

UN/CEFACT 21th Forum

What is Next Generation Port System for the global supply chain

KL-Net

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- ▶ **What were doing until now in IMO FAL ?**
- ▶ **What are we doing for next ?**

GOAL

- ▶ Goal
- ▶ Requirement

Goal

Electronic Means for the Port Clearance of Ships

EDI

XML

Single Window

GLOBAL SUPPLY CHAIN FOR MARITIME TRANSPORT

**Ubiquitous Technology
Advanced communication protocol**

Requirement

I want to know a correct status of my goods.

Whether my ship or goods is moving with safety?
Worry about some problems was occurred?

It is faster if Electronic means for the clearance of ships, cargo and passengers have to do from ship.



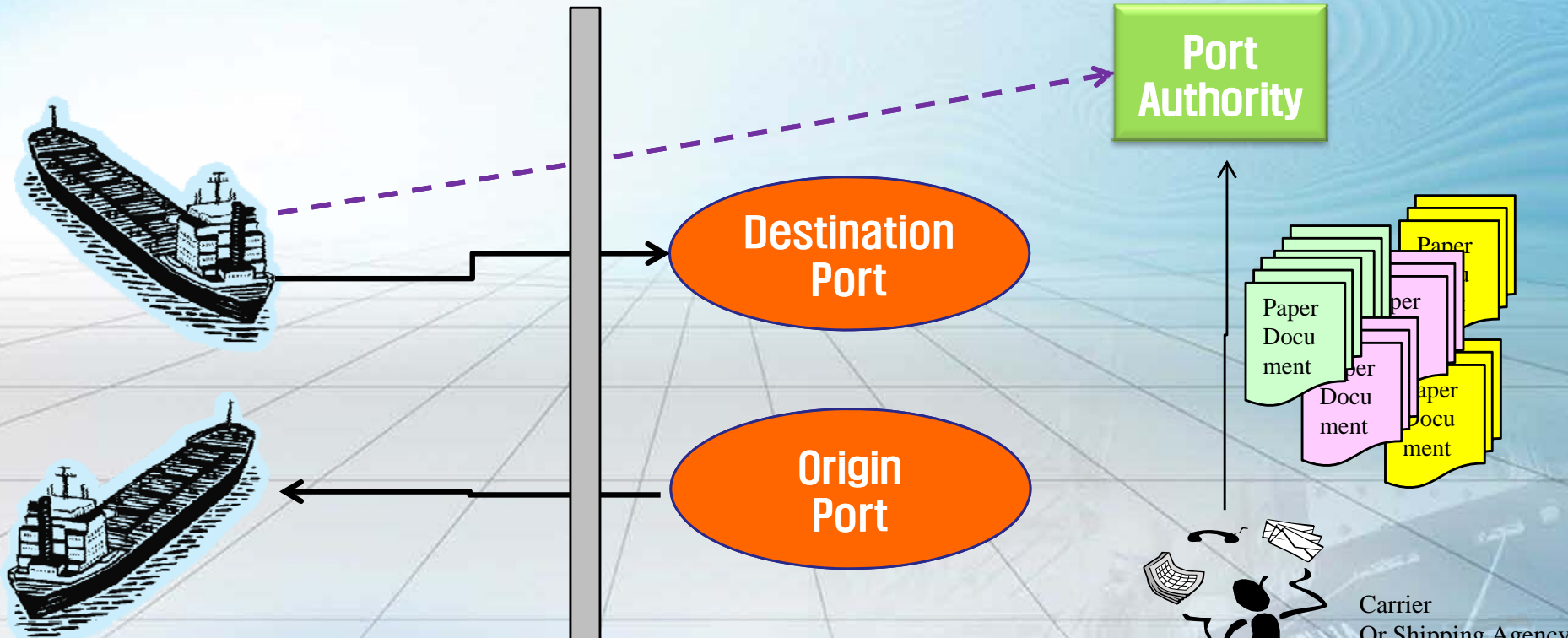
- difficult to check whole work or goods flow because of complex transportation structure
 - Even though, most user want to know correct status information in real time
 - But, it is difficult to provide real-time information only through electronic data
- > We need the next generation of Service Model

WHAT WERE DOING UNTIL NOW IN IMO FAL ??

- ▶ Initial Stage
- ▶ 2nd Stage by electronic means
- ▶ 3rd Stage by Single Window

Initial Stage

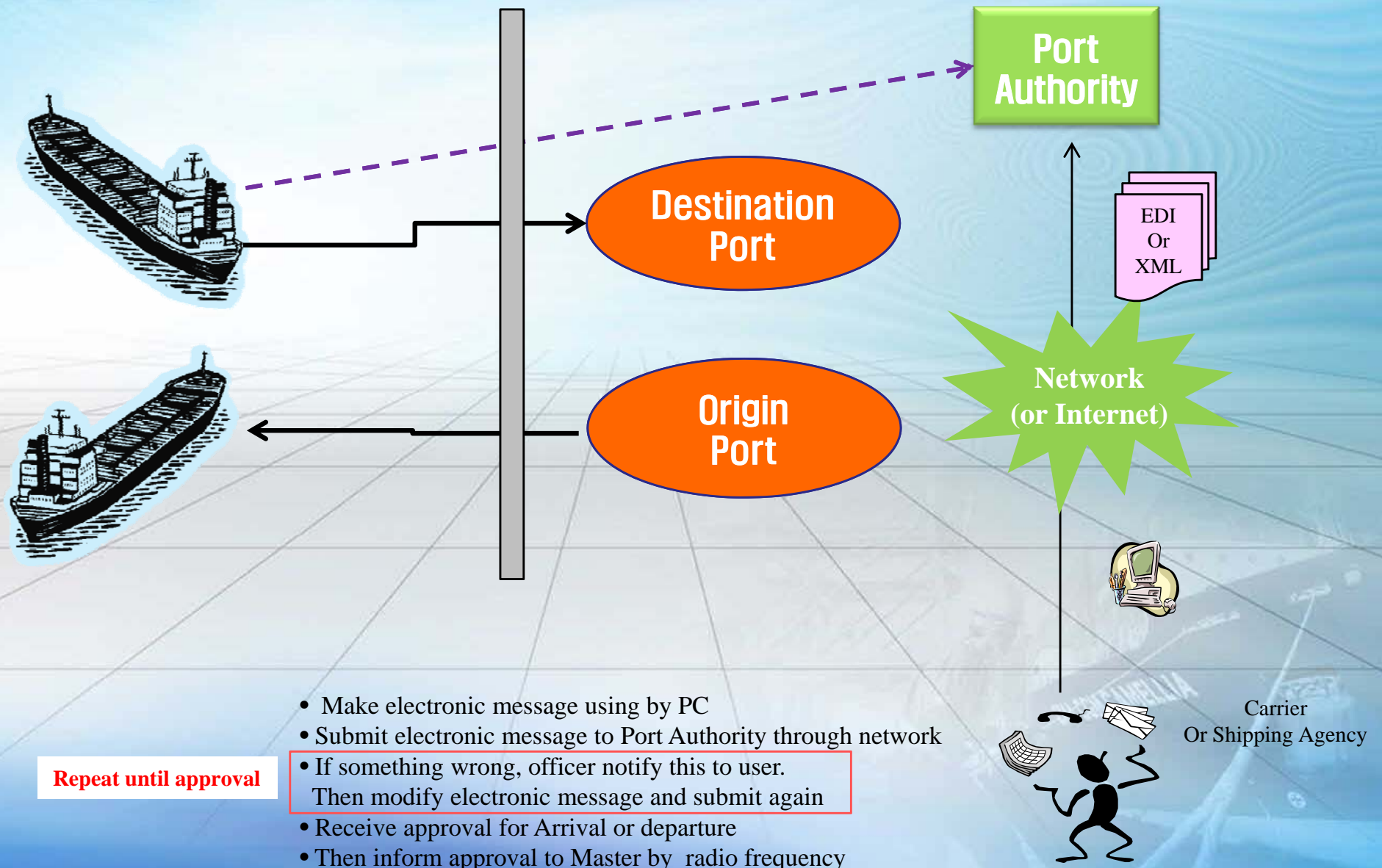
Manual & Paper Processing



- Visit PA
- Submit Paper Document to officer
- Go back to Office and Wait until confirm
- If something wrong, officer notify this to user.
Then modify paper document and visit again and resubmit
- Receive approval for Arrival or departure
- Then inform approval to Master by radio frequency

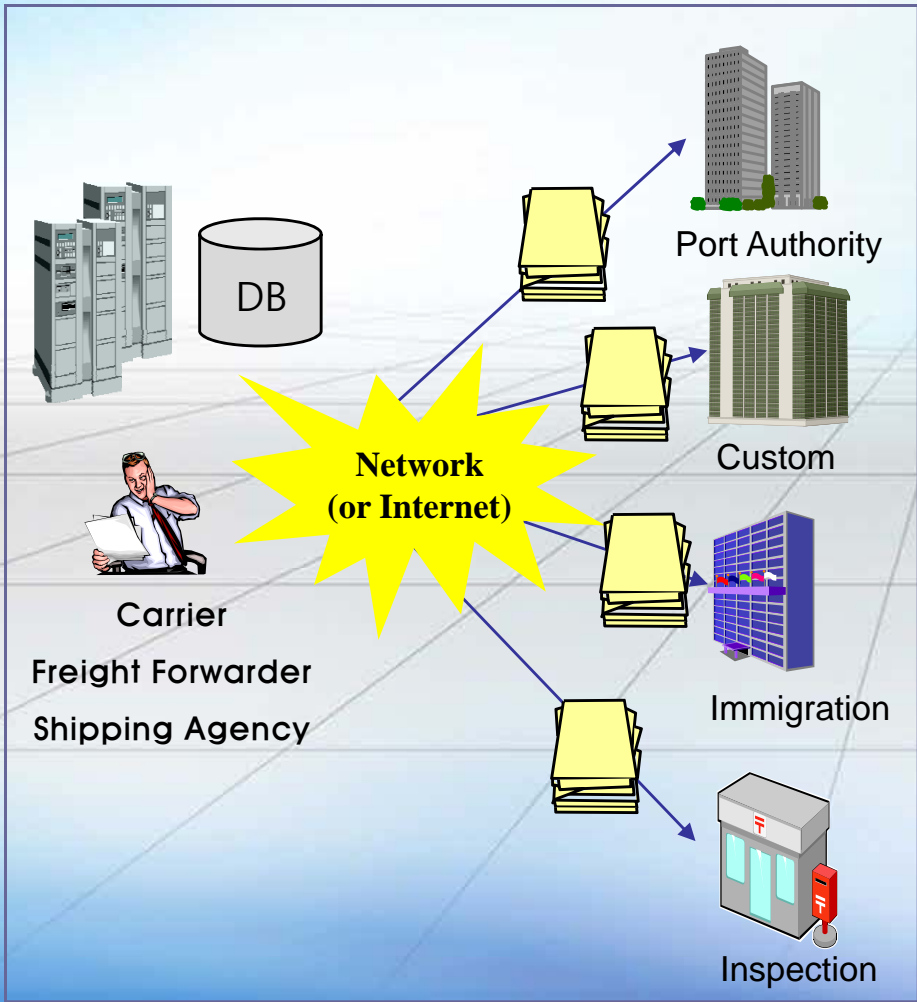
Repeat until approval

2nd Stage by Electronic Means

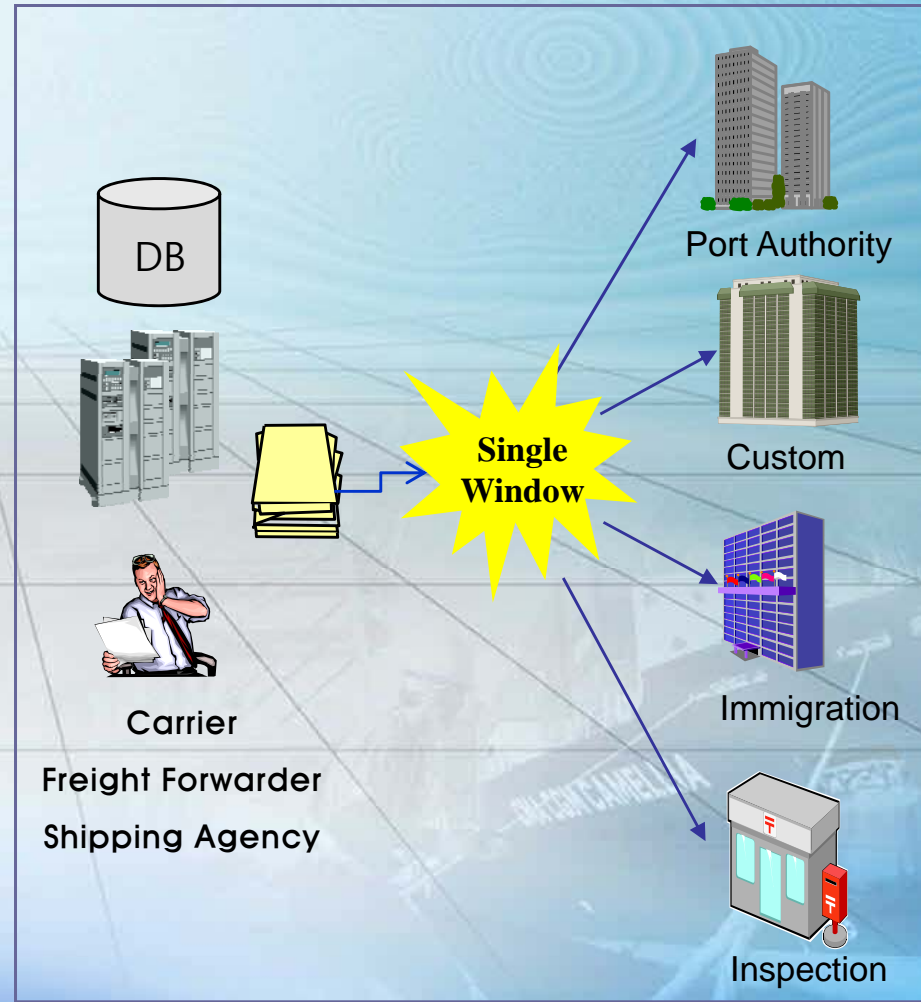


3rd Stage by Single Window

Before Single Window



After Single Window

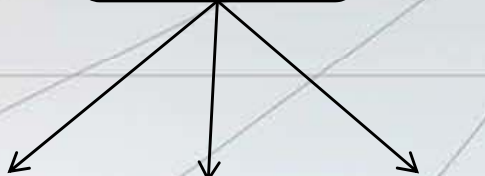


3rd Stage by Single Window

Shipping Agency Carrier Freight Forwarder

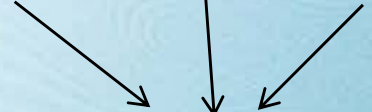


Port Authority Customs Immigration

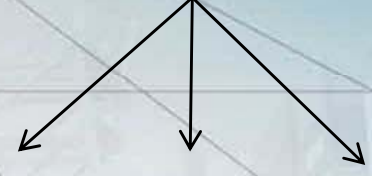


In Future

Shipping Agency Carrier Freight Forwarder



Port Authority Customs Immigration



The Expected Effects

Work Efficiency

- Remove unnecessary work process and paper document
- Reduce Manual Processing through work automation
- Increase Work productivity

Improvement

- Enhance user convenience
- Reduce work duplication due to increase the ratio of Information Sharing between the relevant organizations

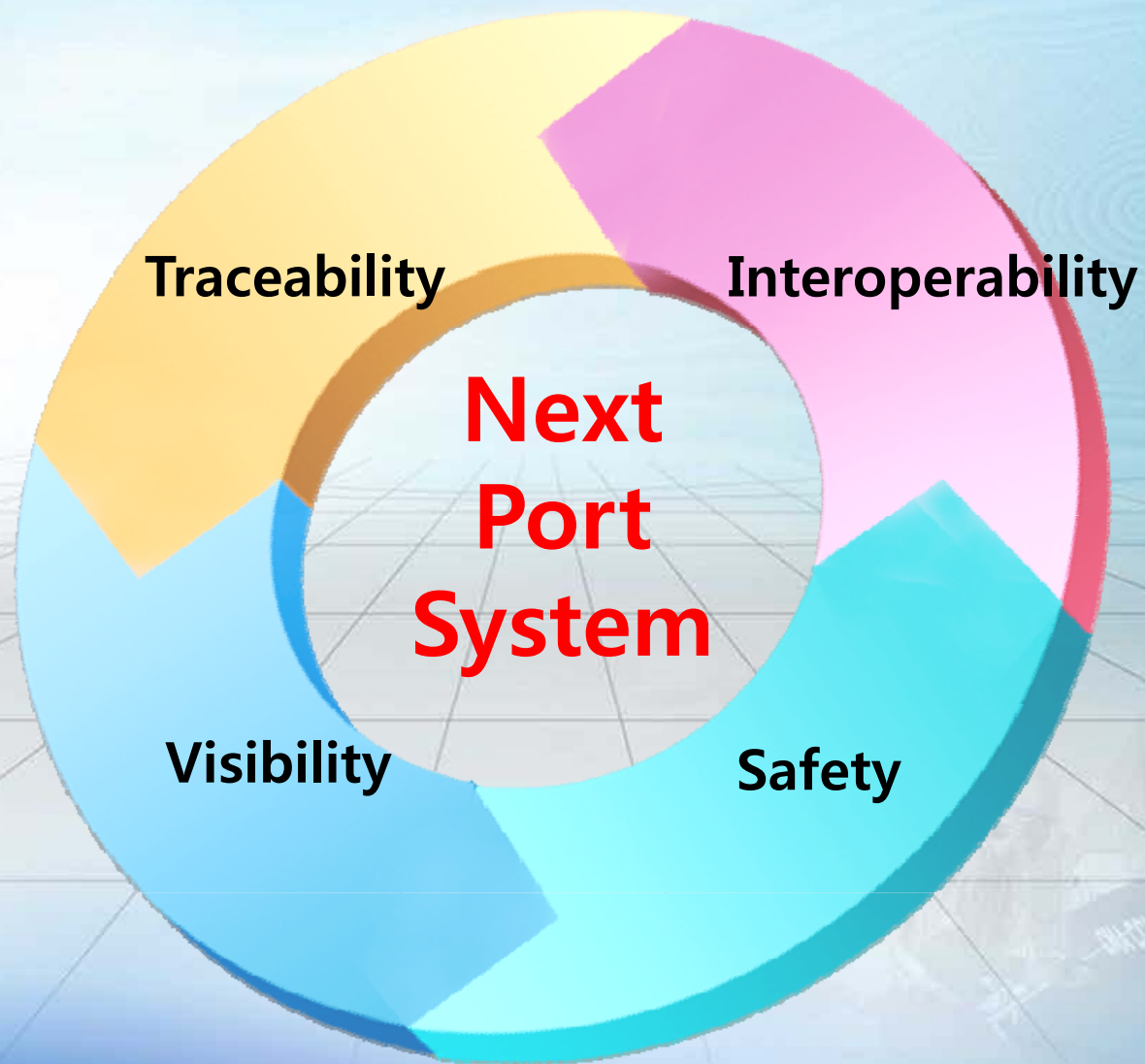
Economic Effects

- Increase National level economic advantages
- Additionally, enhance global economic

WHAT ARE YOU DOING FOR NEXT ??

- ▶ Requirement
- ▶ Global Supply Chain
- ▶ To-BE Model

Future of port logistics system : Requirement



Requirement

Business Aspect

Needs

- Strong Relationship between the participant entities
- Information sharing as connecting between information system
- Setup global supply chain for visibility and safety

Simple Method

- Co-work between IMO member states
- Discuss together to simplify work process

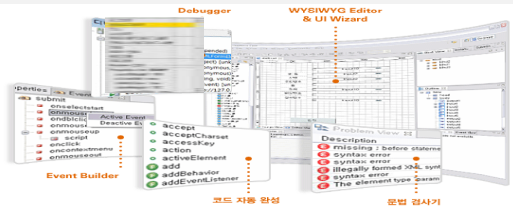
Work efficiency



Simplified Work Process

Remove duplication

Standard



Common



International Standard

Such as IMO, UN/CEFACT

Technical Aspect

Needs

- New communication protocol that is a comfortable and low cost
- and easy accessible from vessel even though on sailing
- Common and general middleware in order to easily integrate between business entities

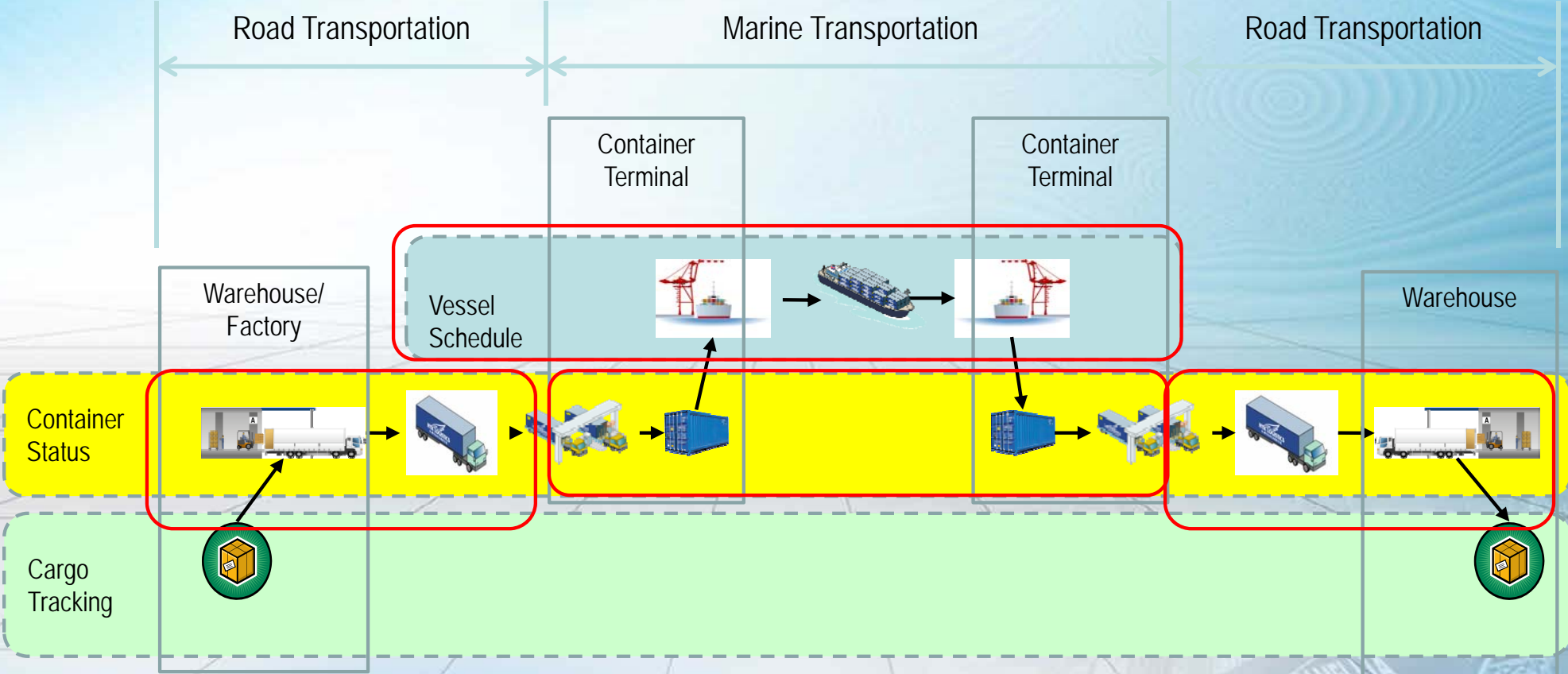
Real time Service

- Possible to provide real-time information, such as goods status or correct location, transport means location, etc.
- Detect automatically this status information without human resource

To do this

- Introduce Ubiquitous technology
- Develop the advance communication protocol used in maritime transport

Global Supply Chain



TO-BE Model

❑ Until now, We only focused on work automation

=> EDI, XML, single window and WEB, etc.

❑ Now and Future, What is important thing to support Trade Facilitation

=> Reduce Loading/Unloading time within Port or Terminal

=> Reduce store period within depot or terminal

=> Provide real-time tracking service to support seamless logistics

❑ It must need new Technology to support above things.

Ubiquitous Technology, RFID, USN, GPS, etc.

Advanced communication protocol used at maritime transportation

TO-BE Model u-Port

□ What is u-Port ?

- u-Port is an intelligent port that tracks and manages logistics flow in real time with the adoption of ubiquitous technology for the purpose of managing information on cargoes and ships
- utilizing RFID and Ubiquitous Sensor Network (USN) technologies to manage the movement and processing of goods in real time

□ How to ?

- attaching tags to vehicles or containers and using antennae and communication networks

TO-BE Model u-Port

❑ What can we do ?

- Reduce human resource, lead time and stop(or waiting) time in front of terminal gate as well as document checking time
- Now allow not permitted goods, vehicle, even though person
- **Eventually, Port Security, cost effective**

❑ Where ?

- Within the Port : Terminal Gate In/Out, Access Control, Dangerous Goods Control, etc.
- Outside the Port : Inland Depot, Highway, Bridge, Warehouse, etc.

TO-BE Model : u-Port

Inland Depot Warehouse

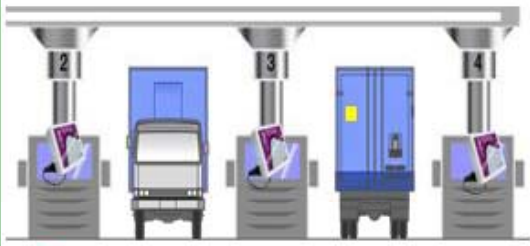


Attach RFID Tag to Container

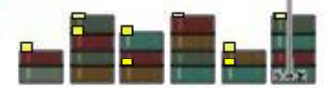


Container Terminal

Gate In/Out



Unloading



Maritime Transport after shipment



Pre-Arrival Notification
Container gate-in/gate-out report message



Terminal Operating Company



General Declaration(Vessel Departure)
Cargo Declaration, etc.

Port State Control Office
Port Authority
The related Organizations

TO-BE Model : u-Port

Process Productiveness Enhancement

Process	Terminal In	Container Loading	Shipment
Process Changing	<ul style="list-style-type: none"> Receive COPINO EDI Check vehicle/ Container Print assigned location Pass Gate Move to assigned location 	<ul style="list-style-type: none"> Cargo In Indicate unloading work Yard Loading Check loading work 	<ul style="list-style-type: none"> Indicate shipment Equipment Shipment work Indicate check process Arrange Inspector Check error or not Adjust shipment items
Lead Time Reduction	10 min. → 5 min. (Reduce 50%)	1 H, 50 Min. → 1Hour (Reduce 45%)	11,5 Hour → 9 Hour by 1,000 TEU (Reduce 20%)
The ratio of productiveness	+100%	+83%	+44%

Quantitative Effects

Upgrade Process Productiveness

44%



Consider limitation of infra that come alongs ide the pier

Upgrade Port Productiveness

20%



Contract to Based on sales of current traffics

Upgrade Annual Sales

8.4 Hundred Million USD

Plan of Republic of Korea



Planning



FAL 39

u-Port

- u-Port can facilitate logistics through more efficient port operations, enhance logistics security and contribute to efficient and sustainable development of maritime industry, which is a mission of IMO.


SANET

- Now, ROK has developing the related technology.

- introduce ROK's u-Port as a best practice case
- explain its necessary components and technologies

- Will submit the related document at next FAL
- Willing to share how to apply with IMO member state's opinion

Q & A

The background features a blue gradient with wavy, water-like patterns. In the lower right, there is a faint, semi-transparent image of a boat with a person on board. The text 'Q & A' is centered in a large, bold, black font.

Thank you!!

The background features a blue gradient with wavy patterns at the top, suggesting water. Below this, there are faint, semi-transparent images of a boat and a person, possibly a fisherman, on the right side. The overall aesthetic is clean and professional.