



# Measures to improve logistics efficiency in Thailand

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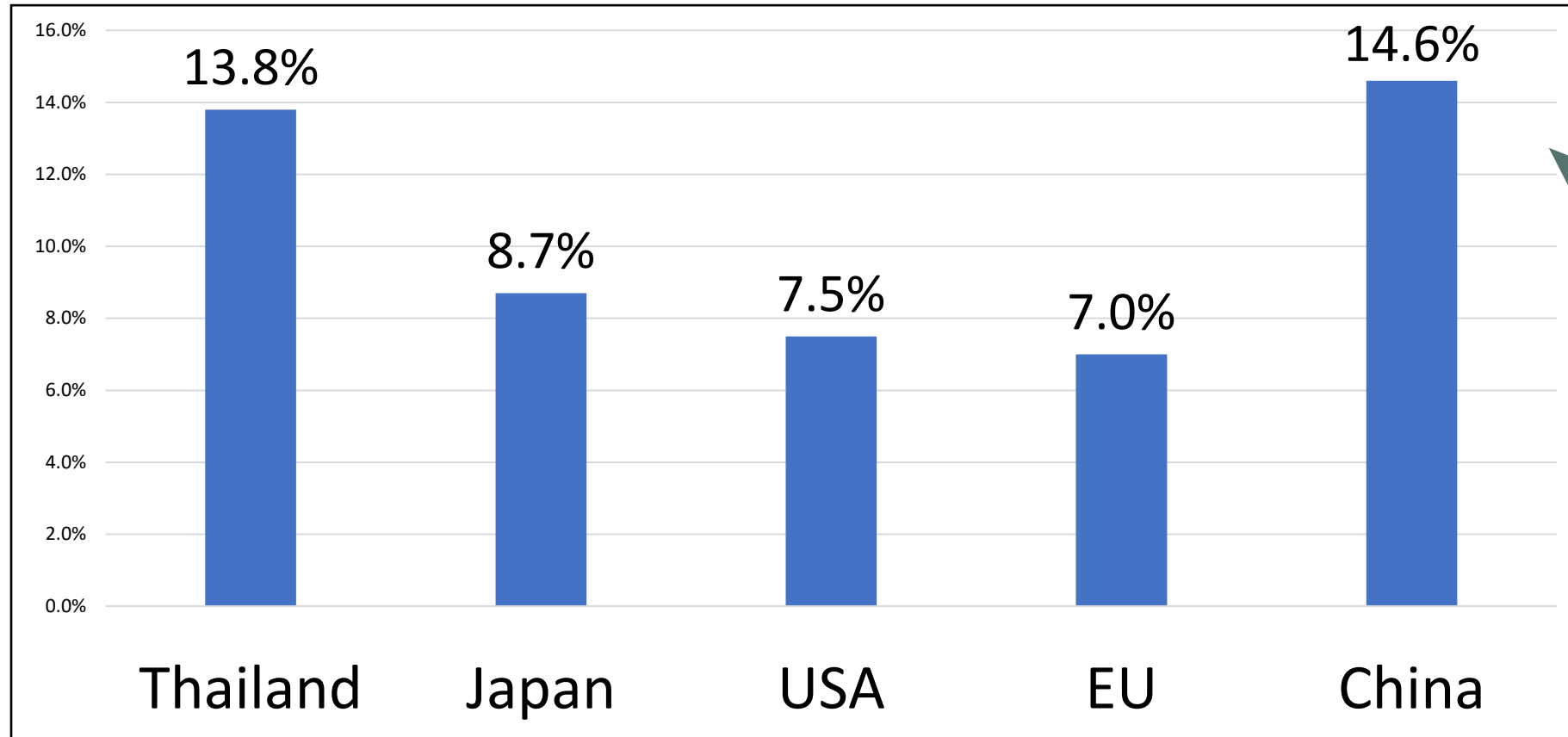
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**+ Supplement**  
Create statistical data





# 1. Current situation of Thailand logistics.

# Logistics cost to GDP ratio (%)

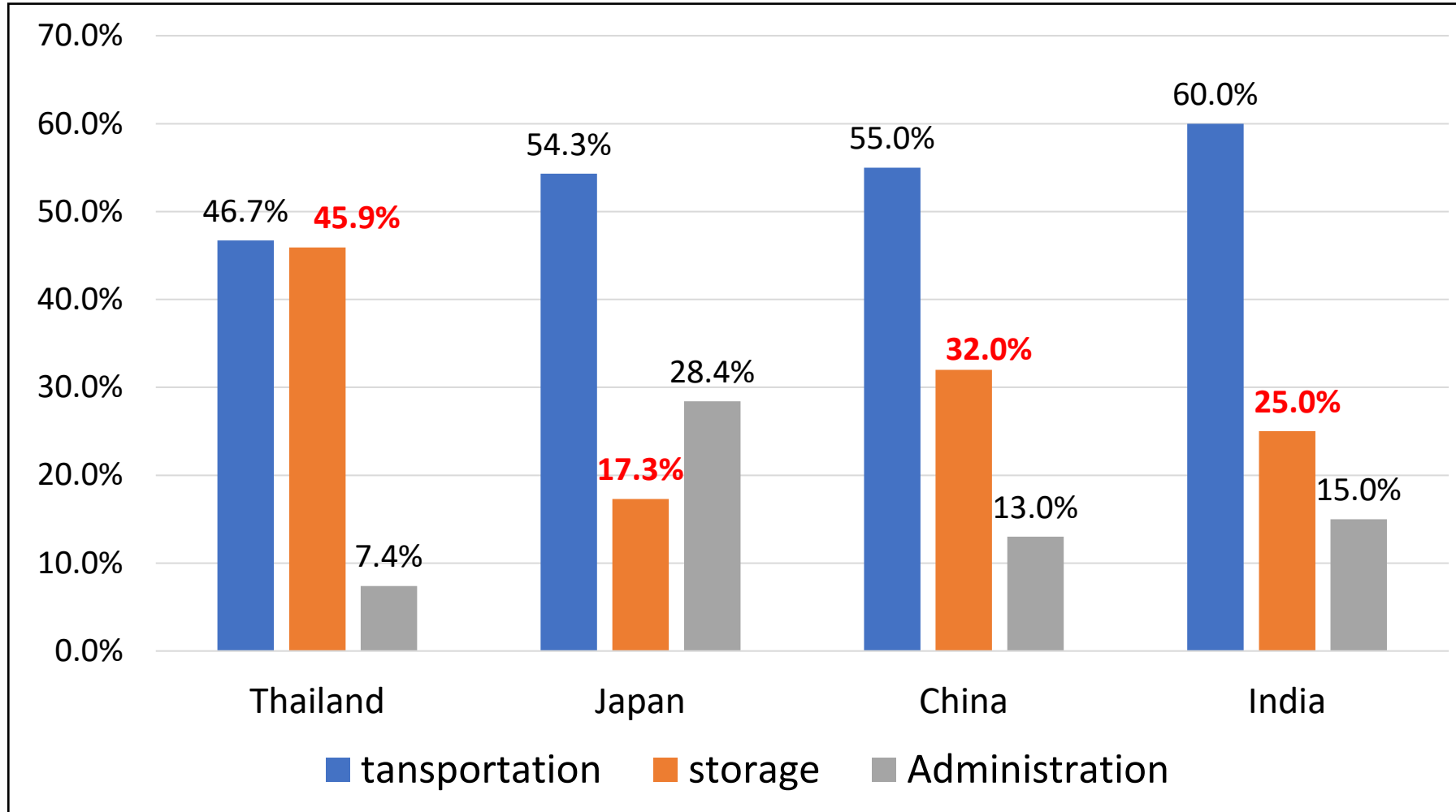


The high logistics cost to GDP ratio indicates the inefficiency of logistics.

Source: JILS & Others

Data are 2019, China 2017, EU data is estimation

# Logistics cost breakdown

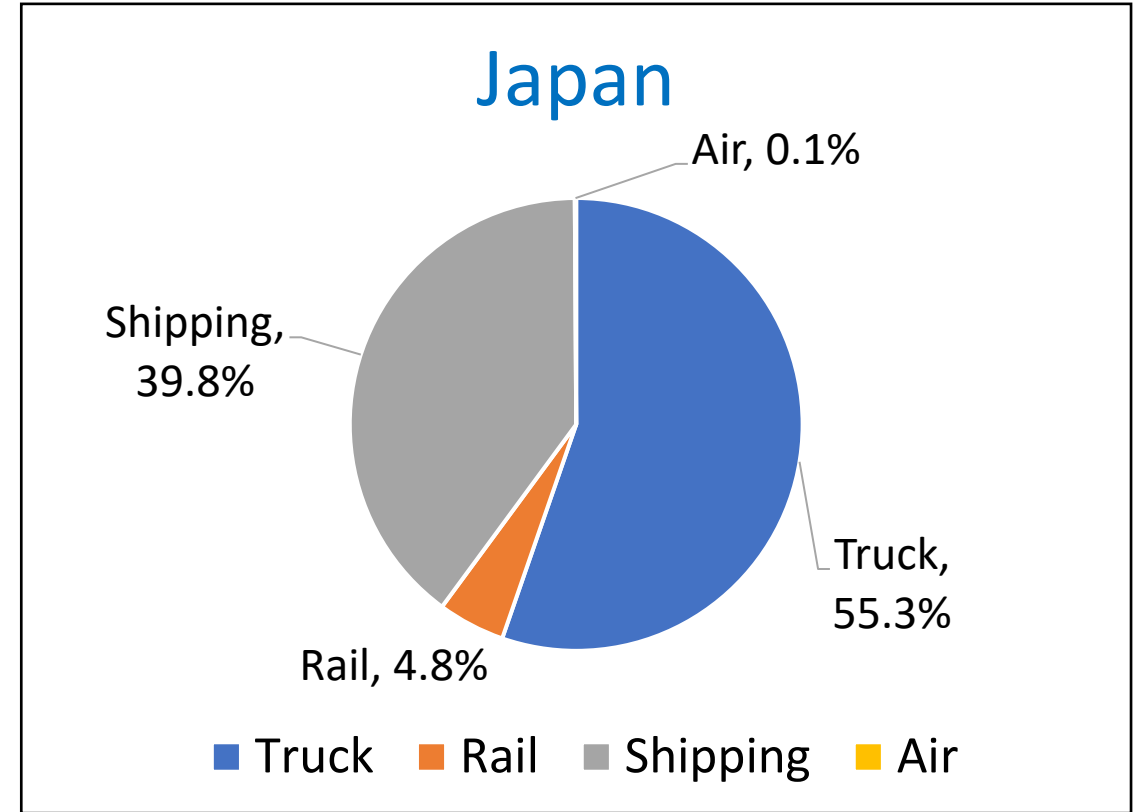
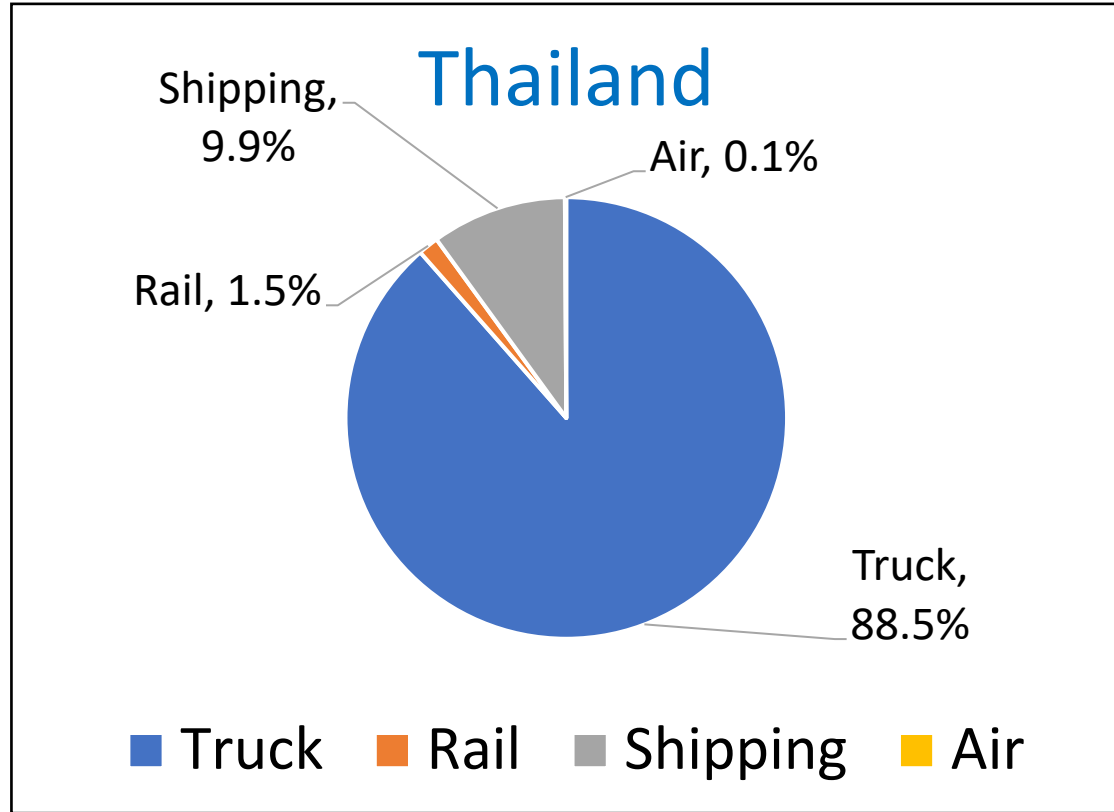


Storage/  
Inventory  
cost is  
higher than  
other  
countries.

Source: JILS & Others

Data Thailand & Japan are 2019, China 2017, India 2016

# Percentage by transport mode



Data is based on ton/kilo.  
Shipping is including both river and coastal in Thailand .

**A characteristic of the transportation mode in Thailand is that it relies heavily on trucks.**



**2. Measures to improve logistics efficiency.**

# What we can learn from the current situation of logistics in Thailand are as follows.

**The high ratio to GDP indicate poor logistics efficiency.**

Aiming to improve the efficiency of logistics and target a logistics cost to GDP ratio of 10% or less.  
→logistics standardization/Joint logistics.

**The storage/inventory cost is unusually high compared to other countries.**

We assume that the reason for the high storage cost is that the logistics bases are concentrated in and around Bangkok. It is necessary to try to decentralize logistics to regional large cities.

**Extremely high dependence on trucks for domestic logistics in Thailand**

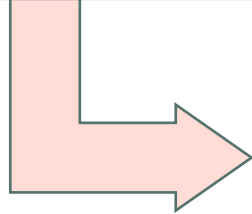
The cause is the underdeveloped freight railway infrastructure. Railway infrastructure should be improved and a modal shift should be pursued.





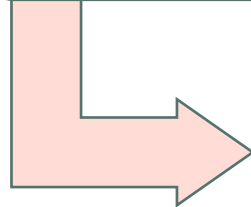
# Infrastructure development-rail network

Underdeveloped railway infrastructure

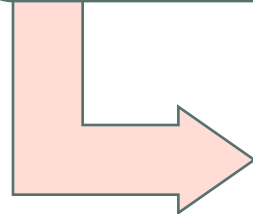


Overly dependent on truck transportation

Truck share of domestic Transportation about 90% Both ton and ton/kilo basis.



Development of railway network



Modal Shift  
Truck → Rail

- Resolving truck driver shortage
- Contribution to environmental issues (reduction of CO2 emissions)

Coastal shipping and river transportation are limited due to geographical conditions

Bangkok/Chiang Mai Rail network?

For expansion of rail freight transportation, it is necessary to develop (rail cargo) freight forwarder.

# Infrastructure development-standardization

- Logistics efficiency
- Measures for shortage of truck drivers
- Reduction of CO2 emissions

## Developing ICT

- Each company has its own ICT – incompatible

## Standardization of ICT

- Standardization of ICT - introduction of standardized ICT that is compatible with the industry

## Joint Logistics

- E-commerce is increasing, and countermeasures for **small lot** and **more frequent** cargo.

The loading rate of commercial trucks in Japan is 40%  
→ Shared use of trucks and warehouses increased.

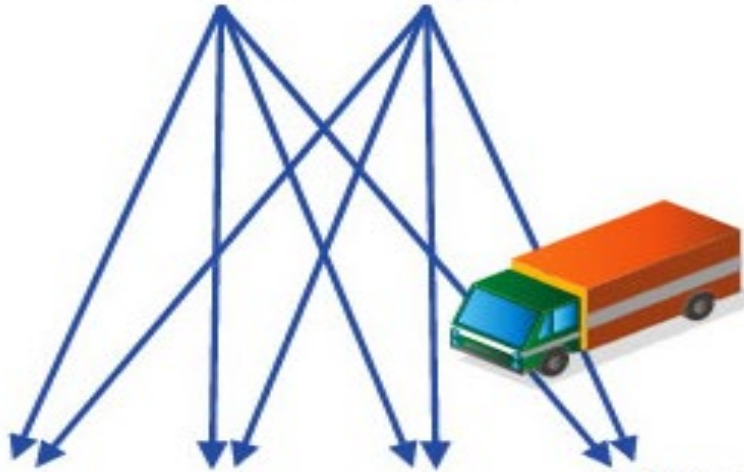
Joint logistics must not violate the Antitrust Law.



# Joint logistics/delivery is effective in improving logistics efficiency

## Conventional Delivery

shipper shipper



store/shop



## Joint Delivery

shipper shipper



store/shop

The Physical Internet, which is attracting attention, is the **ultimate joint logistics.**





## ( 2 ) Decentralization of logistics bases

# THAILAND



Concentration of logistics in Bangkok means that Thailand's domestic logistics supply chain is based in Bangkok.

Looking back at the concentration of logistics in Bangkok from the perspective of the retail industry, major retailers concentrated their store openings in Bangkok due to the large income disparity between Bangkok and regional cities. As a result, distribution bases were also concentrated in Bangkok and its suburbs. It was the most efficient logistics method at the time.

More than 50% of the retail market was in the metropolitan area

Since then, department stores and supermarkets have expanded into regional cities, but products continue to be shipped from distribution centers in Bangkok and its surrounding areas.

long lead time  
excess inventory  
Out-of-stock risk

# Delivery examples of major retailers

## TESCO LOTUS

- **Delivered to stores nationwide from a huge distribution center in Ayutthaya.**
- **✖️ Tesco Lotus is the retailer with expanding the most local store.**

## Seven Eleven(CP)

- **Delivery to stores nationwide from a total of 4 logistics centers: 1 in Bangkok, 2 in Nonthaburi, and 1 in Khon Kaen**

## TOPS

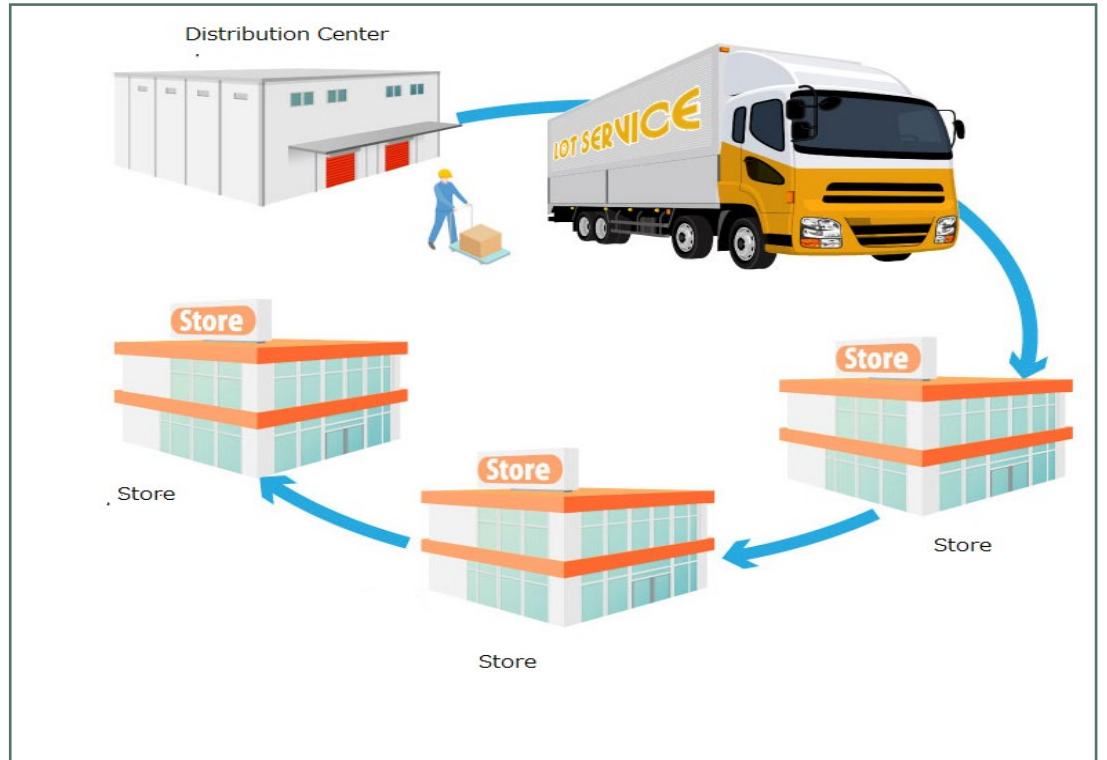
- **Deliver to stores nationwide from two logistics centers near Bangkok**

# Examples of Distribution/Logistics by Traditional Retailers.

→ Simultaneous sales and delivery by cash van.



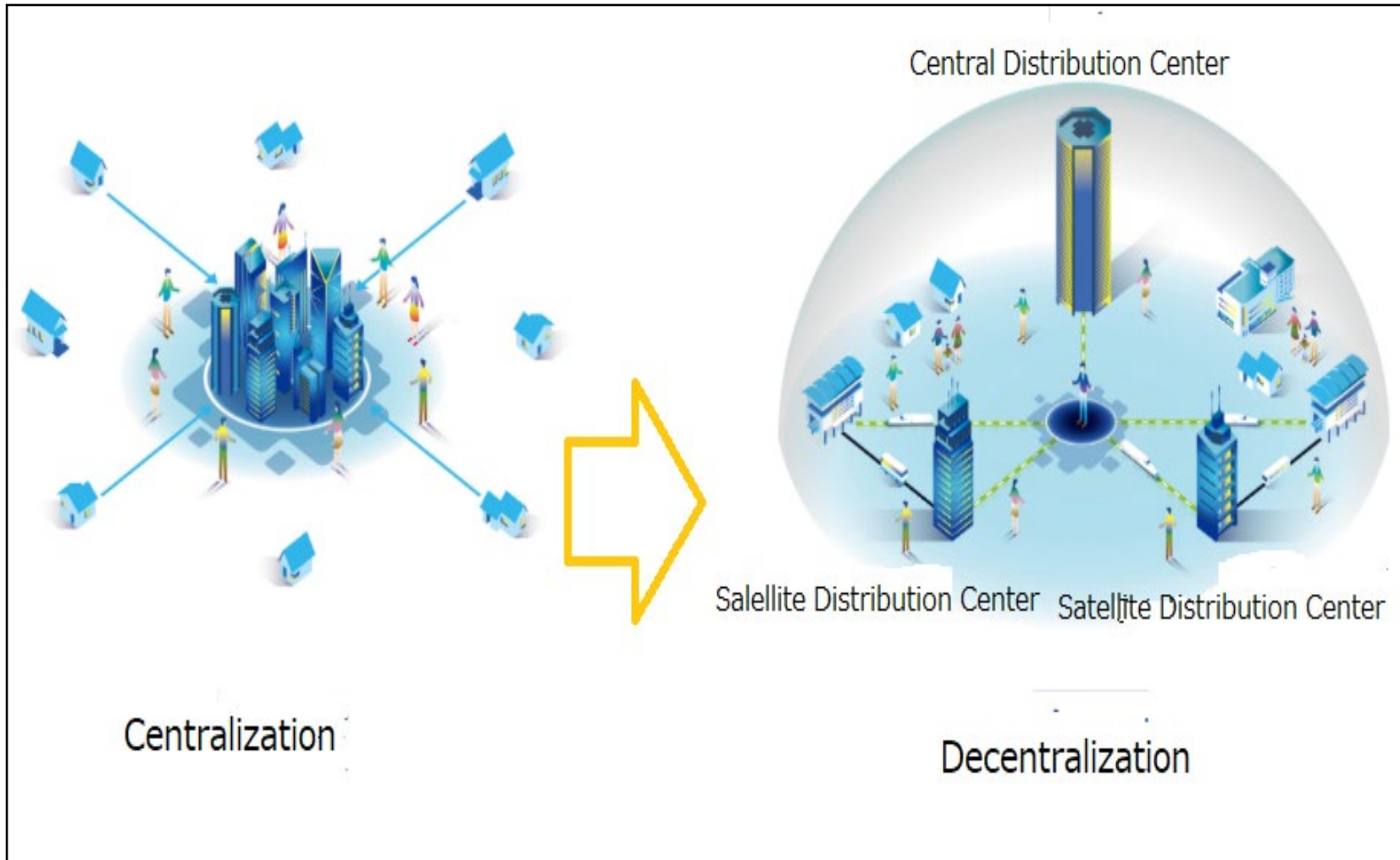
A traditional wholesaler aggregates goods from 90 suppliers into two distribution centers in Ayutthaya and uses three local depots to serve 60,000 customers nationwide through Cash Van.





# Measures to reduce excess inventory.

→ **Decentralization of logistics bases.**



By dispersing distribution bases in large regional cities such as Chiang Mai, lead times can be shortened, thereby reducing excess inventory and shortages.

I heard that it takes one week (lead time) from the time an order is placed to the delivery of medicines at a hospital in Chiang Rai. This is because the logistics center for pharmaceuticals is only in Bangkok. Next day delivery is possible in Japan.



## 3. Conclusion

# summary

## 【Problems of Logistics in Thailand】

- ① Logistics inefficiency (Less than 10% of GDP is desirable)
- ② Storage cost ratio too high
- ③ Too much reliance on trucking

## 【Background of the problems】

- ① Underdeveloped railway infrastructure
- ② Logistics are overly concentrated in Bangkok
- ③ ICT incompatibility



# Summary of Measures to improve logistics efficiency

- **Railway infrastructure development - Modal Shift**

- **Shorten lead time by decentralizing logistics bases**

- **ICT standardization and introduction of joint logistics**





+ **Supplement**  
-Create statistical data-

# Creating Statistic Data is important!



Accurate understanding of the current situation is important for policy making.

👉 In order to understand the current situation,  
**the creation of statistical data is most important.**



# Thank you for your attention!



## Takayuki MORI