

# Korea National Logistics Standard R&D Project



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## Data Model Harmonization

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# Introduction

## Introduction

### □ Title

#### - Logistics Information Standardization Project

This research was supported by a grant(LS07002) from Transportation System Innovation Program funded by Ministry of Land, Transport and Maritime Affairs.

### □ Period

- Total Period of Research : 21. Dec. 2007 ~ 20. Jul. 2012

- 2<sup>nd</sup> Period : 21. Oct. 2008 ~ 20. Jul. 2009

### □ Participant

- Government : The Ministry of Land, Transport and Maritime Affairs

- Institute(KOTI, KRRI), University(DongA Univ.),

Private Company(KL-Net, KTNET), Consulting(KIEC)

# Goal

## National Standard for Global Logistics

Logistics Information Standardization Project

Reflects international/domestic logistics changing environment  
Constructs a Standard Plan for Logistics Information

### Changing Environment

- Increase a Association Needs between business entities
- Needs High-Quality Logistics Service
- Request to integrate with u-Business service

### Systemization

- Logistics Systemized Project under government leading in Korea
- Needs National Logistics Standard because of Heterogeneous system or data

# 1<sup>st</sup> Research

## Output

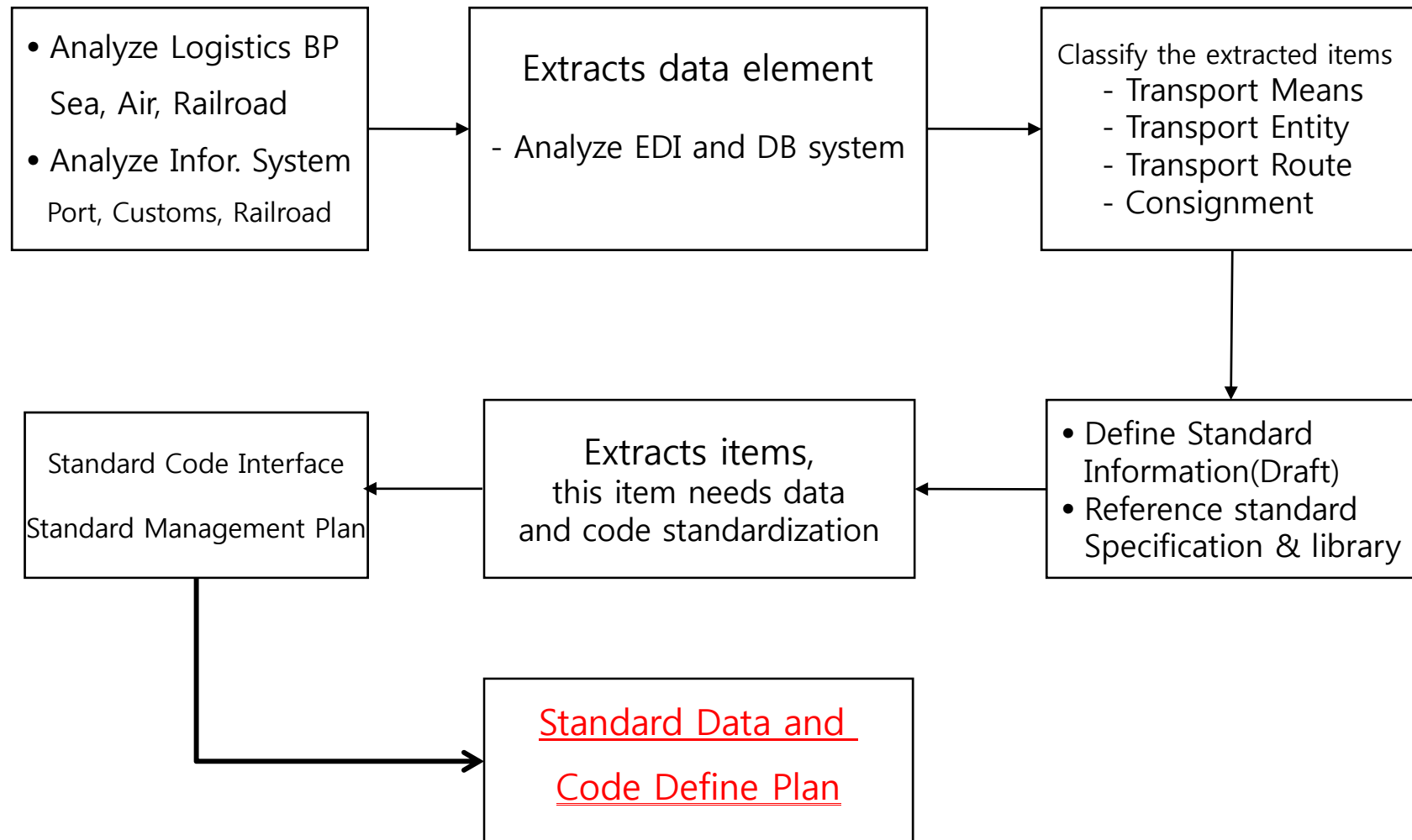
- Analyze**
  - International/Domestic Logistics Trend, User Requirements
  - Korea Logistics Service Status : Focus on Transport
  - Used Electronic Document & Code : Sea, Air, Railroad
- Result**
  - Heterogeneous Logistics Information system
  - Needs cargo tracking information(Seamless Tracking, visibility)
  - Uses private(non-standard) code at B2B area
- Output**
  - Needs matching key
  - Standard code : container type & size, terminal code, etc.
  - Define standard data for cargo tracking

## 2<sup>nd</sup> Research

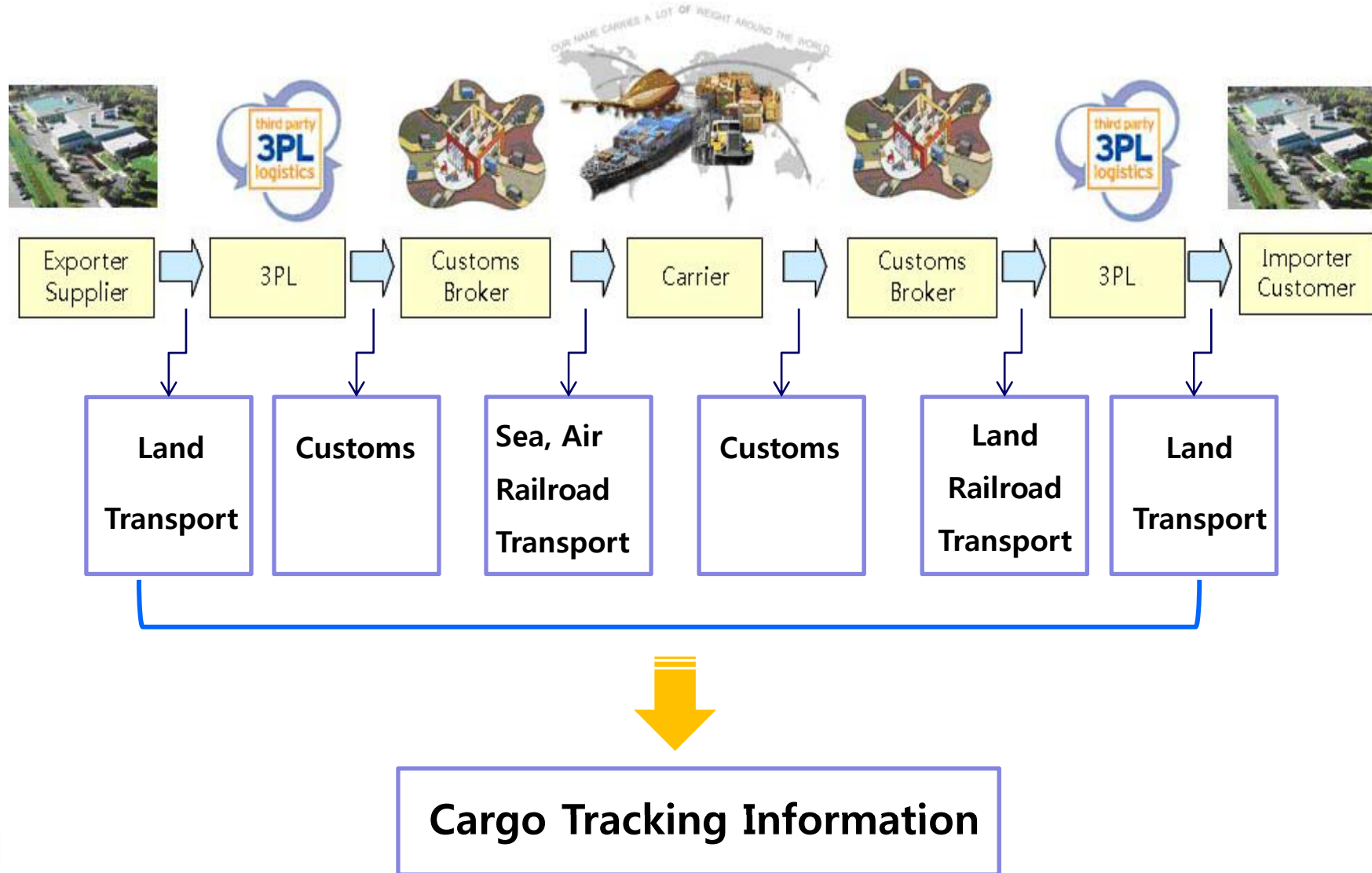
### Scope

- ❑ **Scope of this stage**
  - Define tracking data for visibility(export/import cargo)
  - Extracts non-standard code
  - propose as International/Domestic standard
- ❑ **Co-work**
  - Collaborate with Other Logistics project
  - Exchange and reflect idea or information
  - Share research result with Korean Logistics Entity
- ❑ **Output**
  - Guide to reflect research output on Korean Logistics Information system on upgrading
  - Introduce research output to the general public

# Process of Item extracting



# Extract items



# Data Model Definition

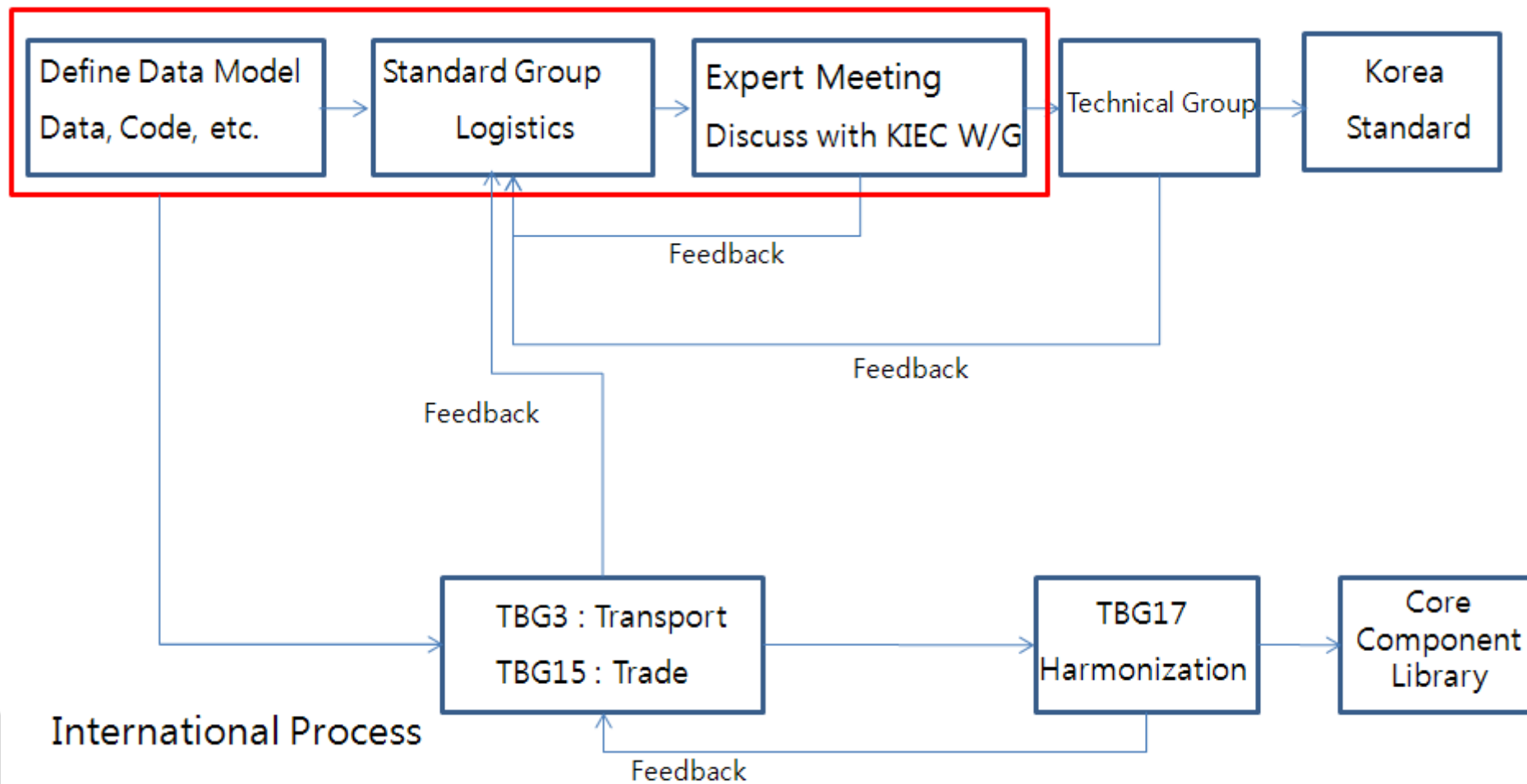
## Reference Specification

### □ Specification

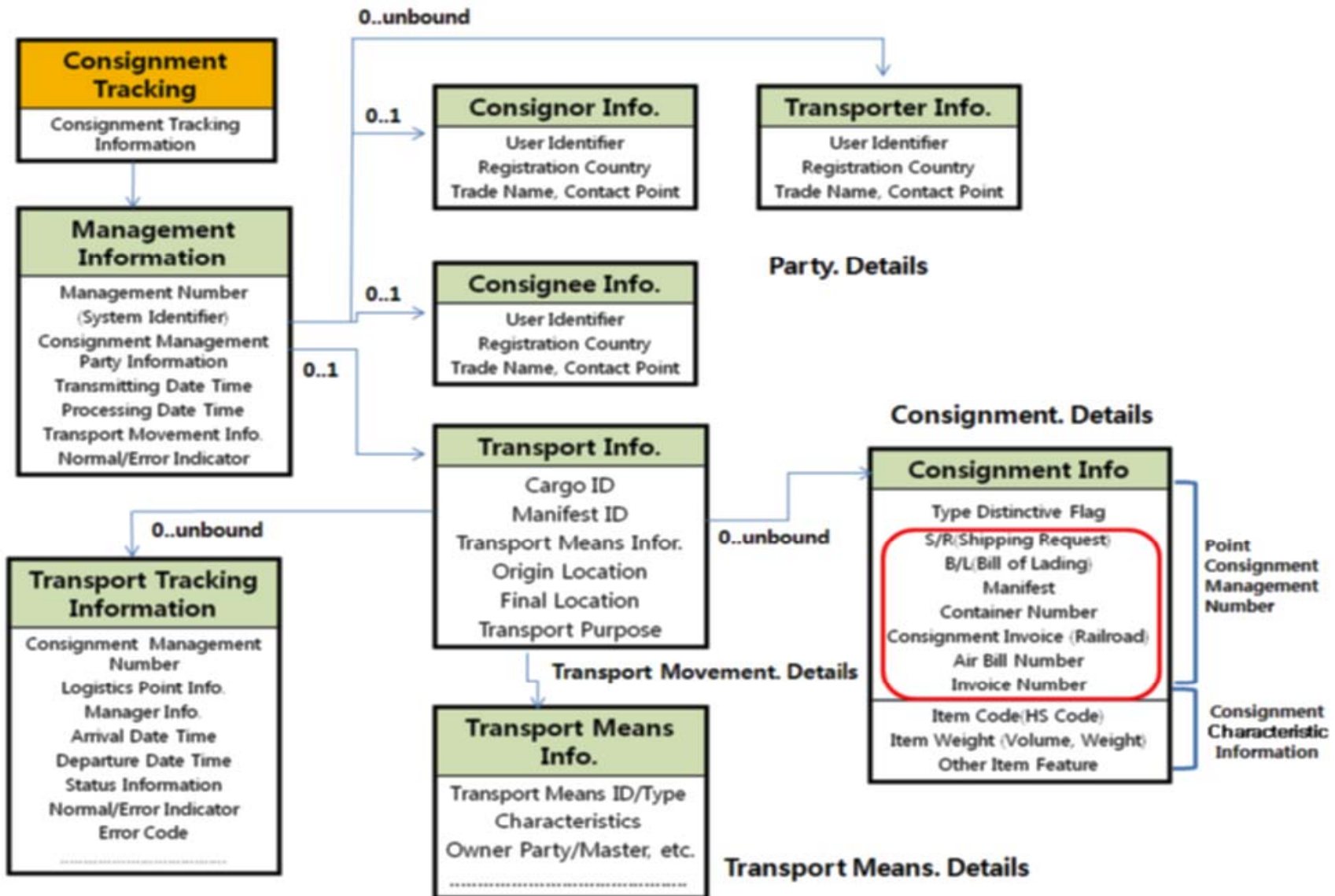
- KEC XML Document Guideline v3.5
- UN/CEFACT CCTS V.2.0.1
- UN/CEFACT NDR V.1.0
- UN/CEFACT UMM
- UN/CEFACT BRS, RSM
- UN/CEFACT(KIEC) CCL08A

# Standard Process

## Domestic Process



# Extracted data elements



# CCL Expansion

- ABIE

ABIE Search => Find same or similar ABIE => Reuse

Exchanged\_ Document. Details

ABIE Search => Not Find same or similar ABIE => Define New ABIE

Transport Means. Details

Vessel Transport Means. Details

Object Class Term Qualifier

Object Class Term

Qualifier ———> Vessel\_ Transport Means. Attached. Engine\_ Transport Equipment

- ACC => Existing at CCL08B

Transport Means. Details

Transport Means. Details

Add ASCC

Transport Means. Owner. Party

# Checking & Verification

1 <sup>st</sup> Classification	2 <sup>nd</sup> Classification	3 <sup>rd</sup> Classification	Details	Marine	Rail Road	Aviation	Land
Management Information	Party Information	Transmitting Person Receiving Person Carrier Person	User Identifier	○(Standard)	○(Standard)	○(Standard)	X(Non-Standard)
			.....				
			Contact Point				
	Transport Information	Transport Means Information	Transport Means Identifier	○(Standard)	X(Non-Standard)		
Transport Means Type			○(Standard)	X(Non-Standard)			
User Information .....			○(Standard)	X(Non-Standard)			
		Transport Tracking Information					
		Consignment Information					
	State Information	Processing Time					
		Processing State					

# Code Standardization

Distinction	Marine (Harbors)	Marine (Terminal)	Customs	Rail Road	International	Note
User Identification Scheme	SS-S-NNNN ZZ-Z-9999	EDI ID KEKMC050	BWHNNNNNNNN BWH03012068	SNNNNN T10013	Nothing	Standard Impossible
Country Code	ISO 3166-1 KR	ISO 3166-1 KR	ISO 3166-1 KR	X	ISO 3166-1 UIC : ROK	RFID : <del>K</del> KR Default Character UIC Mapping Required
	UN/LOCODE by UNECE : 2 letter					
Location Code	PUS	PUS	PUS	Opposite Code NNNNNN 180030	UN/LOCODE by UNECE	Domestic Rail Road Standard Required
	UN/LOCODE by UNECE : 3 letter					
	Example.	KRPUS	12345--- AF		0507	3508N 12903E
Container Type & Size	ISO 6346	ISO 6346	22GP	ISO 6346	ISO 6346	20', 8' GENERAL 2210 -> 22G1 New Version Use Recommended
Container Number	SSSSNNNN NN NSSU702498 1	SSSSNNNNN N NSSU702498 1	SSSSNNNNNN NSSU7024981	SSSSNNN NNN NSSU7024 981	SSSSNNNNN N NSSU702498 1	Same Rule
Land Transport Vehicle Number		부산99사1984				RFID Induction Considered

# Future Plan

## Issue

### ❑ Definition

- Define Standard Information for Cargo Tracking
- Propose Standardization plan against non-standard code

### ❑ Guideline

- Recommend to add proposed element to the legacy e-document to change legacy information system for Tracking
- Derive logistics user to use standard code

### ❑ Extension

- Extend research scope into global visibility(co-work with other country)
- Integrate with RFID, USN, GIS, etc for u-Business

## Future Plan

### Issue

#### ❑ Core Component Library

- Re-Work with CCL08B because it worked with CCL08A at last year
- Data Harmonization after discussing with TBG3

#### ❑ Propose

- Korea will propose this defined data model to IMO for General Declaration and other e-document
- Korea proposed Single Window Guideline for Maritime Transport to IMO based on UN/CEFACT Rec.33 or ISO TC8/SC(10) e-Port Clearance

# Thank You

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