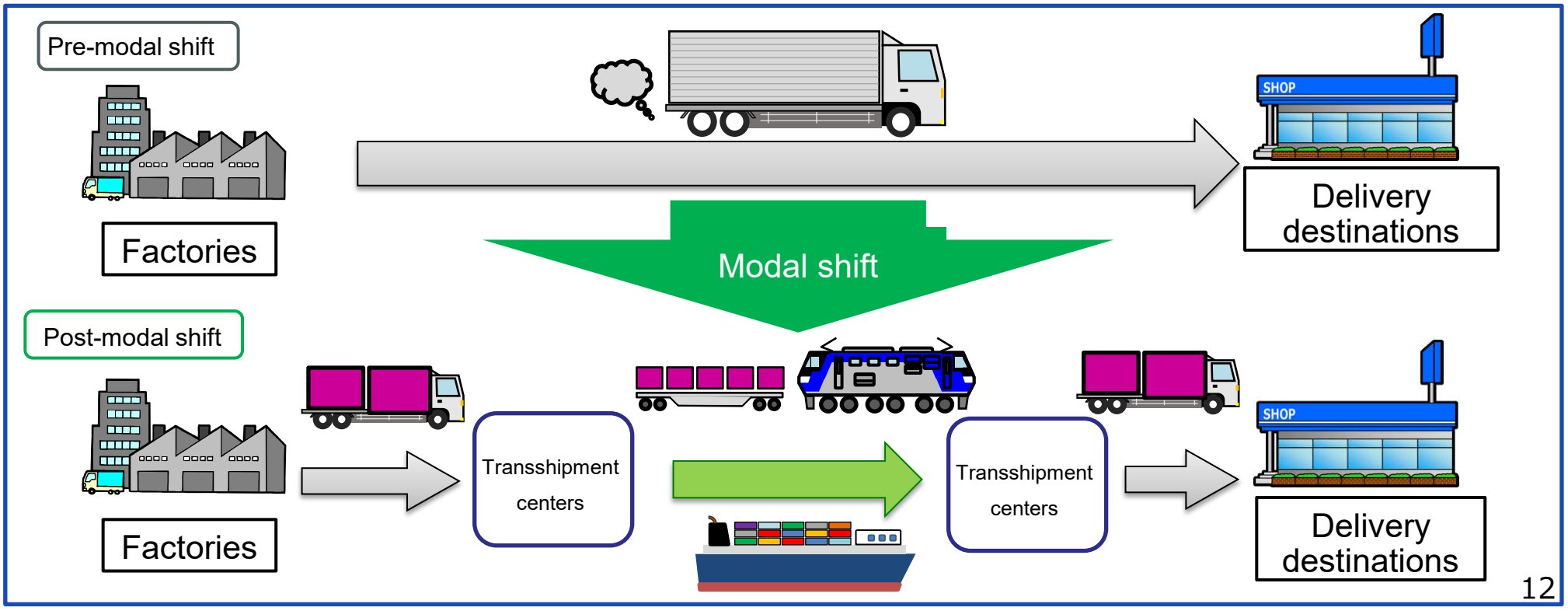
Image of the completed Port of Patimban
(Source: JICA Indonesia Office)

Development implementer	Directorate General of Sea Transportation, Ministry of Transportation of Indonesia, etc.
ODA loan amount	Approximately 273 billion yen (approximately 28.7 trillion rupiah in Indonesian currency)
Construction period	2018 - ongoing * Partial service to begin in 2021

Promotion of Modal Shift

- In Japan, **shippers, Consignees, logistics companies, and other parties are working together** to promote a shift to transportation modes with **low environmental impact (such as rail and sea transport).**

Shipper × **Logistics Operator** (Truck Operators, Railway Operators, Warehouse Operators, Domestic Vessel Operators, Forwarders, etc.) × **Consignee**

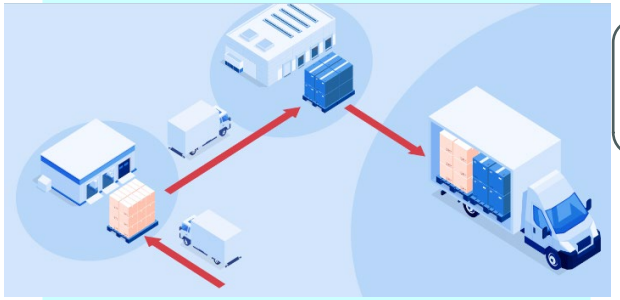


Reducing the Burden on Truck Drivers

- In Japan, **shippers, consignees, logistics companies, and other parties are working together** to **reduce the burden on truck drivers**, who handle the majority of domestic freight transportation.

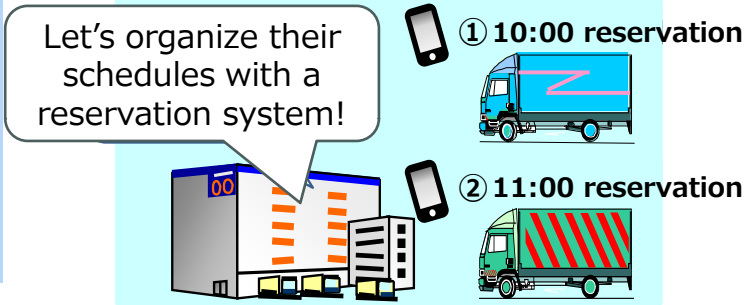
Improving loading efficiency, etc.

- Consolidation of cargo from multiple shippers
- Optimization of dispatching and operation plans, etc.



Shortening waiting time for cargo

- Introduction of reservation system for trucks
- Specifying a date and time to avoid peak hours, etc.

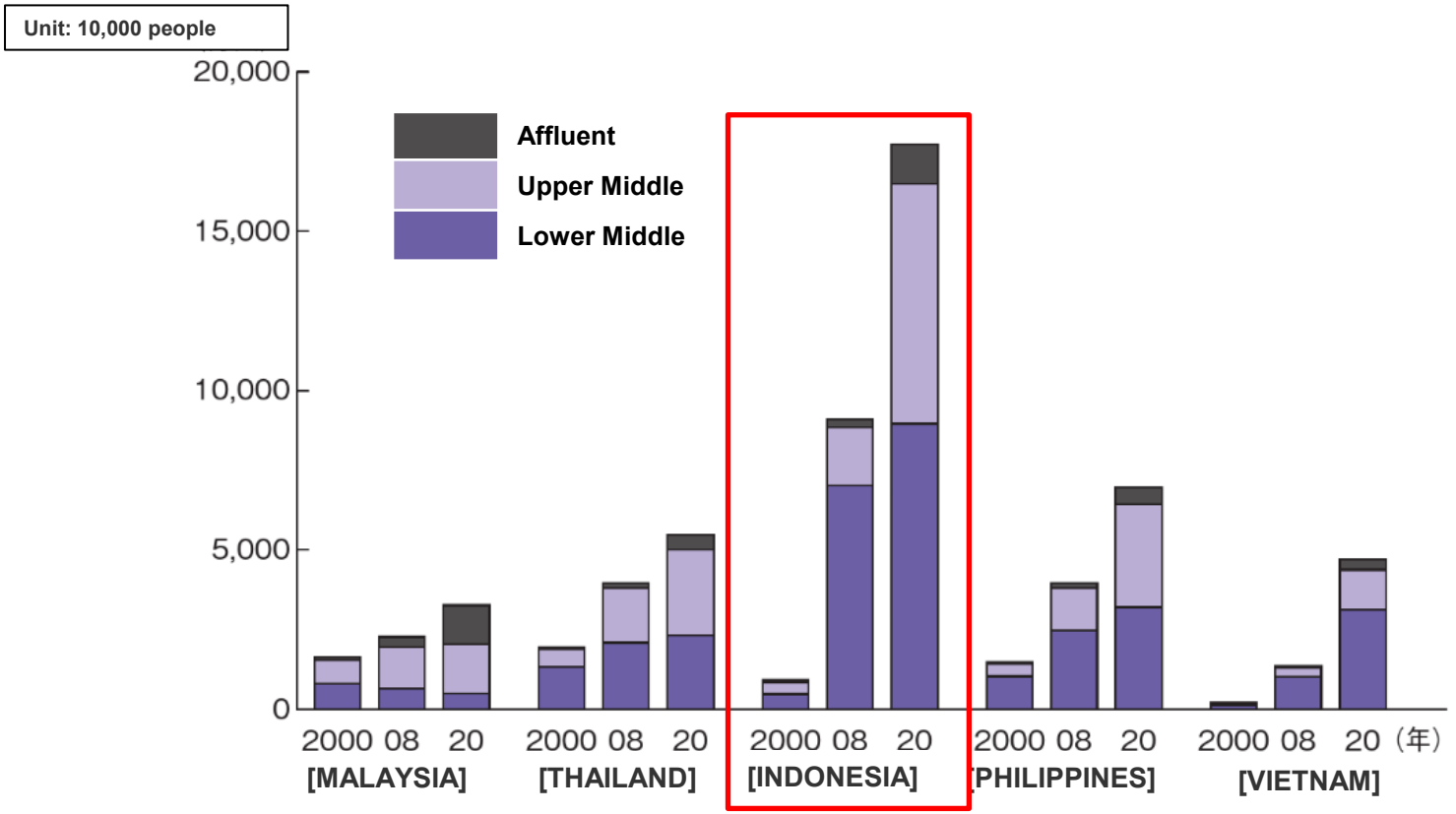


Reduction of loading and unloading time

- Introduction of transport equipment such as pallets
- Improvement of loading and unloading facilities, etc.

Growth in Logistics Demand in ASEAN

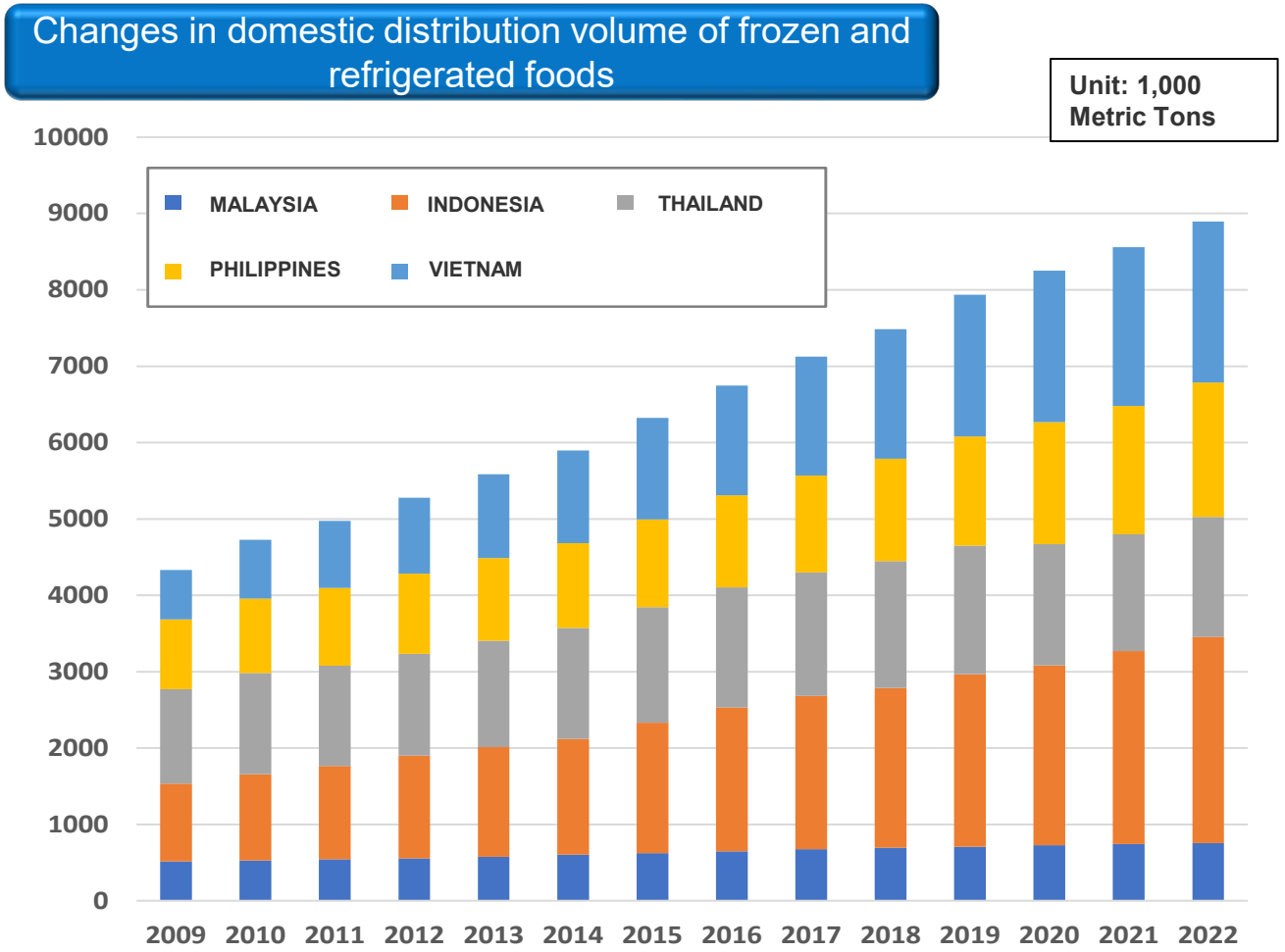
- In many ASEAN member states, **the middle class has grown** and is expected to **continue to grow.**
- As people's standard of living improves, **logistics will provide greater added value**.



* Figures for 2020 are estimates by Mizuho Research Institute.
Mizuho Research Institute based on Euromonitor, United Nations, "World Population Prospects"

Expanding Demand for Cold Chain Logistics in ASEAN

- As people's lifestyles diversify, **demand for refrigerated and frozen foods** increases, and **so does the demand for cold chain logistics.**



Source: Compiled by MURC based on Euromonitor data

Current State & Challenges for Cold Chain Logistics in ASEAN

State of cold chain logistics development

- Lack of knowledge regarding how to handle refrigerated and frozen cargo (cargo exposed to outside air, etc.)
- Unstable power supplies for refrigerated and frozen cargo warehouses
- Inadequate road infrastructure, etc.

Social issues in logistics

Serious food waste problem

90% of food loss and waste occurs in the manufacturing & distribution stages

Manufacturing & distribution stages

90%

Consumption stage

10%

Source: Food and Agriculture Organization, United Nations

Serious food hygiene issues

Frequent foodborne illnesses and deaths

Region	Southeast Asia
Foodborne illness	150 million cases/year
Foodborne deaths	175,000 people/year

Source: WHO

Benefits of Cold Chain Logistics

(Effects of cold chain logistics)

- **Increased sales volume** due to less loss in the manufacturing and distribution stages
  - ・**Higher income for agricultural and fishery workers**
  - ・**Greater added value for the agricultural and fishery sector**

- Cold chain logistics contributes to the **advancement and modernization of domestic industry**, including refrigerated warehouse companies, transporters, and retailers involved in shipment of agricultural and fishery products

- **Stable supply of inexpensive food** for consumers who support domestic demand

(Japan's contribution)

- **Human resource development and technology transfer** through pilot projects and workshop

- Planned production and shipping, and **creation of quality and specification standards**

Cold Chain Logistics Pilot Project in Indonesia

- Implementation: January 10th to February 2nd, 2023

  A Japanese logistics company (on the island)

  B Indonesian logistics company (on the island)

  C Indonesian logistics company (inter-island)

- Loaded cargo:
  Frozen foods, frozen chicken, frozen processed seafood

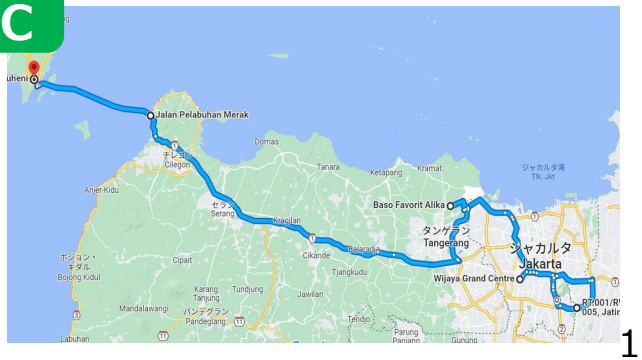
- Pilot Project results:
  ① Operations vary depending on the area and transportation mode, and given that **the cold chain has experienced intrupption**, **capital investment** and **increased worker awareness** are necessary.

  ② **Consumer interest in cold chain foods is growing**, and **demand** is expected to **increase.**

A

B

C



Initiatives for Promoting Expansion of Cold Chain Logistics

(Changes in logistics services in ASEAN)

- **Growing demand for small-lot refrigerated delivery services** based on expanding e-commerce market
- Transition to **modern distribution systems** such as supermarkets

(Initiatives for expanding cold chain logistics services)

Japan proposed **standards for cold chain logistics services** to the **International Organization for Standardization (ISO)** to promote a healthy market and improve quality visibility.

Significance of Standardizing Cold Chain Logistics Services

Cold chain logistics challenges facing Asian countries

- Exposure to sunlight for long hours

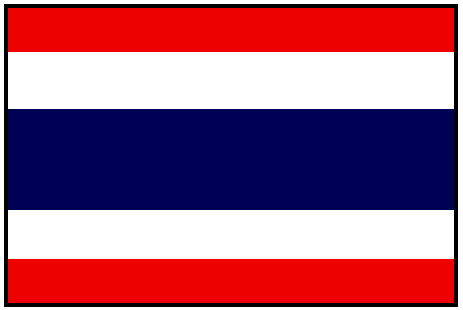
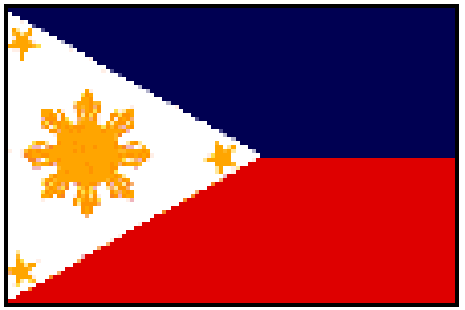
- Excessive use of cooler boxes

Standardization of Japanese-style cold chain logistics services

Transferring the standard to other countries

Expansion of Cold Chain Logistics Service Standards in ASEAN Countries

- **National standards** based on ISO23412, **the international standard for B-to-C cold chain logistics services, are being successfully formulated** in ASEAN countries.

Thailand	Philippines	Indonesia
		
NAC 23412-2564 (2021)	PNS ISO 23412:2021	SNI ISO 23412:2020
June 2021	January 2022	June 2022

- In the future, work will move forward to establish national standards for ISO 31512, the international standard for B-to-B cold chain logistics services.

What We Would Like to Share with You Today

- **Improving the efficiency and advancement of international maritime transport**
  - The importance of digitalization for Port cargo handling and customs clearance procedures
  - Strengthening vigilance against cyber risks
  - Reducing environmental impact with GX

- **Improving efficiency of domestic logistics**
  - The importance of cooperation between various parties such as cargo owners and logistics companies

- **Expansion of cold chain logistics**
  - Improving incomes for those involved in agriculture and fishing
  - Advancement and modernization of domestic industries
  - Stable supply of food at low prices

- **What Japan can contribute**
  - Technical cooperation, international standardization, information exchange and knowledge sharing

Thank you for your kind attention!

TERADA Yoshimichi