Risk Management(RM) of Korea Customs Service

Korea Customs Service
Min WonKyung

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Profile

Name : Min Wonkyung
Division : Passenger Information Analysis

2017 — 2018 — 2019 — 2020 — 2022 — 2023.7

Incheon Customs

Import Clearance
Baggage Clearance

Customs Border Targeting Center

Risk information analysis and exchange and Selectivity

Passenger Information Analysis

Analysis and Selectivity of Passenger

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1. Introduction of KCS's Risk Management

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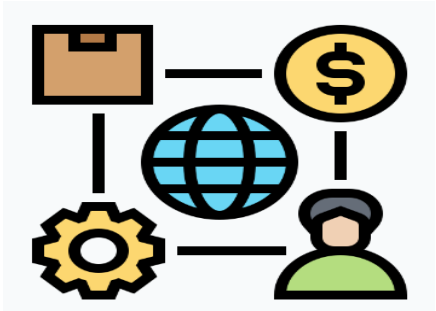
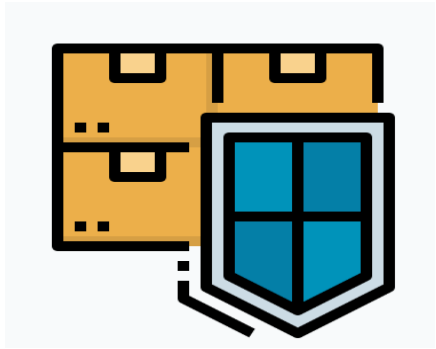
How can we prevent high risk cargo?
CMA CGM
CMA CGM
secco
tex

Background

Integrated Risk Management is essential



Trade Facilitation



Trade Security

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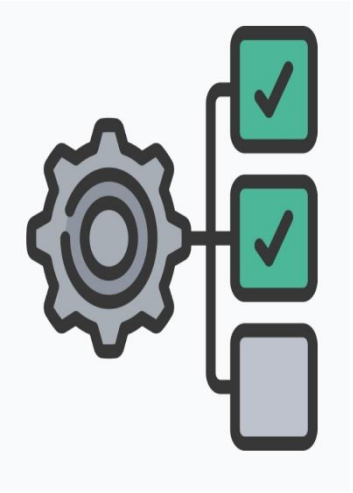
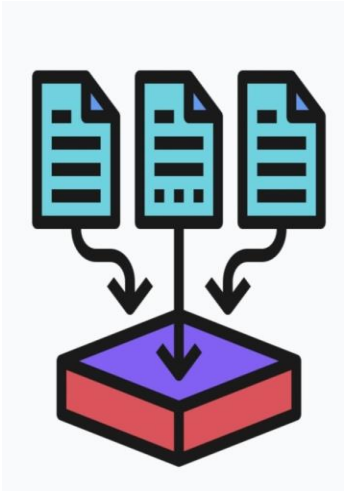
Custom Border Targeting Center established Feb.2017 For Integrated Risk Management

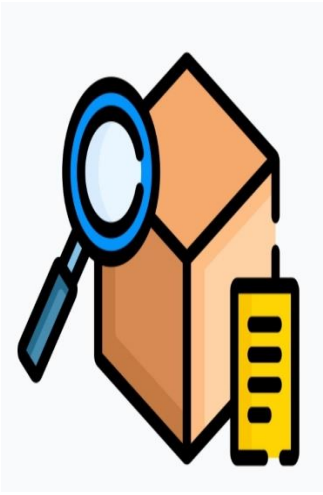


General Management



Intelligence

Risk Analysis



Selectivity

Targeting high risk goods

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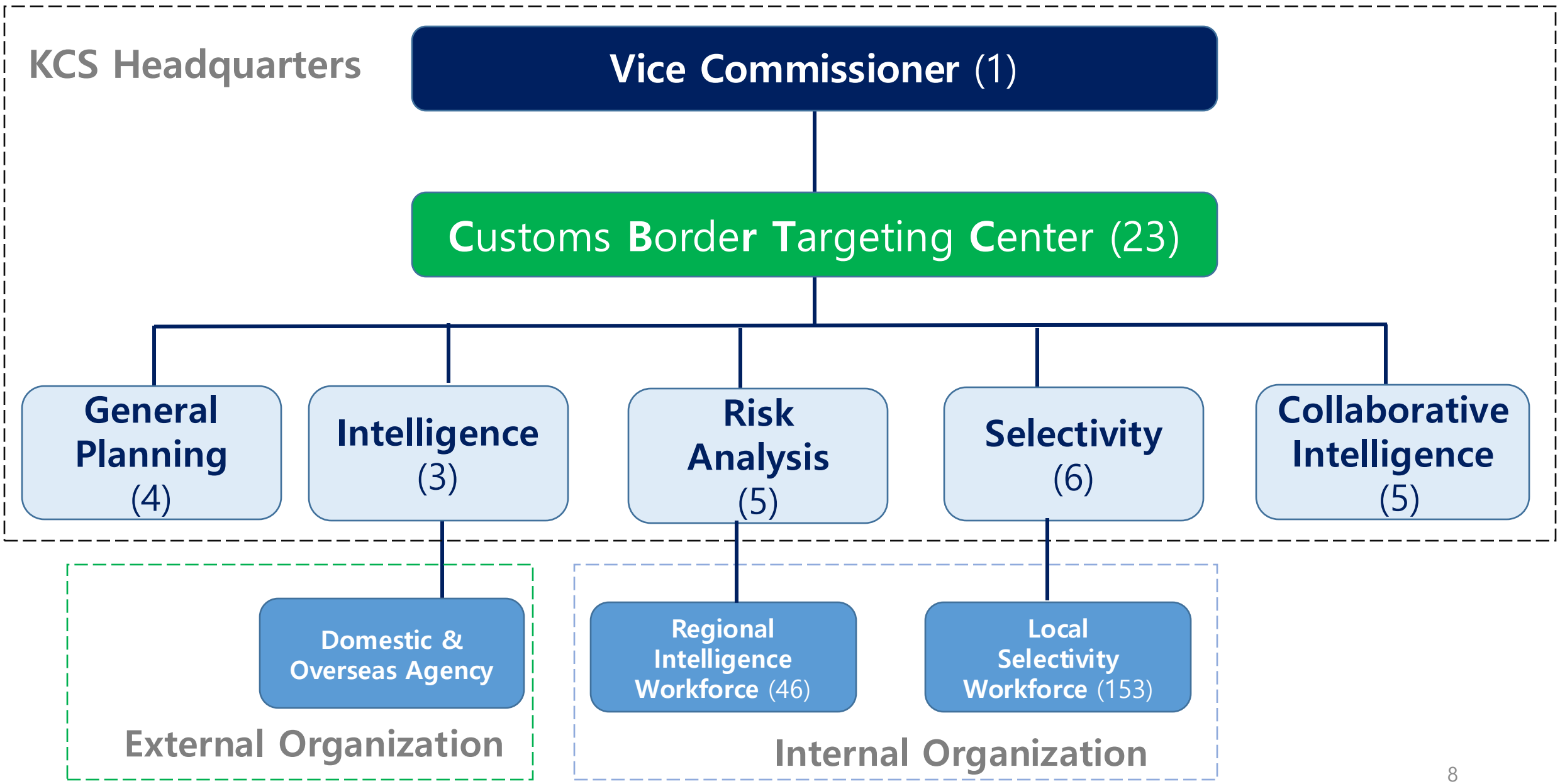
Organization Chart of CBTC



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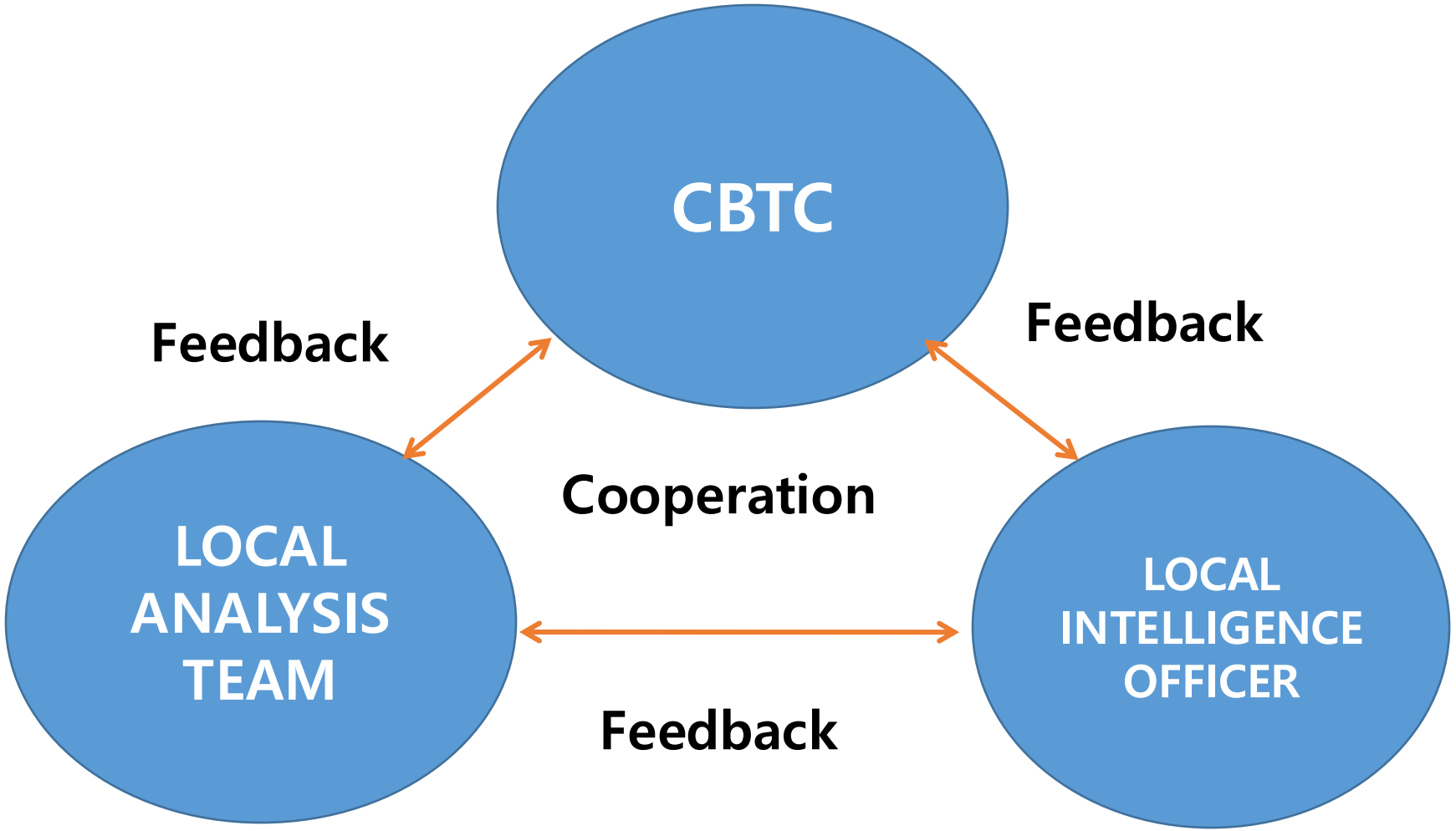
CBTC and Local Teams cooperate with each other



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Process of Risk Management consists of 5 Steps

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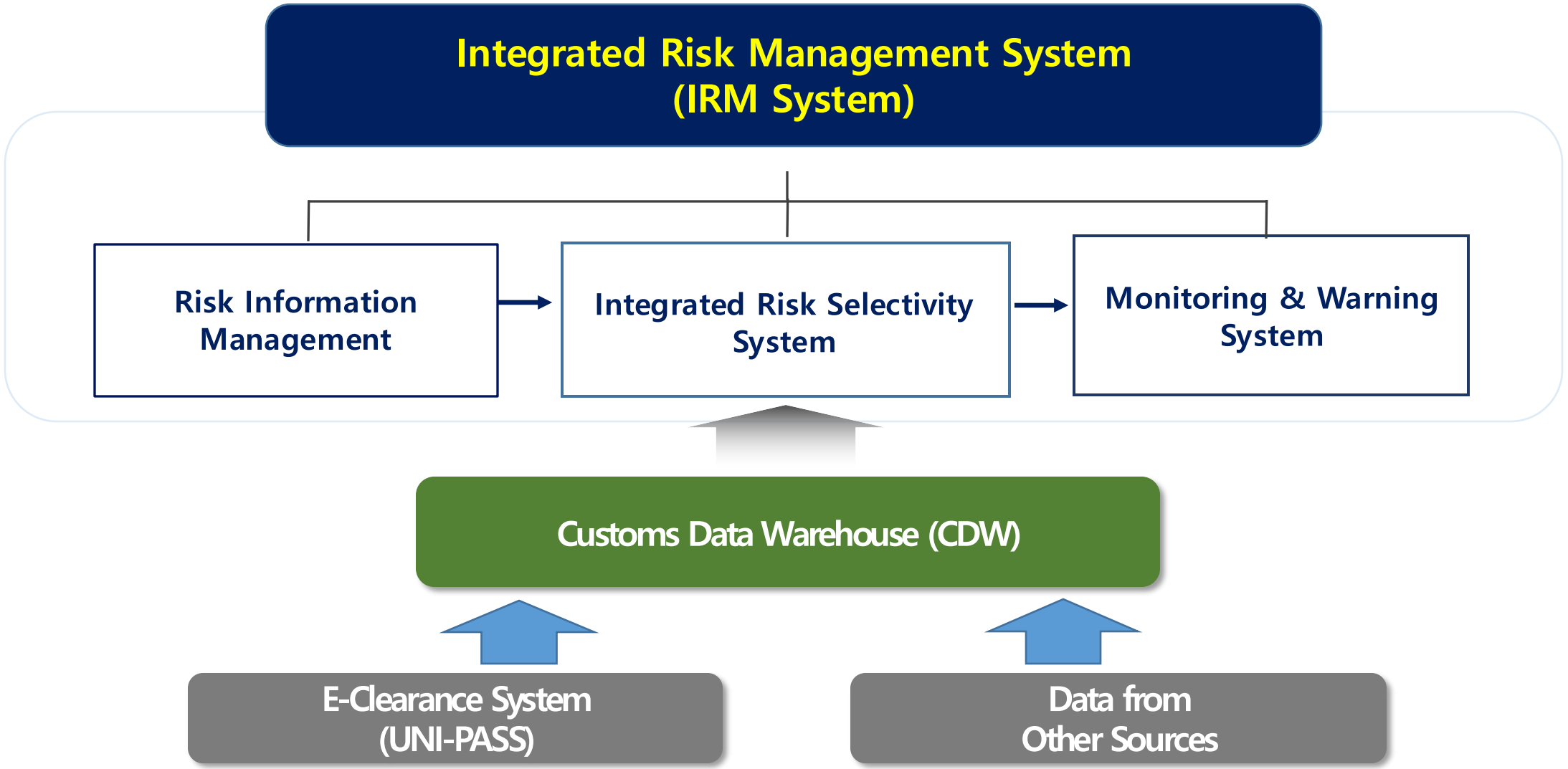
Introduction of KCS' Risk Management

Risk Management System



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Risk Identification

Register detection reports on IRM System

Registration

Registration of detection reports by the local customs

Categorizing detection reports
: Drug, terrorism, tax evasion etc.

Registration of various type of detection cases
: Documents, Photo, video etc.

Assessment and Sharing

CBTC members score detection reports based on reliability, level of risk

Key risk information is spread to all of the local customs and analyzed.

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Targeting

Create the selectivity criteria by using IRM System

■ 선별항목 선택

+ 행추가 | − 행삭제

	대상서식*	선별항목*	연산자*	비교값*		
☐	수입신고서	HS CODE	start with	7807,7808	위험요소	선별대상
☐	수입신고서	Registration Number	=	12345678123	위험요소	선별대상
☐	수입신고서	Origin	is contains in	CN,AU,US	위험요소	선별대상

착안사항*	기존 착안사항 작성예시 조회 ☐ 착안사항 작성예시 추가
등록사유*	
검색키워드*	검색키워드는 쉼표(,)로 구분하여 최소 3건 이상 등록해 주십시오. 예) MASK, 마스크, 코로나

기준내역불러오기 | 첨부파일 | 저장 | 취소

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Feedback

Feedback from Customs officers on Selectivity Criteria

Feedback	Revising Selectivity criteria
Customs officers provide feedback on whether the inspection result are appropriate EX: Article of selectivity criteria – including 'GUN' Inspection results : GLUE GUN, GUNDAN, TOP GUN(movie)	**Check whether the Selectivity criteria are appropriate by comparing the article of criteria**

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2. Information Collection

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We exchange Risk information with at Home & Abroad

Domestic Agency

Hazardous Drug, Food

Ministry of Food and Drug Safety, DEA

Import Permits Of Waste

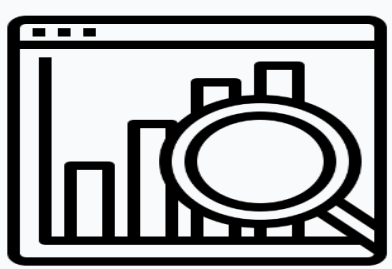
Ministry of Environment

Foreign Customs Administrations

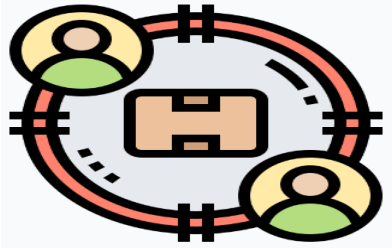
Exchanging of Intelligence (70 Foreign Customs)

Meeting for Risk management

Custom Border Targeting Center



Analysis risk information



Create Selectivity criteria

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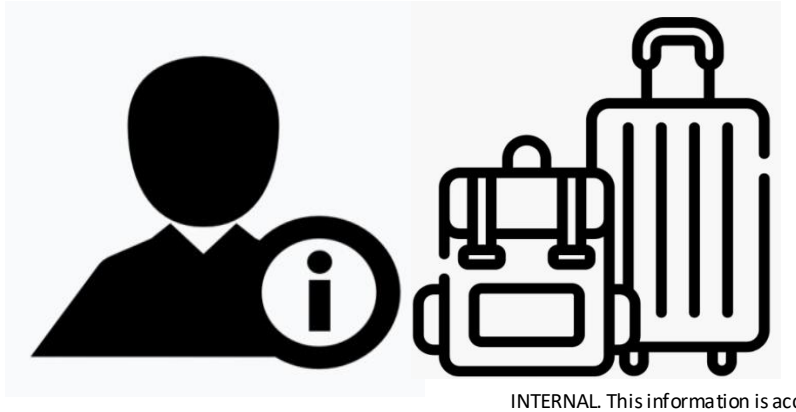
Detection Case 1 : Intelligence from National intelligence services

National intelligence services provided information of drug offender(‘24.4., ‘24.8.)

Name	Detected goods
BRISS*** CA** JOH** STEPH**	3kg of Methamphetamine
PIETE*** SAN** ELIZAB***	2kg of Methamphetamine



Analyzing information of drug offender

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Detection Case 1 : Intelligence from National intelligence services

Incheon airport customs seized 3kg of Methamphetamine('24.9.27.)

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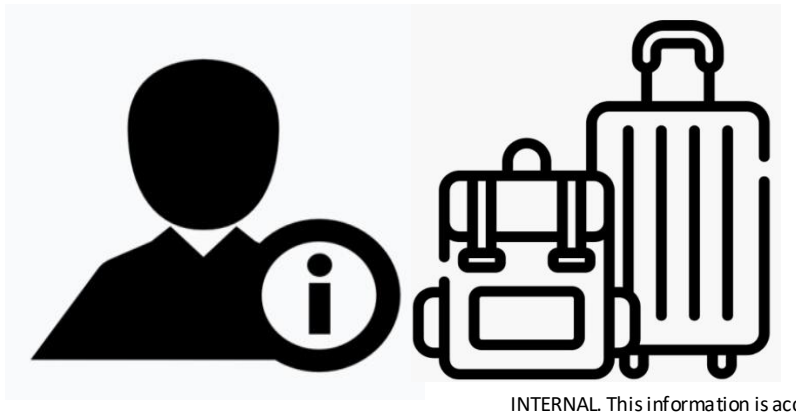
Detection Case 2 : Intelligence from Drug Enforcement Administration(DEA)

Drug Enforcement Administration(DEA) provided the information on the drug offender('24.4.12.)

Name	List of Smuggled Drug
Park Ge** S**	400g of Methamphetamine, 83g of Cocaine, 1.3kg ketamine



Analyzing information of drug offender

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Detection Case 2 : Intelligence from Drug Enforcement Administration(DEA)

Incheon airport customs seized 10kg of Drug('24.5.15.)

*1.0kg of Methamphetamine, 1.1kg of ketamine, 1000 tablets of MDMA
7.3kg of hemp oil, 400 sheets of LSD etc.)

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3. Risk Analysis

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Risk Analysis

Flowchart of Analysis

Evaluation for Timeliness, Importance, Applicability, Accuracy, Reliability, Influence

CBTC Analysts Meeting

Analysis of Risk Information

Creation of Risk Profile & Criteria

Monitoring of Inspection Result

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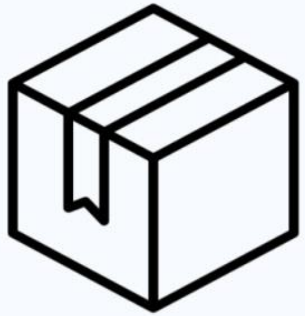
Three factors are important in Risk Analysis.

Person	Cargo	Supply Chain	Risk Profile
			
1. Address 2. Phone number 3. Related people	1. Risk goods 2. Concealment patterns 3. Description	1. Overseas supplier 2. Forwarder 3. Broker to Domestic importer	1. Risk Indicator 2. Selectivity Criteria

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Let’s watch the video of risk management with analysis technique

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Risk Analysis – Passenger

Detection Case

Points : Booking date, Duration of stay, Companion, Gender, Smuggling pattern

2. June. 2024.

- **1kg of Methamphetamine**
- Nationality / Age / Gender : (Korea / **33** / Female)
- **Concealment of drug in underwear**

Analyzing and Targeting

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3. June. 2024.	10. June. 2024.	20. July. 2024

- Nationality / Age / Gender : Korea / **26~44** / **Female**
- **Concealment of drug in underwear**
- **Booked flight tickets 4 days before boarding the aircraft**

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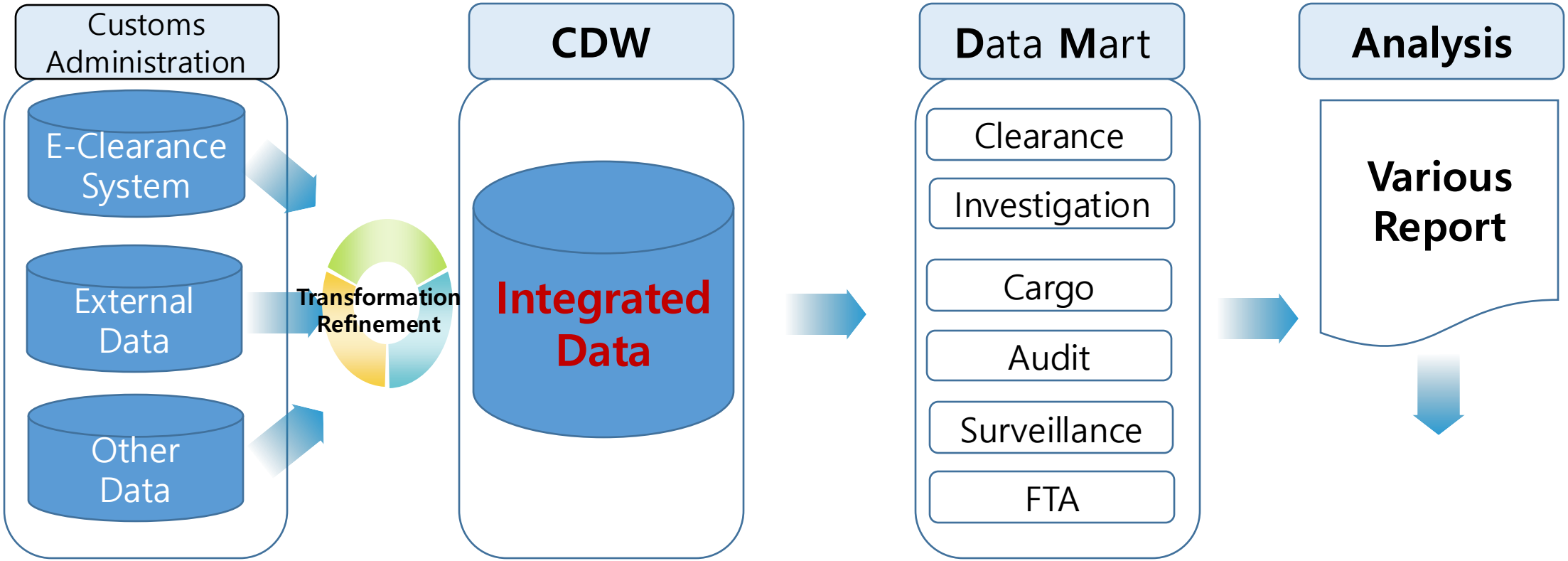
We analyze risk based on Custom Date Warehouse(CDW)



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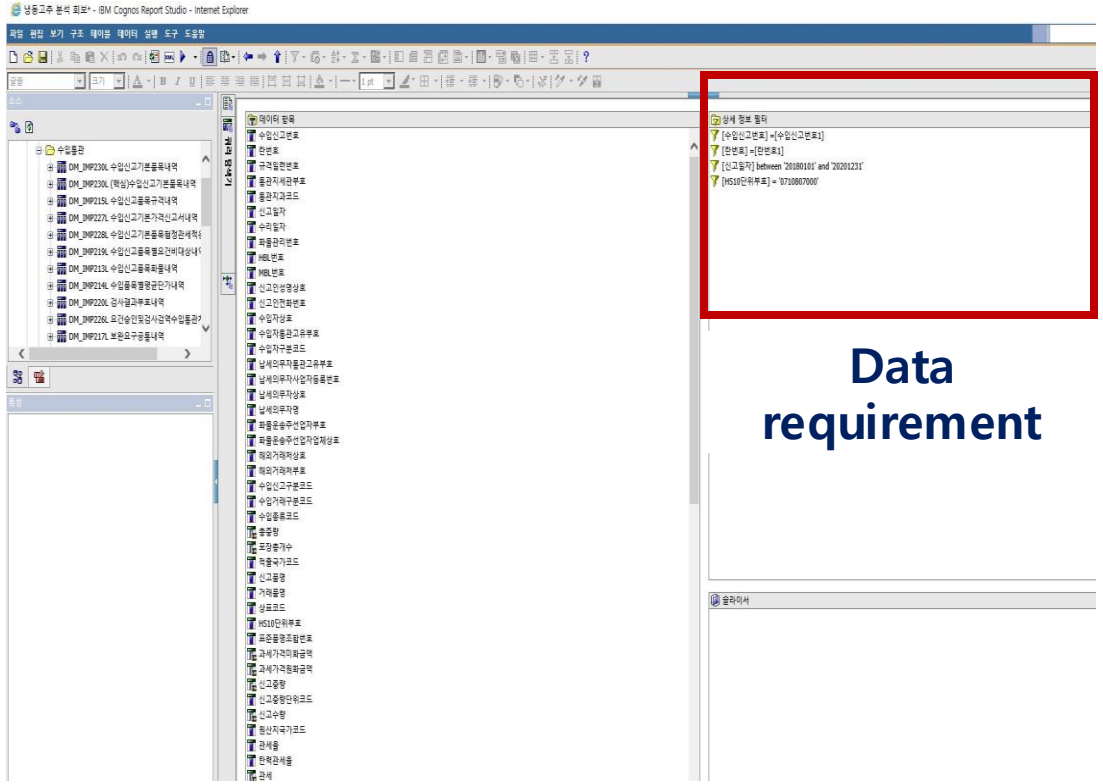
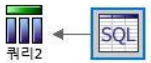
Risk Analysis

Analysis Tool – CDW Report Studio



Data requirement



Report Studio

Input Data Requirement->Extract by excel, html

Query Report(SQL)

Input SQL-> Extract Data

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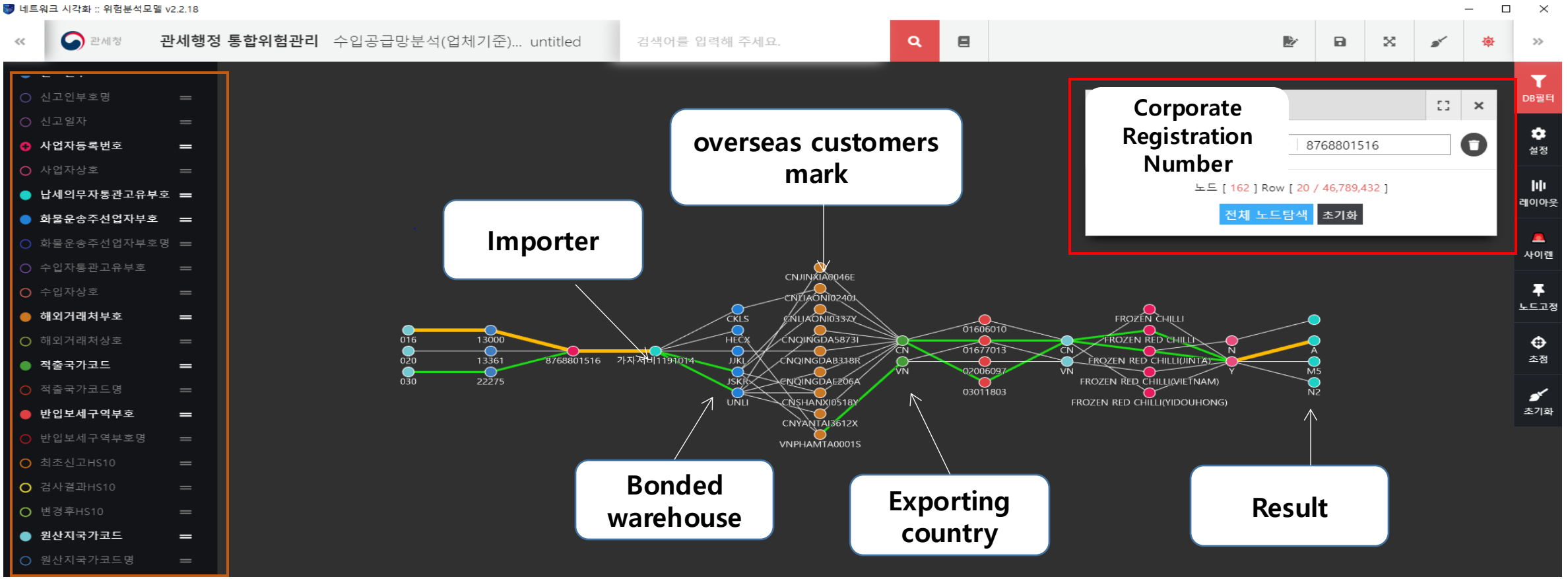
Risk Analysis

Analysis Tool – Network Analysis in IRM System

Analyzing high-risk supply chain By using network analysis tool



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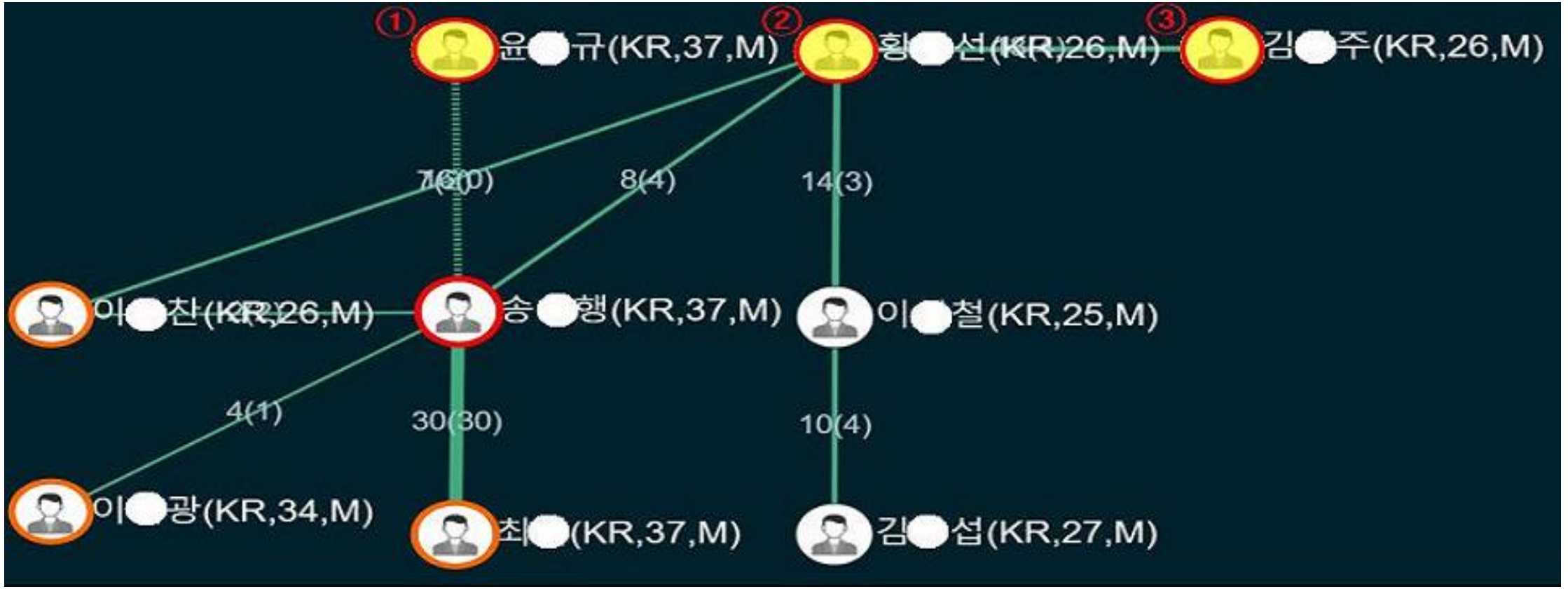
Analysis Tool – Big Finder System for Passenger Analysis

Analyzing high risk passenger's companion By using Big Finder system



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4. Selectivity Process

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Selectivity Process

Selectivity Standard

For effectiveness, Selectivity Standard is managed in two ways

	Central C/S	Local C/S
Application	more than 2 customs	Only 1 customs
Registration, Management	CBTC	Local customs
Object	All Customs	The region

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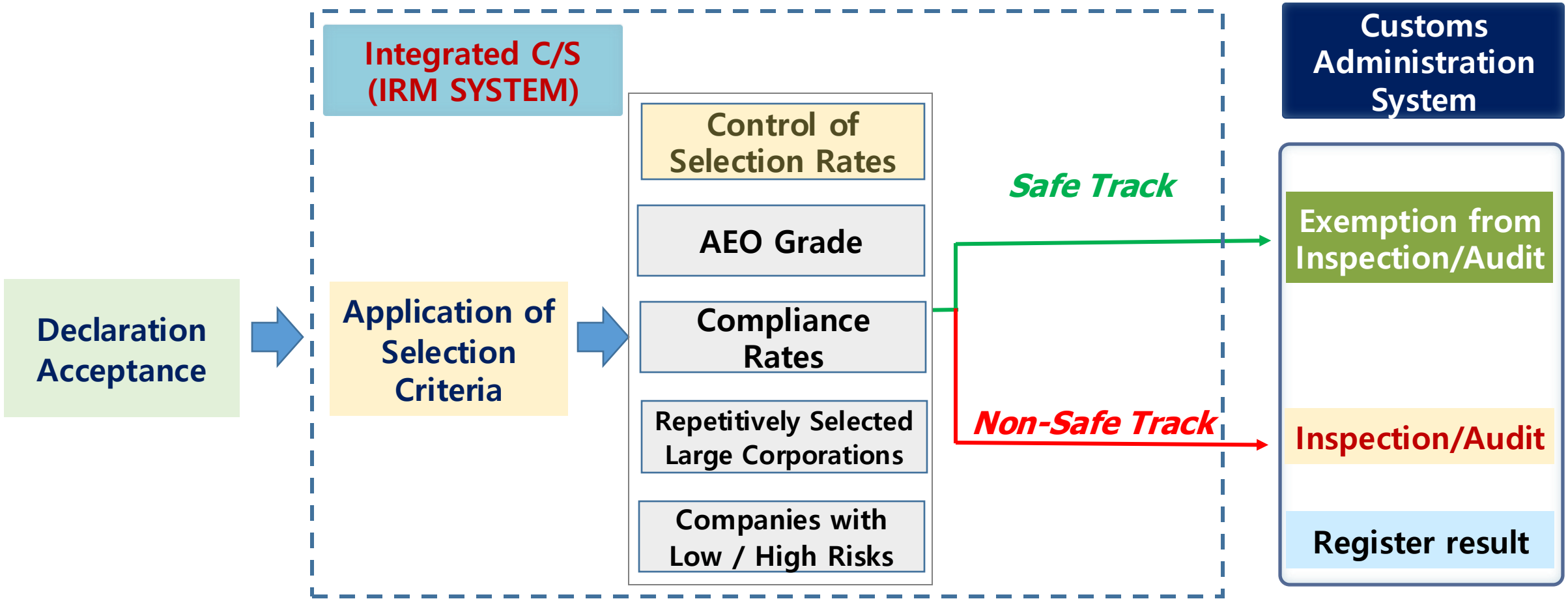
Selectivity Process

Cargo Selectivity Process



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Selectivity Process

Import Selectivity

Automated Selectivity by system accounts for 85% in Import

- Selectivity based on : Document of Import Declaration

- When to Conduct : After Submitting Import Declaration

- Types : Automatic Selectivity (85%), Manual Selectivity by officers(15%)

- How to Examine : To request relevant document or Examine the Goods

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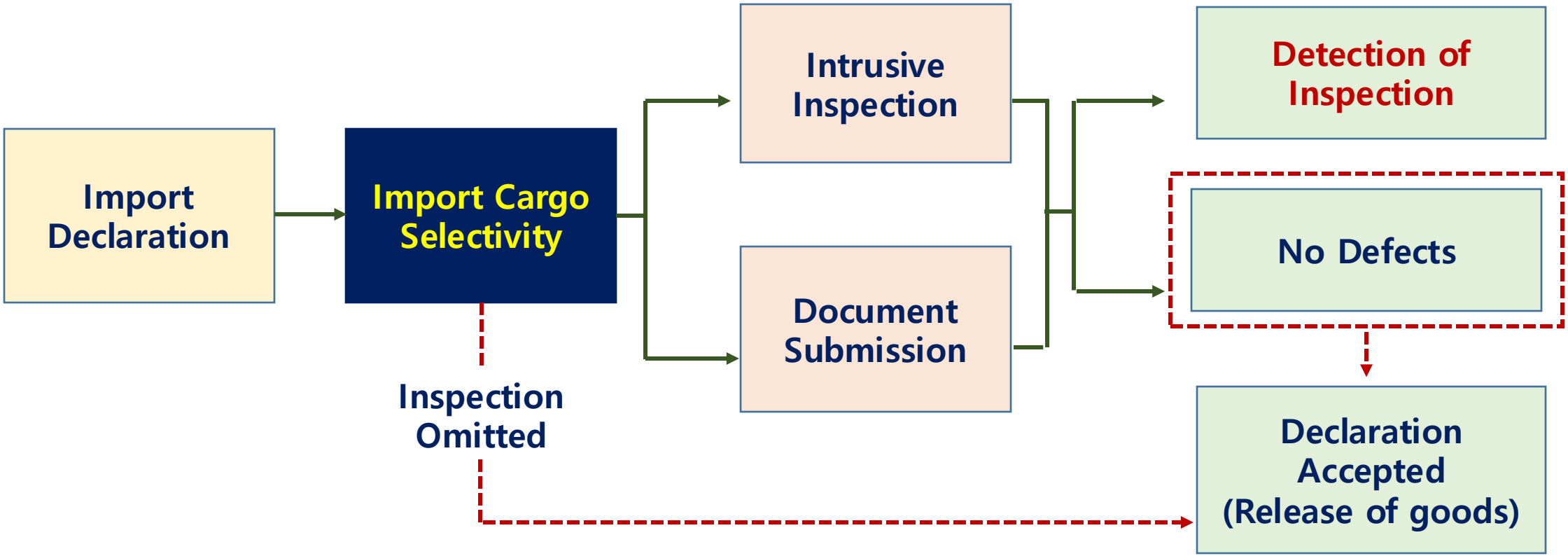
Selectivity Process

Import Cargo Selectivity



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Selectivity Process

Express Cargo Selectivity

Every express cargo must pass through an X-ray scanner

- Selectivity based on : Manifest

-When to Conduct : After Submitting Manifest
(1 hours prior to entry)

-Types : Automated Selectivity (13%),
Selectivity by X-ray interpreter(87%)

-How to Examine : Intrusive inspection

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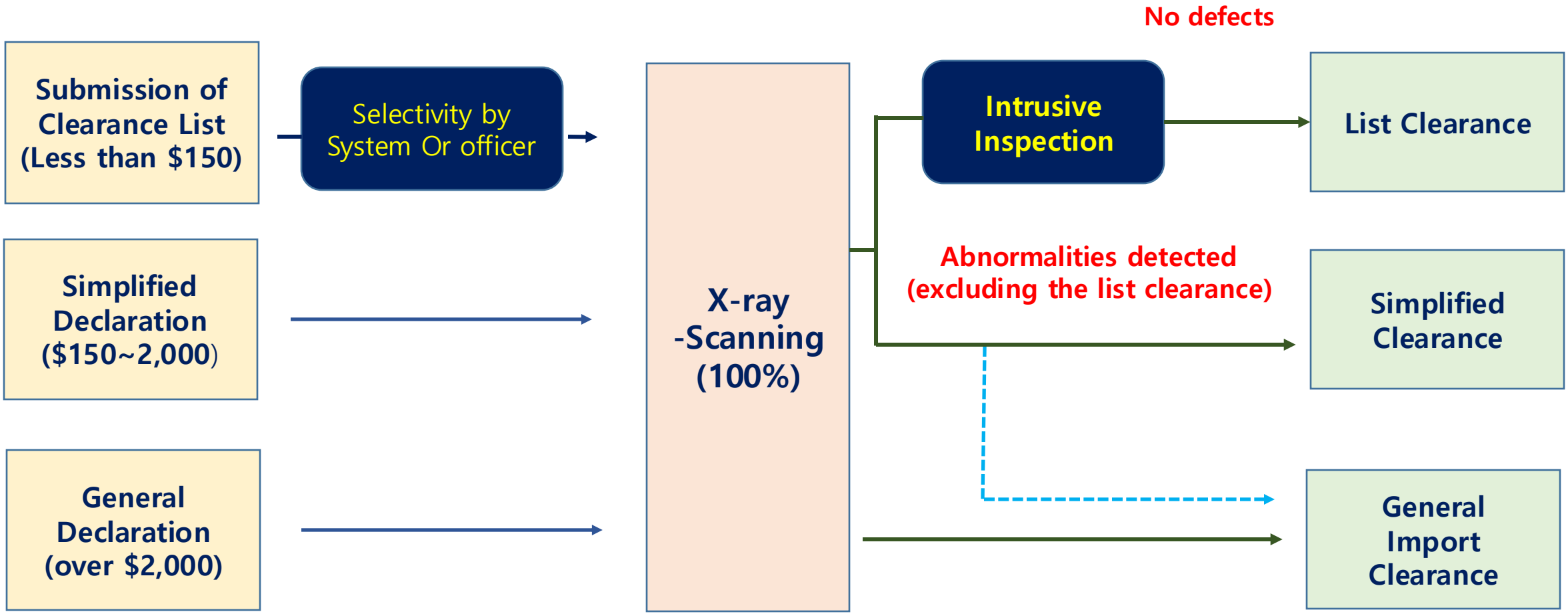
Selectivity Process

Express Cargo Selectivity



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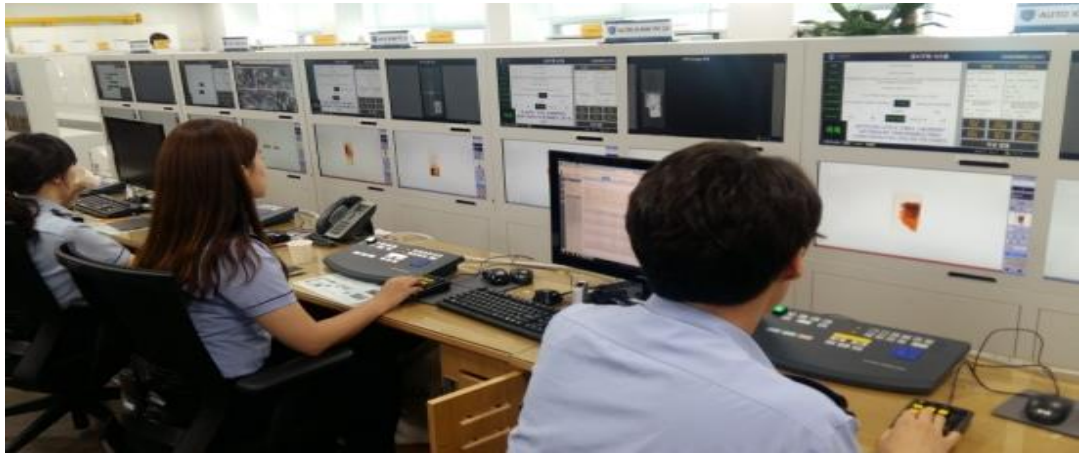
Selectivity Process

Express Cargo Logistics Center (Incheon International Airport)

Automatic Sorter(Cross Belt)

Fixed Scanner(IPS)



X-ray Interpretation Room

Integrated Control Room

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Selectivity Process

High-Risk Passengers Selectivity(APIS*)

* APIS : **A**dvance **P**assenger **I**nformation **S**ystem

Passengers are selected based on Passenger Name Record

- Selectivity based on : Passenger list and Passenger Name Record(PNR)

- When to Conduct : When Passenger list is submitted(30min prior to entry)
  When PNR is submitted(1hr prior to entry)

- Types : Automated Selectivity, Manual Selectivity
- How to Examine : To conduct an Intrusive inspection at the customs Inspection place

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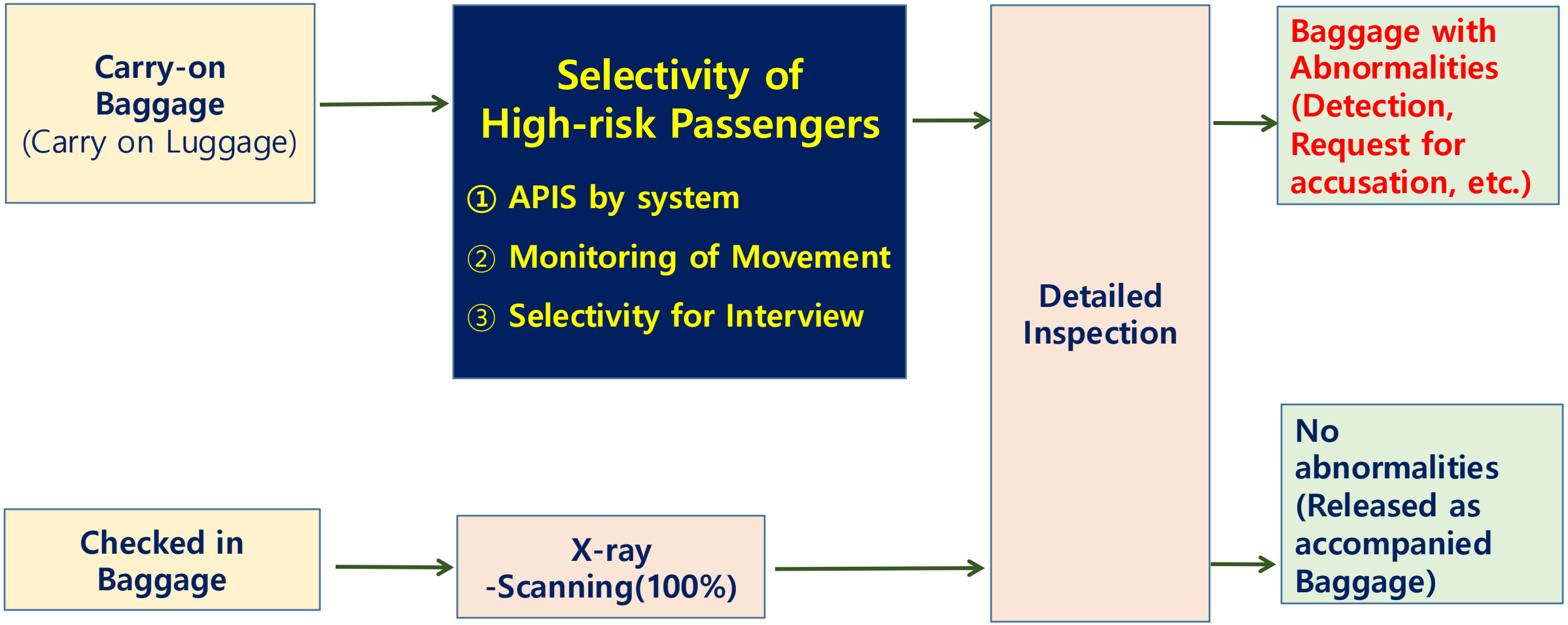
Selectivity Process

High-Risk Passengers Selectivity



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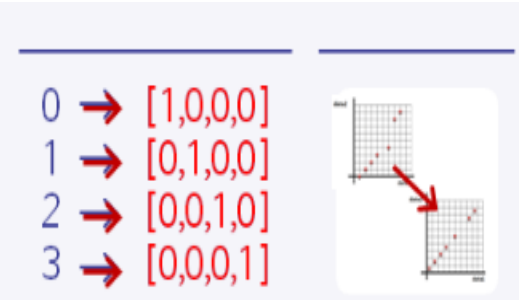
Selectivity Process

AI Targeting

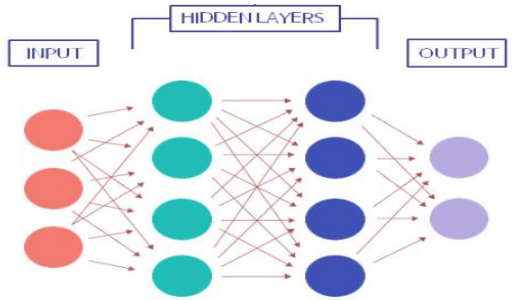
KCS developed the AI C/S
Based on Big data and Deep learning

Learning Data



In Coding

Model learning & Evaluation



Model Evaluation

AI Cargo Selectivity

Selecting & Updating Result

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Selectivity Process

AI Targeting

KCS has applied the AI Selectivity for Import Since 2019

Development AI model (Import)

Starting AI Inspection (**Import**)

Starting AI Automated Clearance (**Import**)

Development Additional AI model (**Import**)

Development AI model (**General Cargo**)

Development AI model (**Passenger**)

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Selectivity Process

AI Targeting - Import

We have 2 types of Import AI Model (High risk, Supply chain)

2019 AI Model	1. High risk model	Prior Import declaration & detection etc. (88)
	2. Supply chain	High risk supply chain relationship
2021 AI Model	1. High risk model	Prior declaration & detection **+ investigation + audit**
	2. Supply chain	High risk supply chain relationship **+ Import declaration + compliance level**

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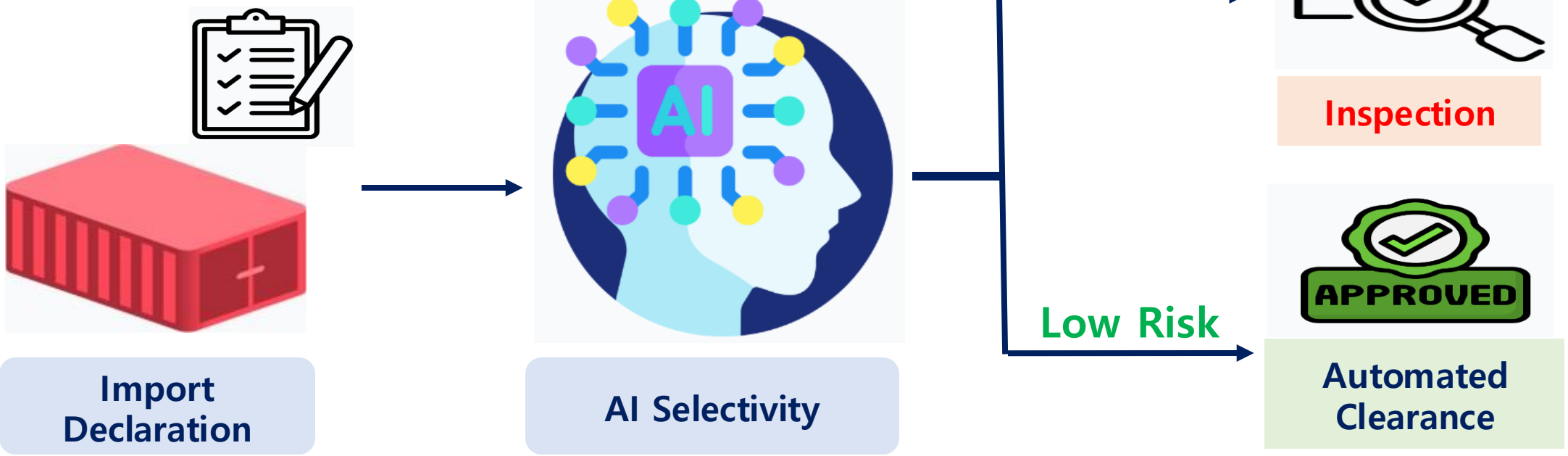
Selectivity Process

AI Targeting - Import

AI selects the High risk import Cargo for inspection

AI automatically approves Low risk import Cargo



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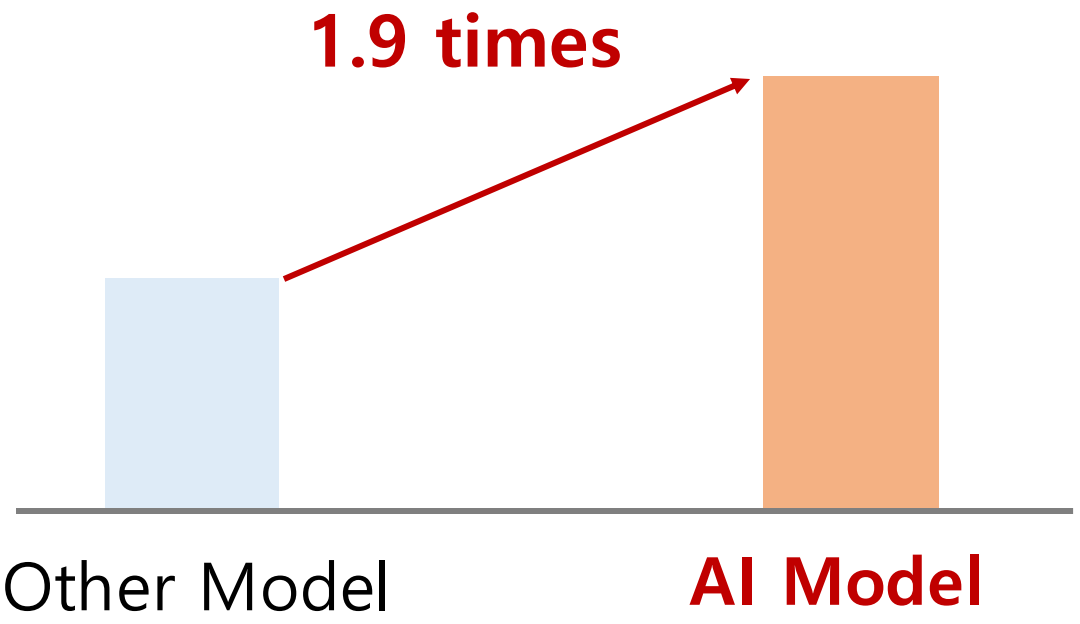
Selectivity Process

AI Operating Status – Import

Major Detection Rate



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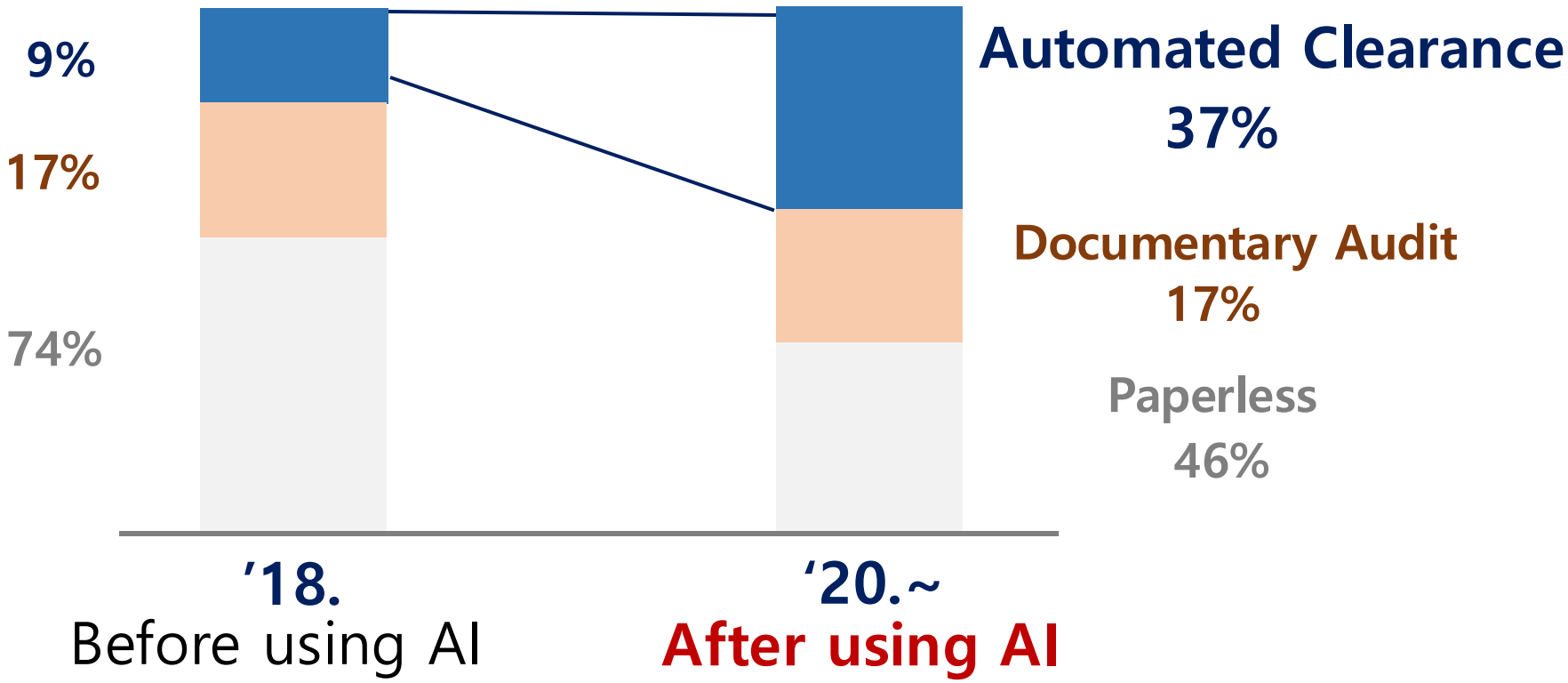
AI Targeting Status - Import

AI Model automatically approves Low risk Import declaration
It reduces the work of customs officials



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Selectivity Process

AI Targeting – General Cargo

We have 2 types of AI Model (High risk, Supply chain)

High Risk Model

Clearance Information of Targeted cargo + Import Clearance Information + Information of Seizure, Inspection and Assessment

Supply chain

4 Types of Supply Chain Pattern

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Selectivity Process

AI High Risk Model – General Cargo

The AI High Risk Model has been developed by combining the clearance data of controlled cargo and information of potential risks in other areas such as import and inspections.

Clearance Data of Controlled Cargo

+

Import Clearance Data

+

Information of Inspection, Seizure

=

General Cargo High Risk AI Model

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Selectivity Process

AI High Risk Model – General Cargo

The AI High Risk Model was made with a combination of structured data in the form of numbers and unstructured data in the form of text.

Structured Data (93 types)		Unstructured Data (13 types)		General Cargo High Risk AI Model
Numbers, Codes	+	Text	=	Structed Model (numbers, codes) + Unstructured Model (text)
Inspection, a number of seizure, codes in the results of inspection, etc.		Description of Goods, the name of consignee/consignor addresses, etc.		

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Selectivity Process

AI Supply Chain Model – General Cargo

AI Supply Chain Model analyses four patterns and selects unusual patterns from it.

Pattern 1	Forwarder + Consignor + Consignee + Warehouse
Pattern 2	Forwarder + Customs Office at the port of arrival + A Country of Departure + Warehouse
Pattern 3	Consignor + Customs Office at the port of arrival
Pattern 4	Consignee + Description of Goods

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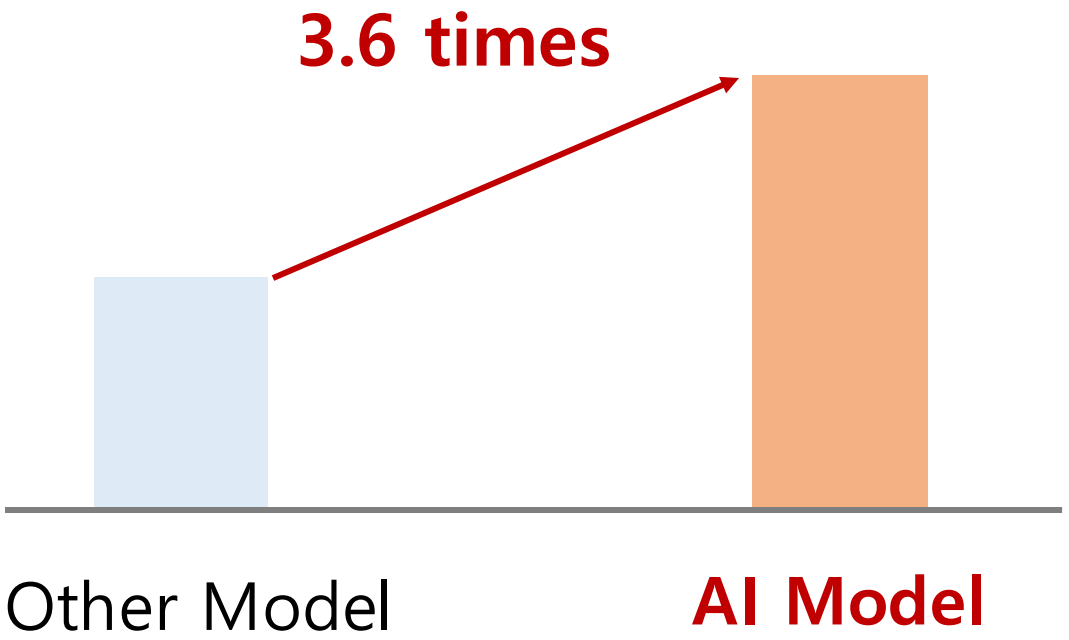
Selectivity Process

AI Operating Status – General Cargo

Major Detection Rate



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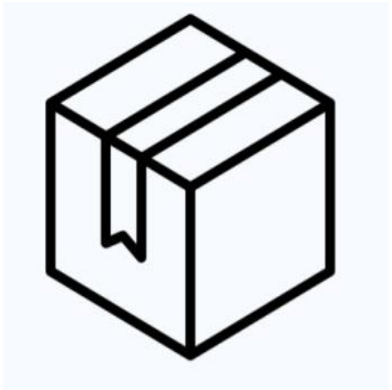
Selectivity Process

AI Model – Passenger

The AI High Risk Model has been developed by combining Clearance Data of Express Cargo, Post and Date of Passenger Name Record and Clearance Data of Passenger and baggage



Clearance Data of Express Cargo, Post

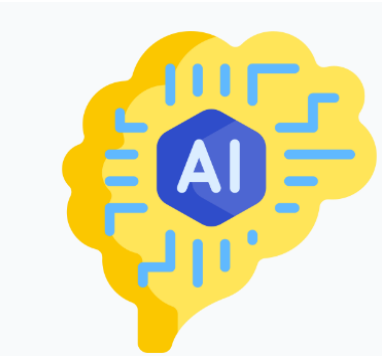
+

Date of Passenger Name Record

+

Clearance Data of Passenger and baggage

=



General Cargo High Risk AI Model

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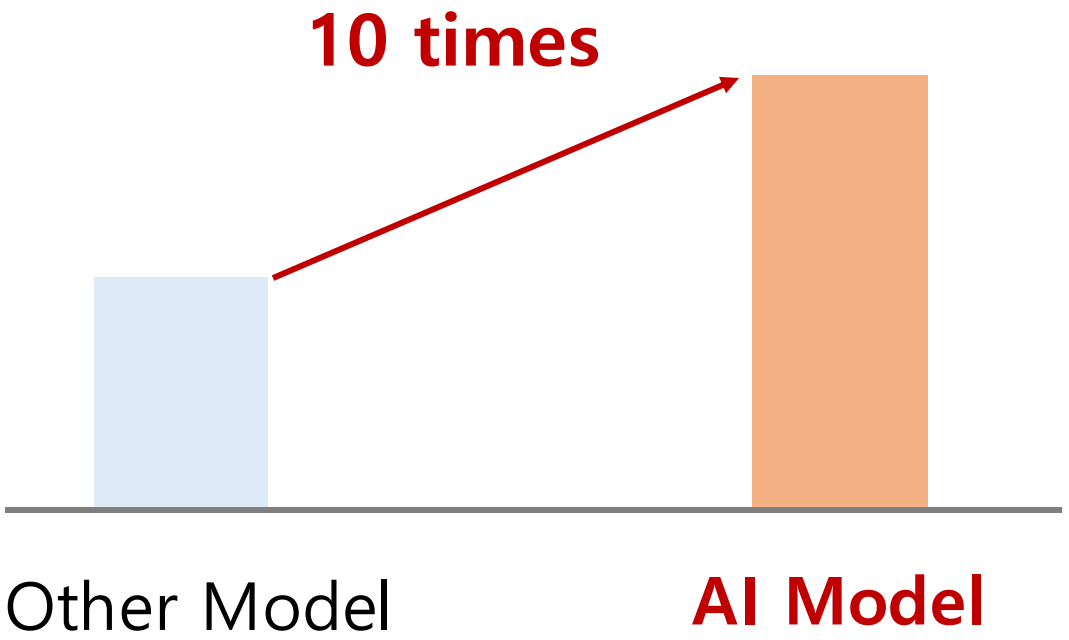
Selectivity Process

AI Operating Status – Passenger

Major Detection Rate



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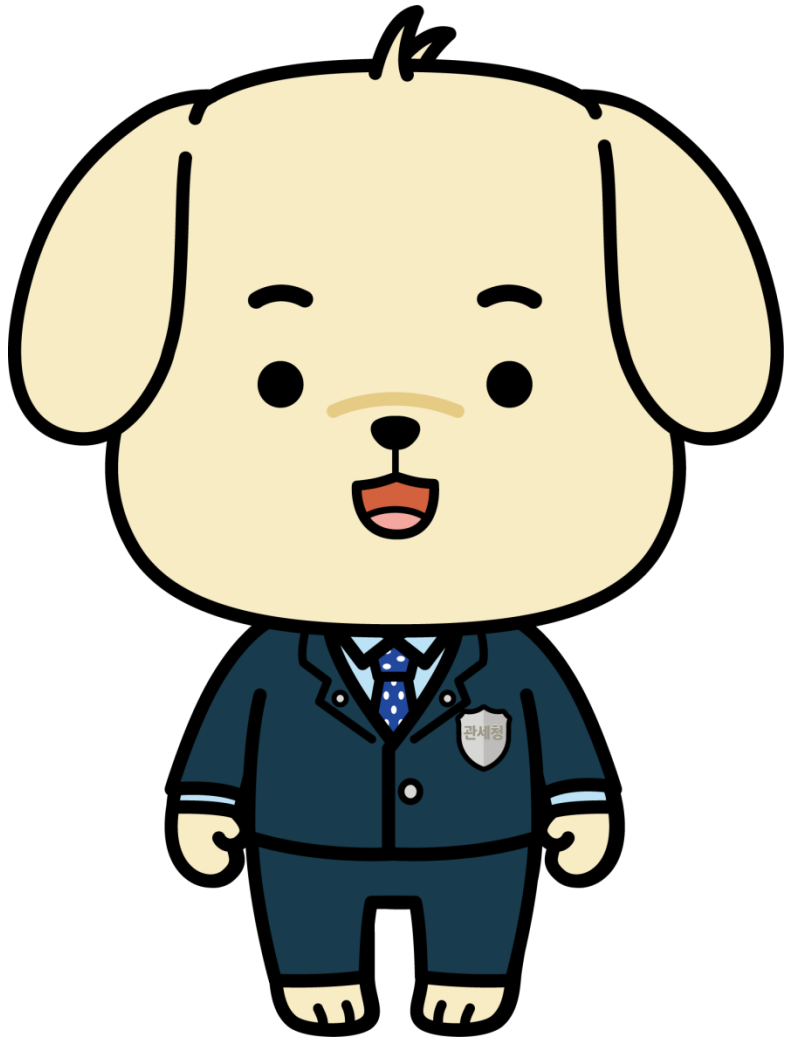

Thank You

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