

Risk Management(RM) **of Korea Customs Service**

Korea Customs Service
Min WonKyung



Profile

Name : Min Wonkyung

Division : Passenger Information Analysis



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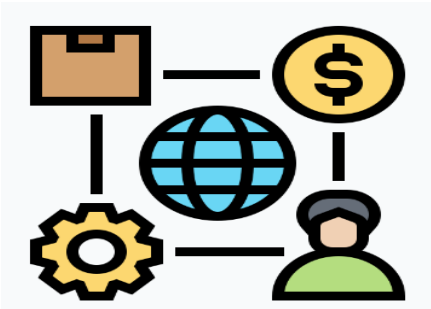
- 1. Introduction of KCS's Risk Management**
- 2. Information Collection**
- 3. Risk Analysis**
- 4. Selectivity Process**

1. Introduction of KCS's Risk Management

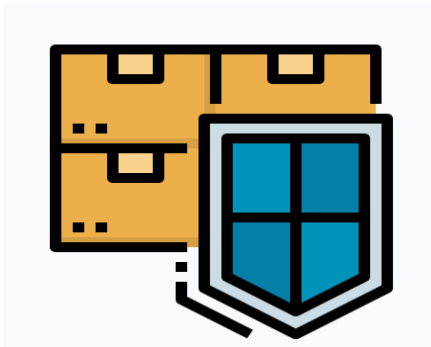
How can we prevent high risk cargo?



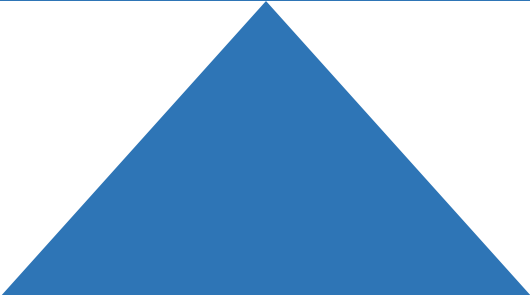
Integrated Risk Management is essential



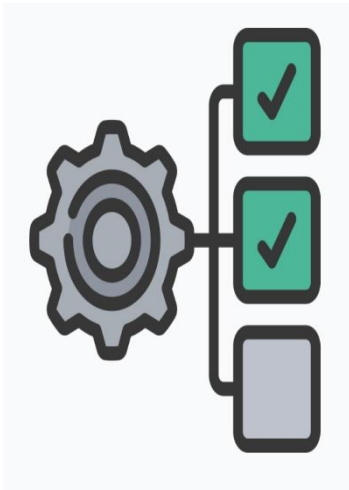
Trade Facilitation



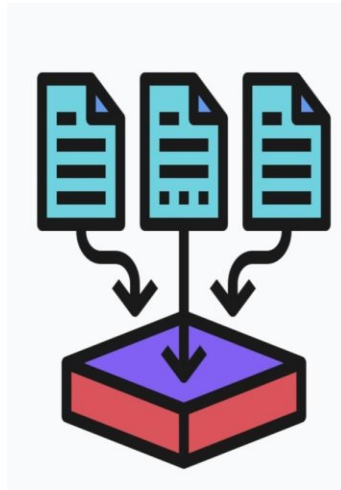
Trade Security



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



General Management



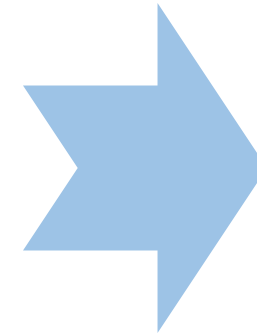
Intelligence



Risk Analysis



Selectivity



Targeting high risk goods

Organization Chart of CBTC

KCS Headquarters

Vice Commissioner (1)

Customs Border Targeting Center (23)

General Planning (4)

Intelligence (3)

Risk Analysis (5)

Selectivity (6)

Collaborative Intelligence (5)

Domestic & Overseas Agency

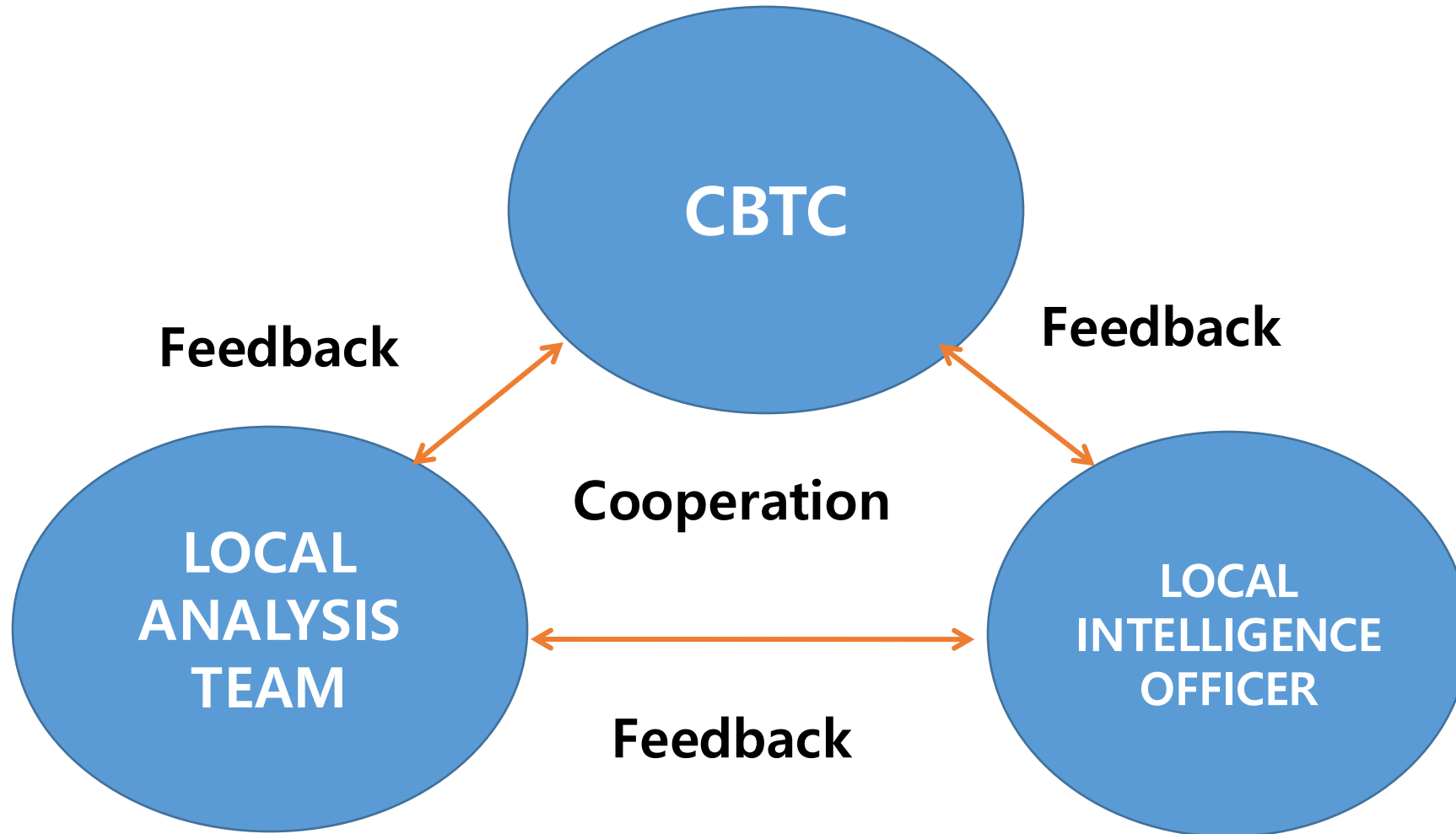
External Organization

Regional Intelligence Workforce (46)

Local Selectivity Workforce (153)

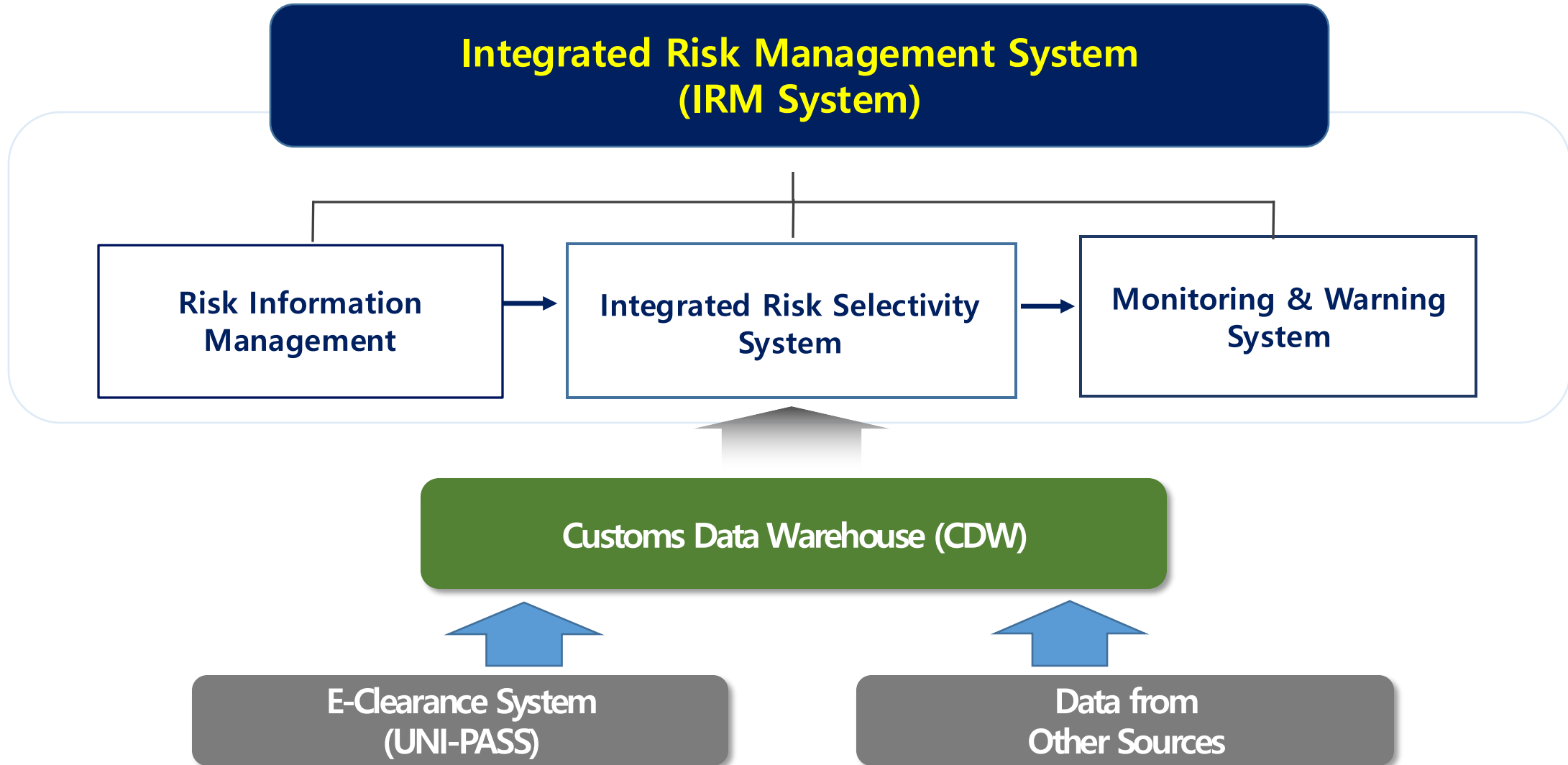
Internal Organization

CBTC and Local Teams cooperate with each other



Process of Risk Management consists of 5 Steps





Risk Identification

Register detection reports on IRM System

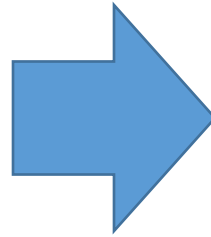
Registration

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.

Targeting

Create the selectivity criteria by using IRM System

■ 선별항목 선택

+ 행추가 - 행사제

<input type="checkbox"/>	대상서식*	선별항목*	연산자*	비교값*	위험요소	선별대상
<input type="checkbox"/>	수입신고서	HS CODE	start with	7807,7808	위험요소	선별대상
<input type="checkbox"/>	수입신고서	Registration Number	=	12345678123	위험요소	선별대상
<input type="checkbox"/>	수입신고서	Origin	is contains in	CN,AU,US	위험요소	선별대상

작성사항*	기존 착안사항 작성예시 조회	<input type="checkbox"/> 착안사항 작성예시 추가
	<input type="text"/>	
등록사유*	<input type="text"/>	
검색키워드*	<input type="text"/>	

검색키워드는 쉼표(,)로 구분하여 최소 3건 이상 등록해 주십시오. 예) MASK, 마스크, 코로나

기준내역불러오기 첨부파일 저장 취소

Feedback

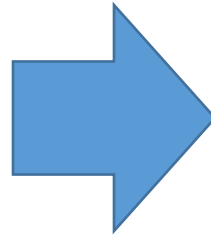
Feedback from Customs officers on Selectivity Criteria

Feedback

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)



Revising Selectivity criteria

Check whether the Selectivity criteria are appropriate by comparing the article of criteria

2. Information Collection

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



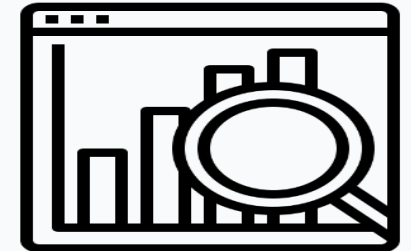
Exchanging of Intelligence
(70 Foreign Customs)



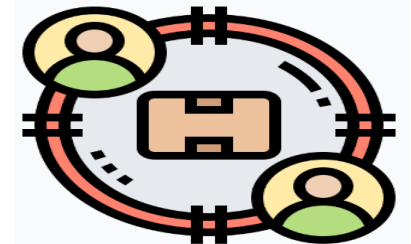
Meeting for
Risk management



Custom Border Targeting Center



Analysis risk information

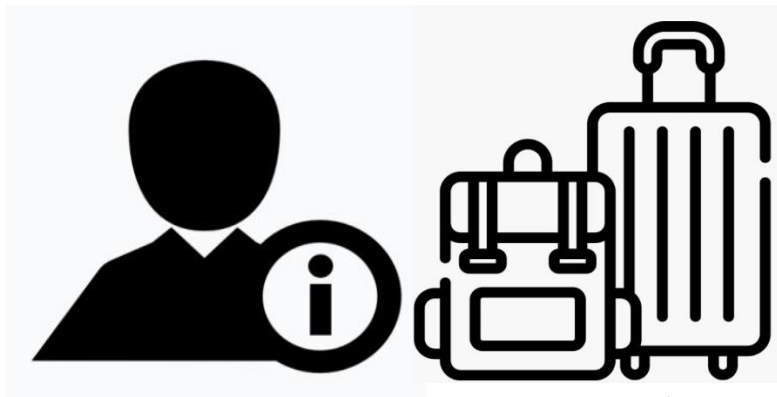


Create Selectivity criteria

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

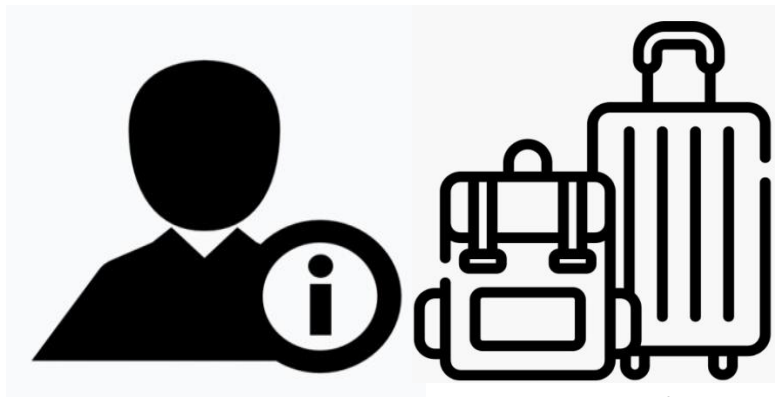
Incheon airport customs seized **3kg of Methamphetamine('24.9.27.)**



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

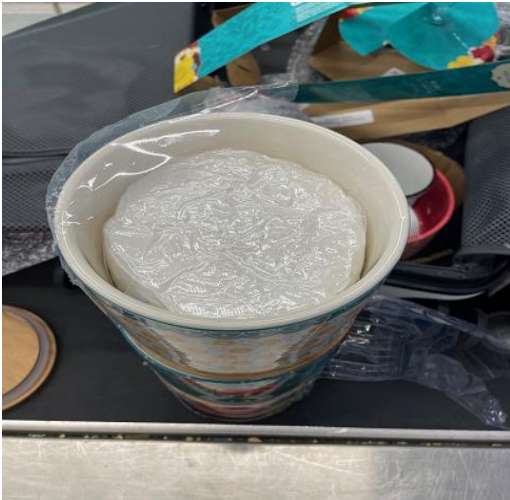


Analyzing information of drug offender

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.)



3. Risk Analysis

Risk Analysis

Flowchart of Analysis

Evaluation of Risk Information

Selection of Analysis Subject

Risk Analysis

Development of Selectivity Criteria

Feedback of Inspection Result

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

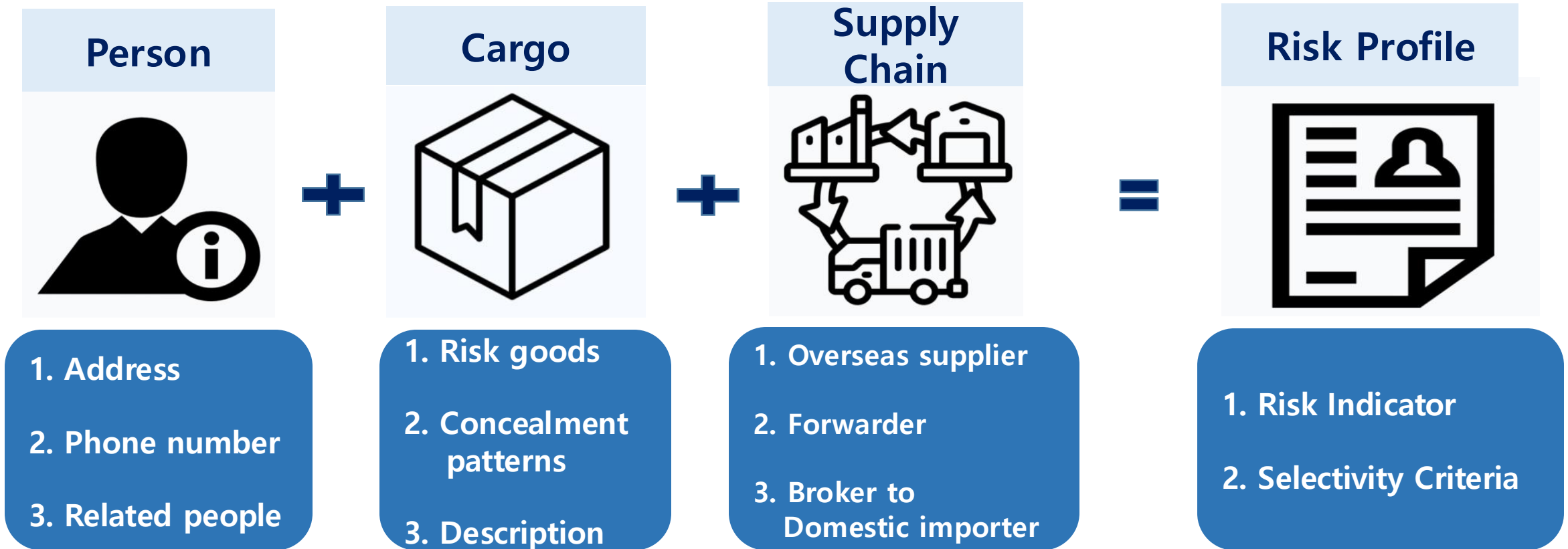
CBTC Analysts
Meeting

Analysis of Risk
Information

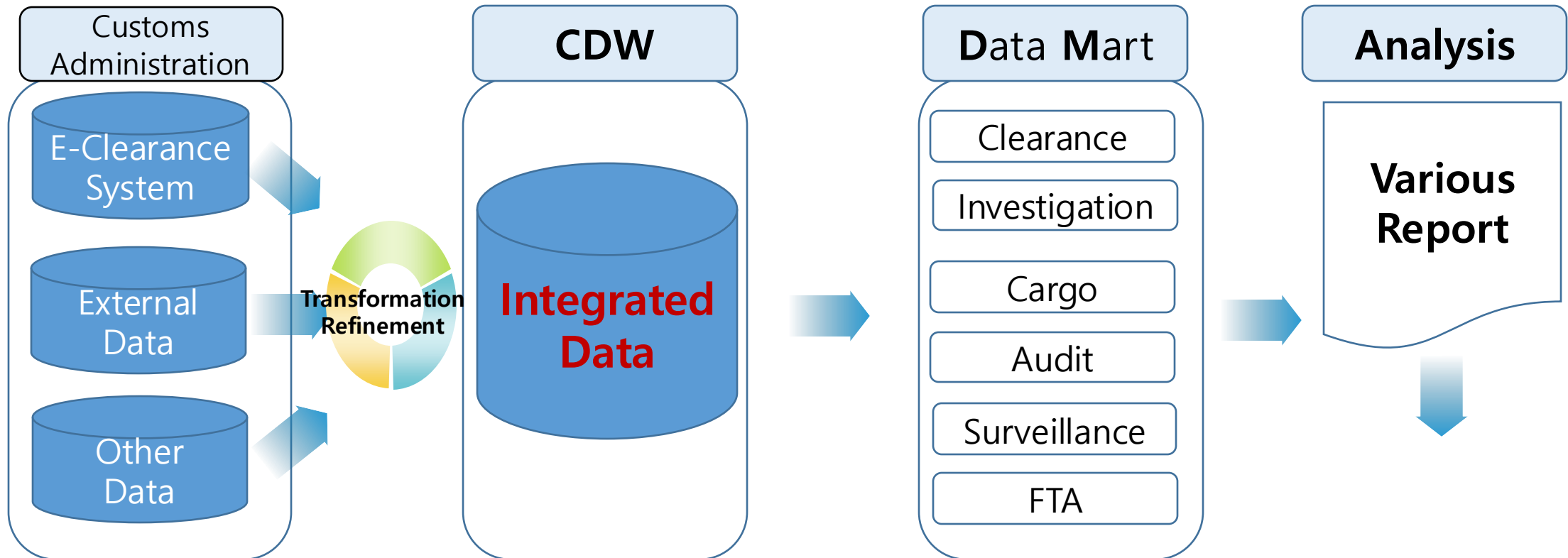
Creation of
Risk Profile &
Criteria

Monitoring of
Inspection
Result

Three factors are important in Risk Analysis.

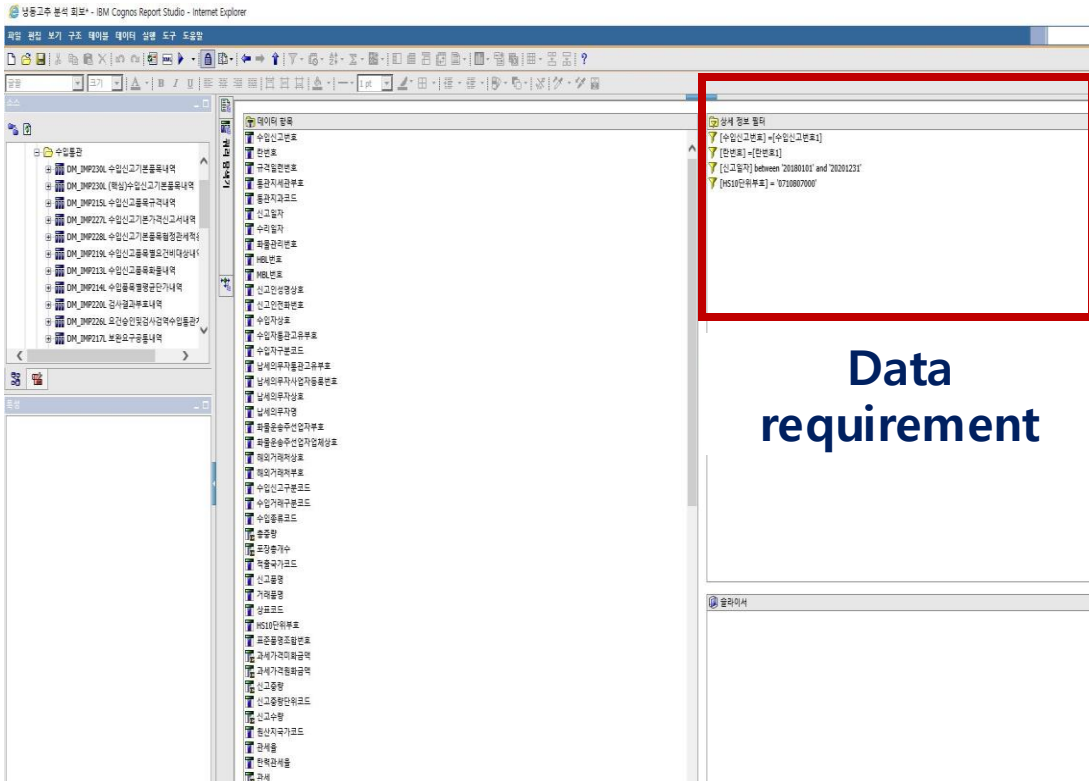


We analyze risk based on **Custom Date Warehouse(CDW)**



Risk Analysis

Analysis Tool – CDW Report Studio



Report Studio

Input Data Requirement->Extract by excel, html

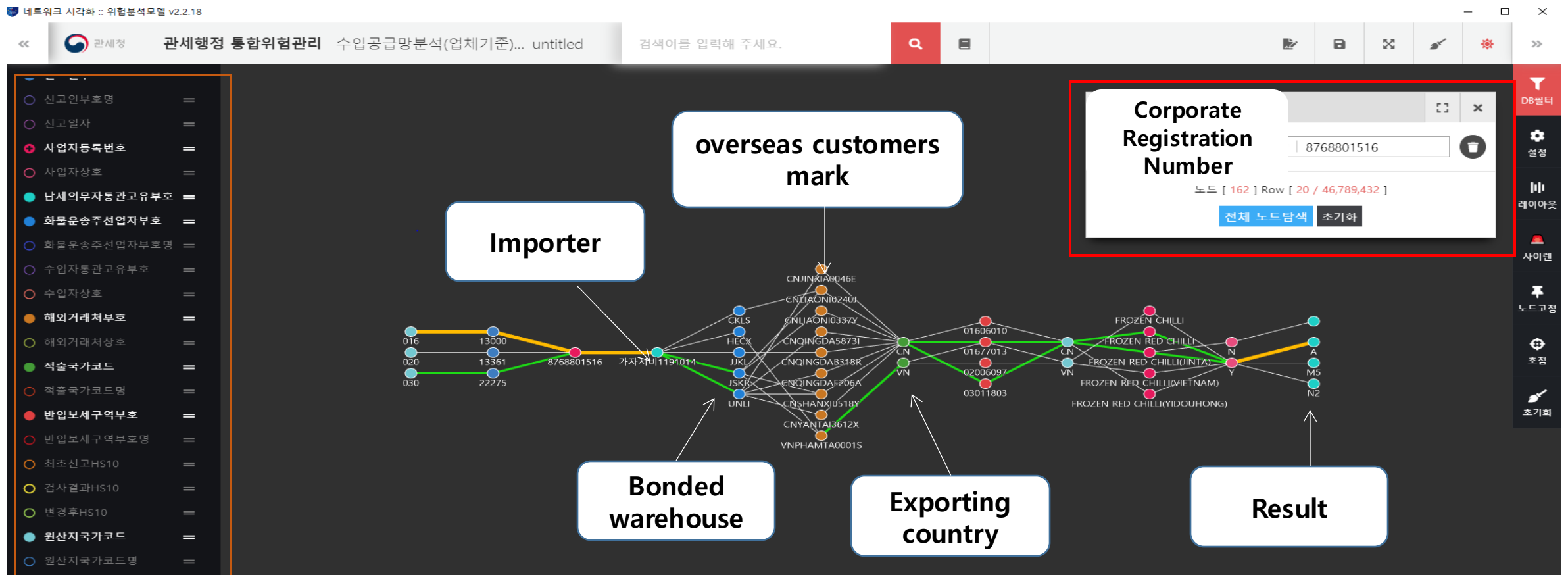
Query Report(SQL)

Input SQL-> Extract Data

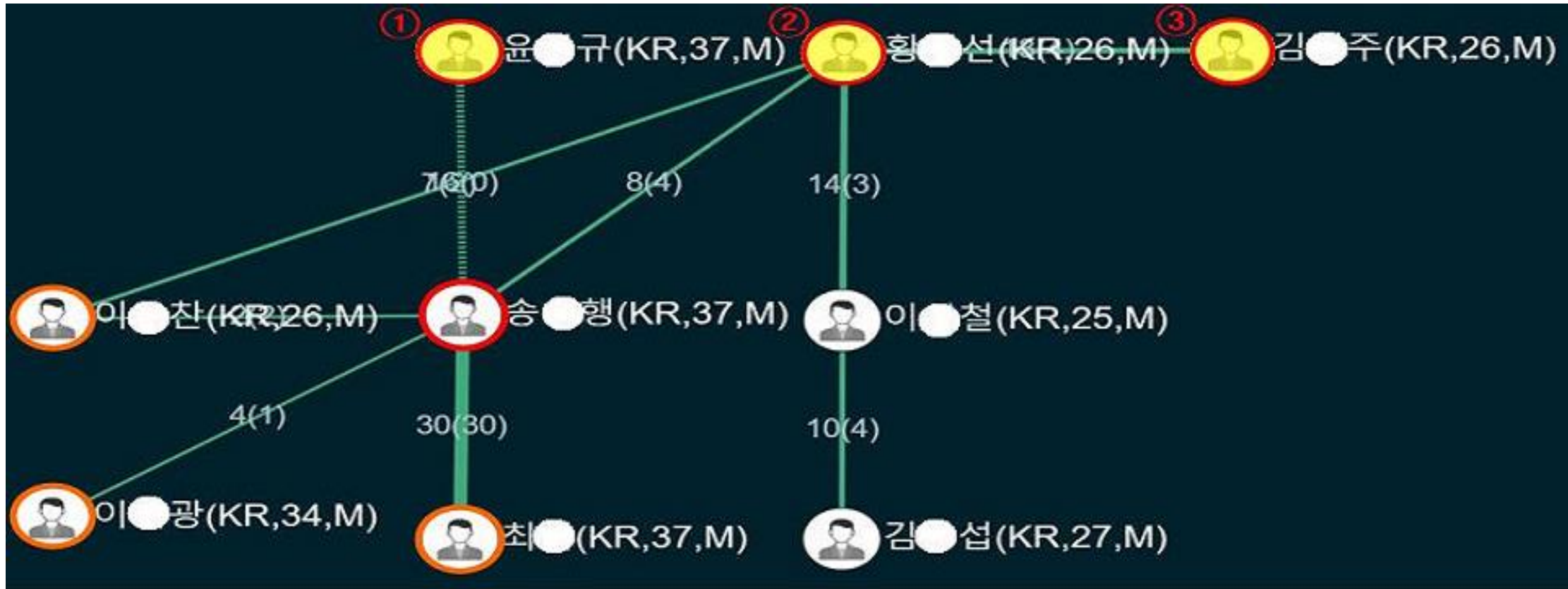
Risk Analysis

Analysis Tool – Network Analysis in IRM System

Analyzing high-risk supply chain By using network analysis tool



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



4. Selectivity Process

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

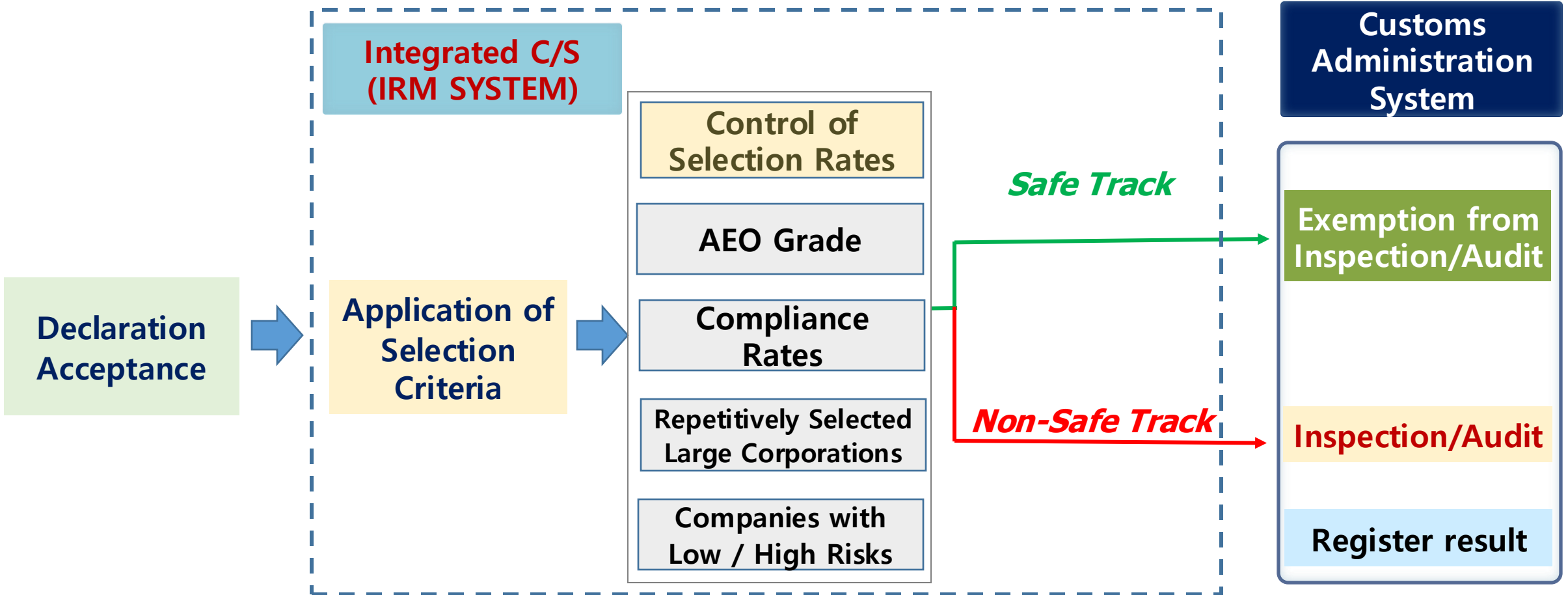
Object

All Customs

The region

Selectivity Process

Cargo Selectivity Process



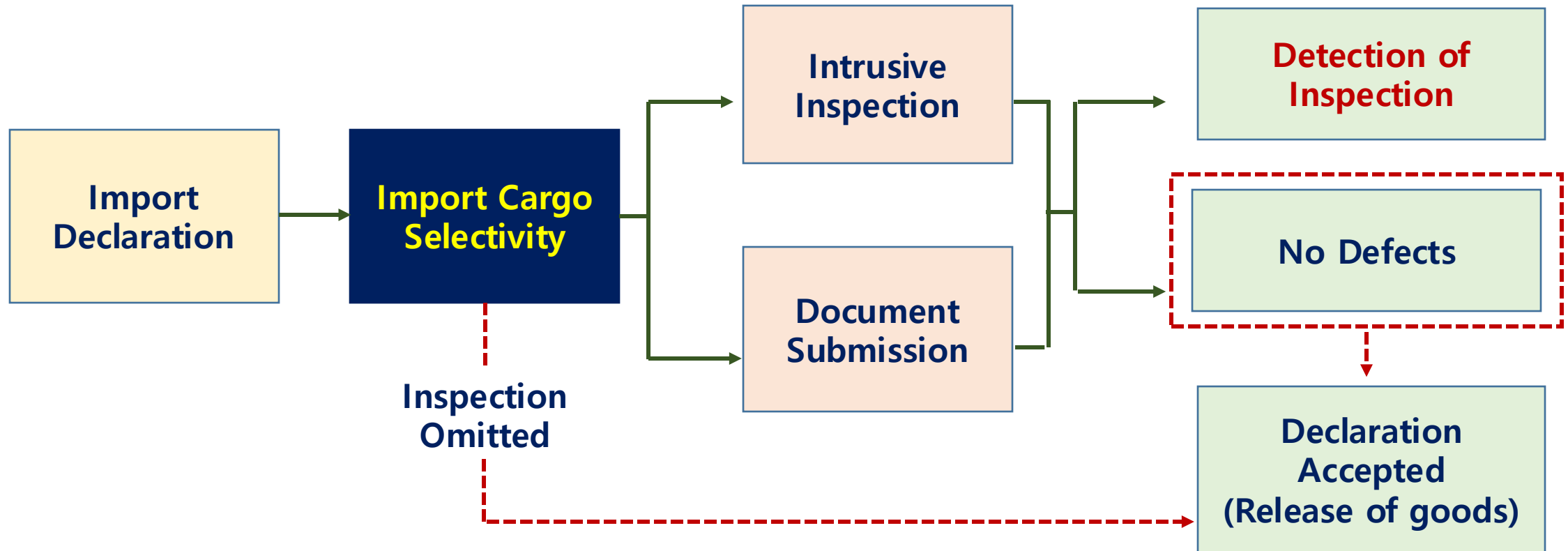
Automated Selectivity by system accounts for 85% in Import



- 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**

Selectivity Process

Import Cargo Selectivity



Selectivity Process

Express Cargo Selectivity

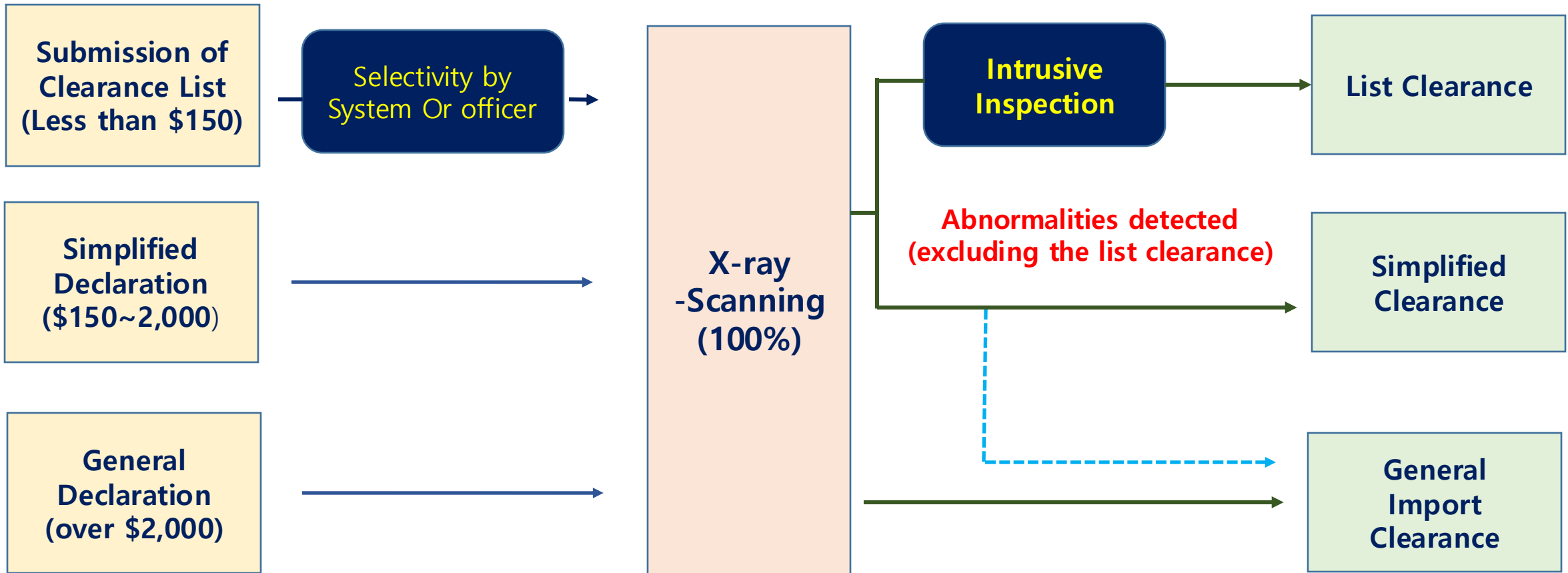
Every express cargo must pass through an X-ray scanner



- 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**

Selectivity Process

Express Cargo Selectivity



Selectivity Process

Express Cargo Logistics Center (Incheon International Airport)



Automatic Sorter(Cross Belt)



Fixed Scanner(IPS)



X-ray Interpretation Room



Integrated Control Room

INTERNAL. This information is accessible to ADB Management and Staff. It may be shared outside ADB with appropriate permission.

Selectivity Process

High-Risk Passengers Selectivity(APIS*)

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

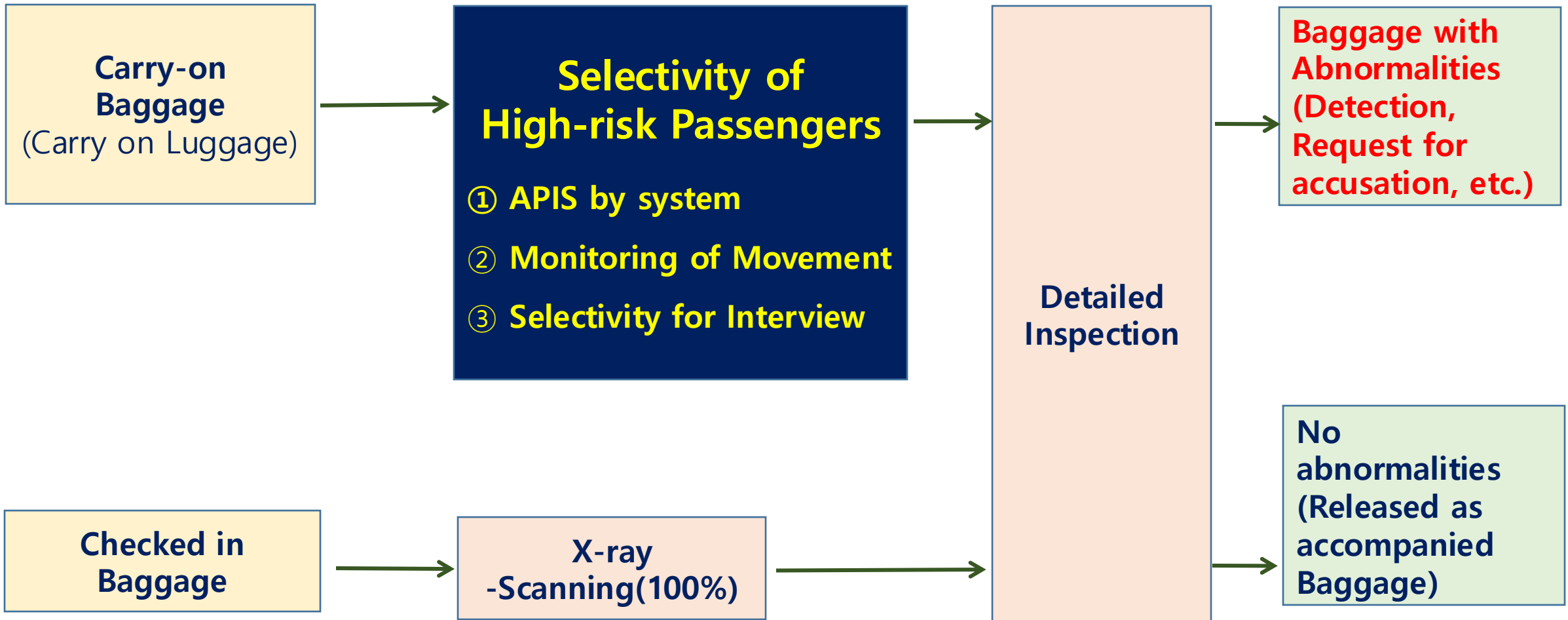
Passengers are selected **based on Passenger Name Record**



- 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**

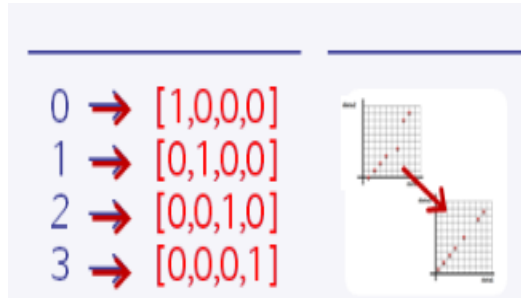
Selectivity Process

High-Risk Passengers Selectivity

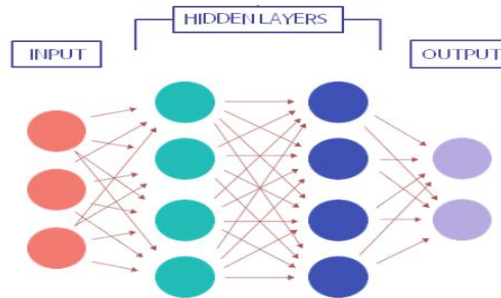


KCS developed the AI C/S Based on **Big data** and **Deep learning**

Learning Data



Model learning & Evaluation



AI Cargo Selectivity



In Coding

Model Evaluation

Selecting & Updating Result

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)**

Selectivity Process

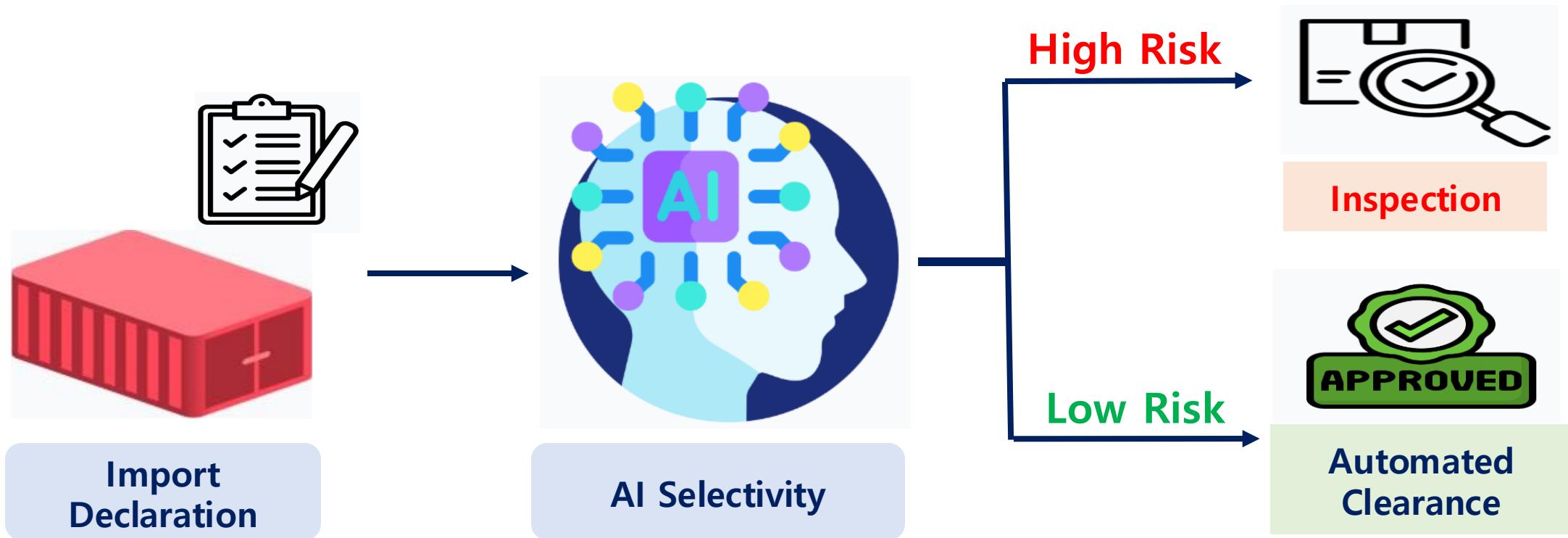
AI Targeting - Import

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

AI selects the High risk import Cargo for inspection

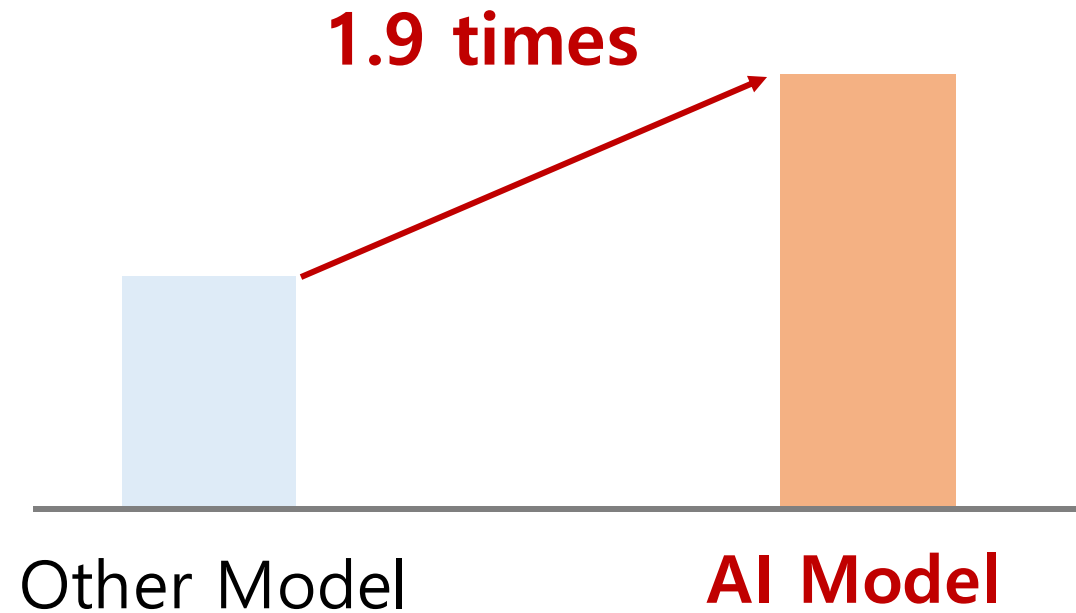
AI automatically approves Low risk import Cargo



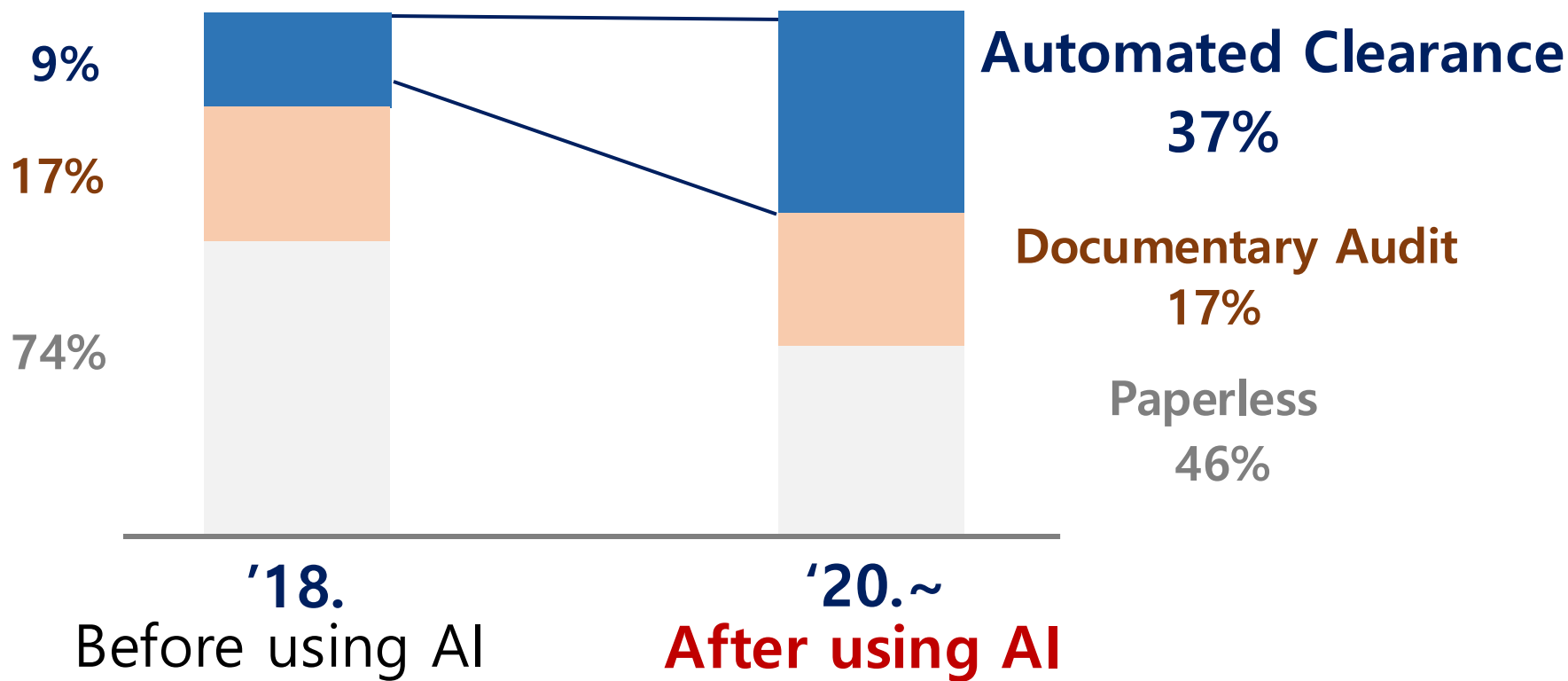
Selectivity Process

AI Operating Status – Import

Major Detection Rate



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



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

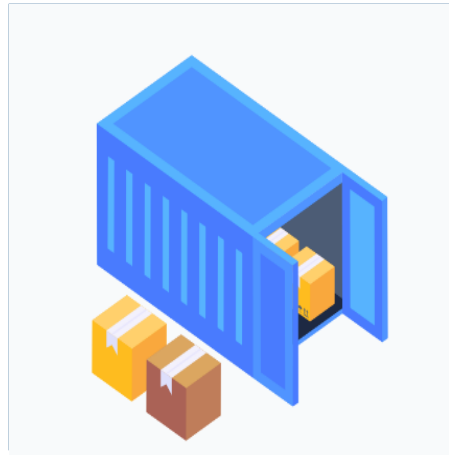
**Supply
chain**

4 Types of Supply Chain Pattern

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

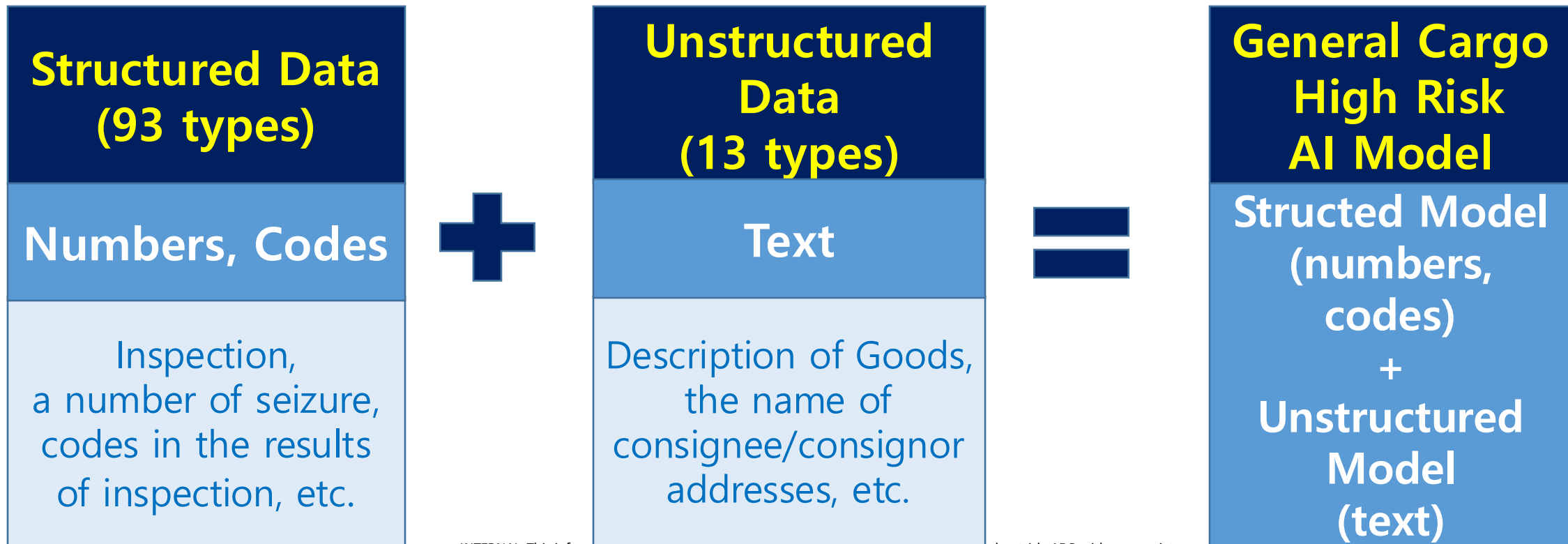
Information of
Inspection,
Seizure

General Cargo
High Risk
AI Model

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.**



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

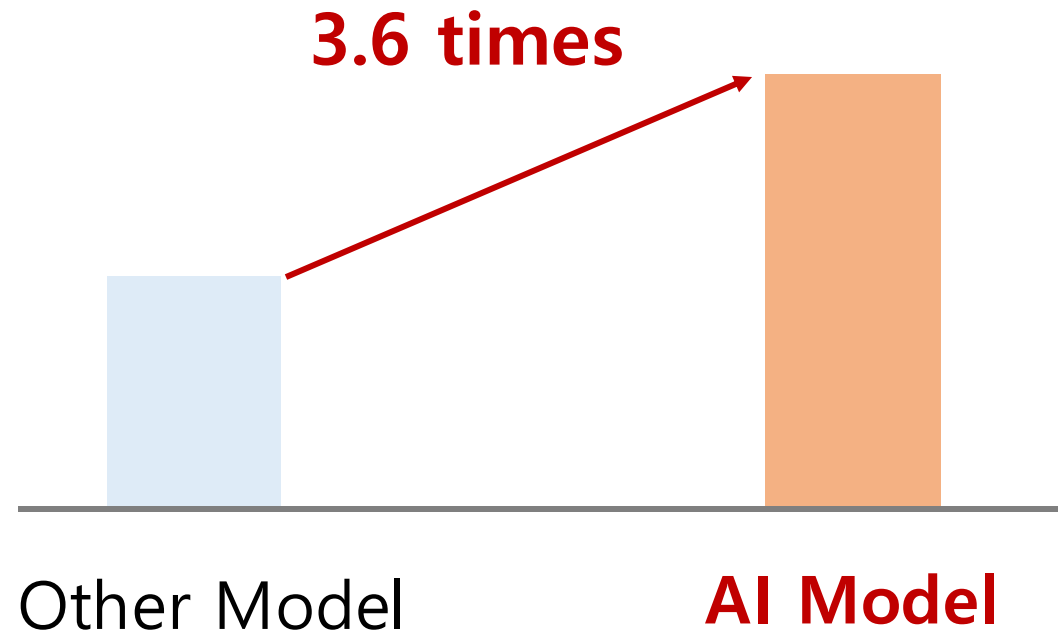
Pattern 4

Consignee + Description of Goods

Selectivity Process

AI Operating Status – General Cargo

Major Detection Rate



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

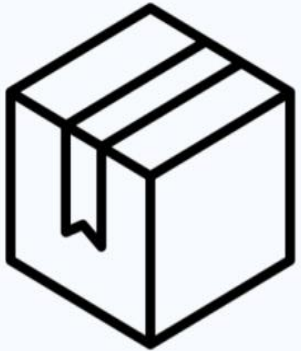
Pattern 4

Consignee + Description of Goods

Selectivity Process

AI Model – Passenger

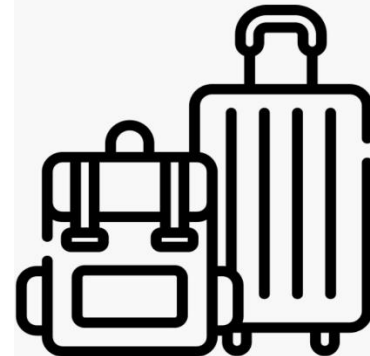
The AI High Risk Model has been developed by **combining Clearance Data of Express Cargo, Post and Date of Passenger Name Record and Clearance Data of Passenger and baggage**



Clearance Data of
Express Cargo,
Post



Date of
Passenger Name
Record



Clearance Data of
Passenger and
baggage



General Cargo
High Risk
AI Model

Selectivity Process

AI Operating Status – Passenger

Major Detection Rate

