Bigdata Strategy of KCS
Big data VS CDW

Data usage
- Operation
- CDW
- Unstructured

15%

Unstructured data volume increased

Using CDW for Simple info search · collection
- 95%

Only certain percentage of internal data is used (15%, 14.6TB)

95% users use CDW for simple search/data count purposes

Volume of unstructured data increased 22% annually on average since 2017
As of 2019 it amounts to 590k, 37TB,
But insufficiently used

CDW
**Big data VS CDW**

- Every un/structured data in UNIPASS (CDW, x-ray image, Investigation report, official doc.)
- External Bigdata on int. trade (Corporate My data, NTS tax record)
- Semi-structured data generated by system (system log)
- Unstructured data in WEB, SNS

**Scope of data use**

- Dramatically Increased

**Various Advanced analysis**

- AI(ML/DL)
- Automatically generated visual
- Real-time data analysis
Strategic Effort – Planning & Team

Research & Development (2017)

A Study on the step-by-step Application of Bigdata from Initial Planning to Utilization

IT Strategy Planning (2018)

Established mid- to long-term strategic plans to reflect internal and external environmental changes and assess information service level of KCS

Task Force (2020.1.20.)

5 experts

Establishment of Bigdata Center (2020.7.14)
Strategic Effort - Data analytics ability

Core ICT Experts

115
Total number of Trainees ('17~'22)

6
More than half a year of INTENSIVE training in ICT technology

38
Perform multiple pilot KCS Bigdata analysis ('17~'21)
KCS Bigdata·AI Model

Validation of business applicability with individual development

Existing Procedures

Bigdata or AI

CONCEPT

DIGITIZED Procedures

AI customs clearance system

Graph visualization tool

AI trade-finance fraud Monitoring system
KCS Bigdata·AI Model

AI customs clearance system

- (1st) AI Clustering Screening Model
  
  Generate group of high-risk data for a certain period of time (clustering) based on the company & item to measure the risk level of import declaration

- (2nd) AI Deep learning Screening Model
  
  Learn from clearance data for a certain period of time to measure level of risks

(Choice & Focus)

With AI customs clearance model:

Streamlined Clearance for low-risk items
Focused Control on high-risk items

<Statistics on ratio of P/L inspection & paper inspection>
KCS Bigdata·AI Model

AI trade-finance monitoring system

Transaction data

Financial data

Foreign exchange data

Overseas company data

Machine learning & Rule-based Algorithms

Identified companies committed Financial Fraud that manipulated price which worth 130 million $
KCS Bigdata·AI Model

Correlation analysis model for
① the Travelers, ② Export-Import supply chain and ③ Bypass Imports of delinquent

A manual schematic
Visualization through analysis tools

Identifying hidden accomplice of high-risk entities
KCS Wide Analysis

2020 Bigdata analysis model -12
Project budget : USD 11 million (excluding HW, operation SW)

2021 Bigdata analysis model -12 (2 of last year's models were upgraded, 10 new models were developed)
Project budget : USD 6 million (excluding HW, operation SW)

2022 Bigdata analysis model – is being developed
Project budget : USD 3 million (excluding HW, operation SW)

2023 Bigdata analysis model
Project budget : to be decided
Thank you!