Smart Boarder is Megatrend

Facilitating Custom Process

Trade Cost **↓ 10%-15.5%**

Exportation **↑ 4.5%-9.9%**

Global GDP **↑ 960 B$**

>>
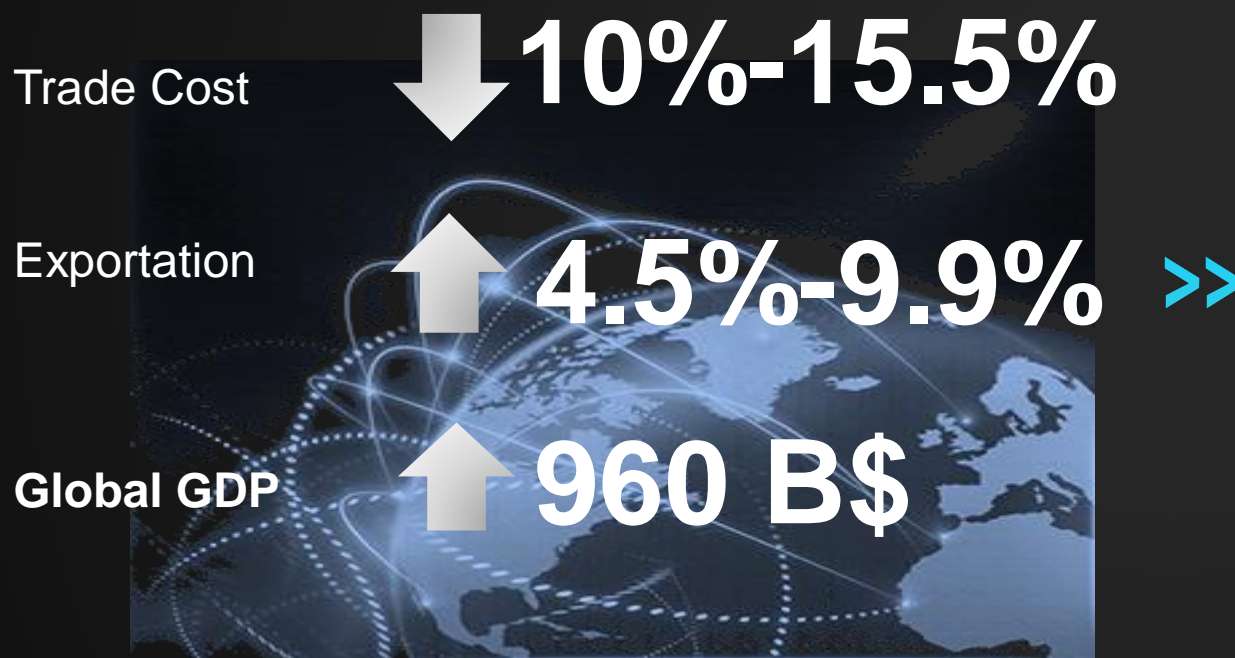
Source: ccghl

Booming Custom Data

Chinese Custom Processing @ 2020

Structured Dada **100 TB**

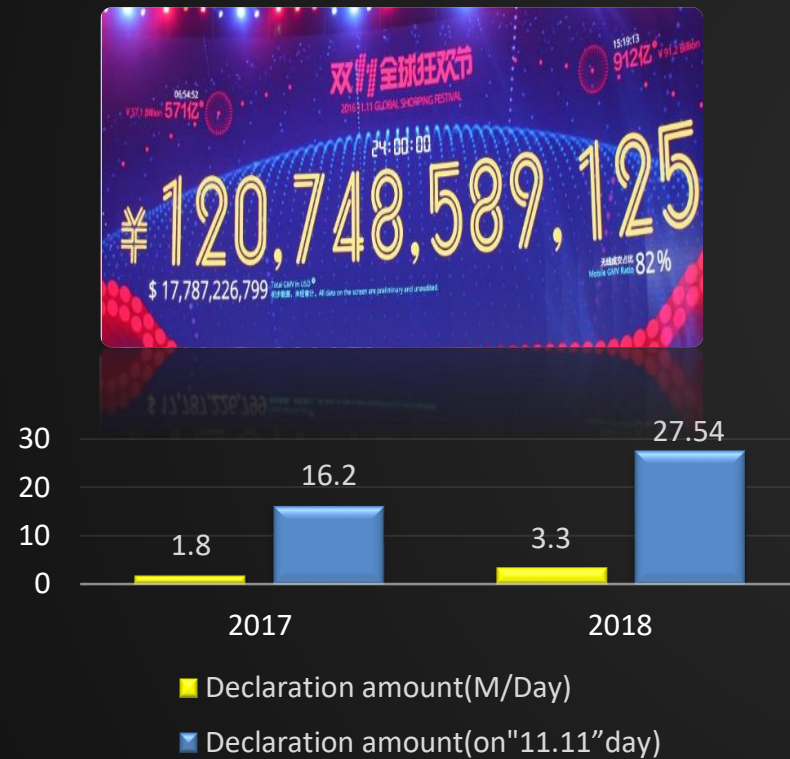Unstructured Data **4 PB**
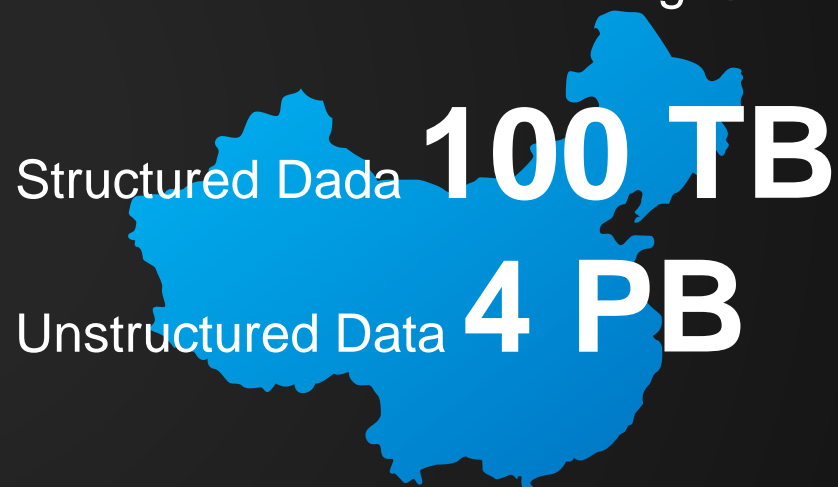
From clearance system, video surveillance, intelligence system, and related dept. such as tax, banks, ports, quarantine…

Source: Chinese Custom 13th 5 Years Plan

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Burst of Cross-border E-commerce

The burst of cross-border declaration on "11.11" day
8 times customs declaration

¥ 120,748,589,125

	2017	2018
Declaration amount(M/Day)	1.8	3.3
Declaration amount(on"11.11"day)	16.2	27.54

- Declaration amount(M/Day)
- Declaration amount(on"11.11"day)

Source:中国贸易外经统计年鉴

The annual growth rate of cross-border parcels exceed **38%** in china
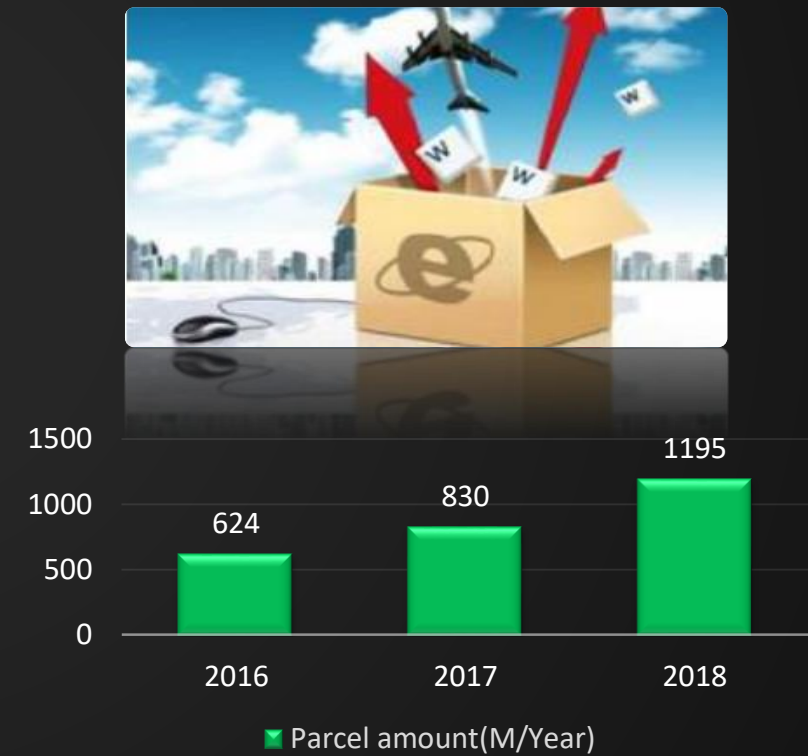
	2016	2017	2018
Parcel amount(M/Year)	624	830	1195

- Parcel amount(M/Year)

Source: 前瞻产业研究院
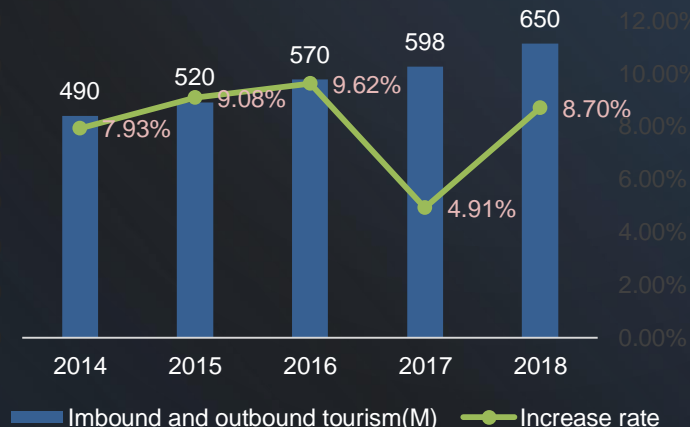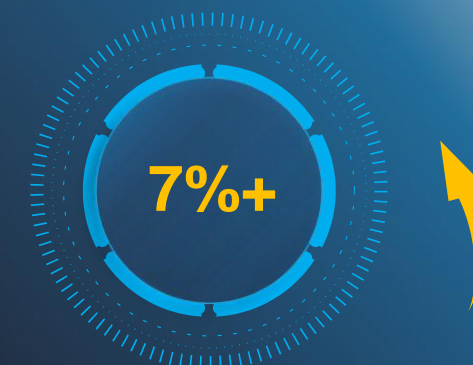
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IoT Has Become a Reality

35M+ TEUs

4M Customs Cameras

350K Container Trucks

Sensors, more than 10X of Containers & Trucks

Source: Triton annual report 2017 & Huawei Market insight

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Digital Transformation Fueled by Two Drivers

Service-Driven

Trade Cost ⬇ **10%-15%**

Exportation ⬆ **5%-10%**

Cross-border Cargos **10X, 50X…**

…

Technology-Driven

Video
Cloud
AI
Big Data
Block chain
5G
…

Synergized Digital Platform Driving the Convergence

Traditional model >> **Digital Platform Model**

Traditional model (left panel):

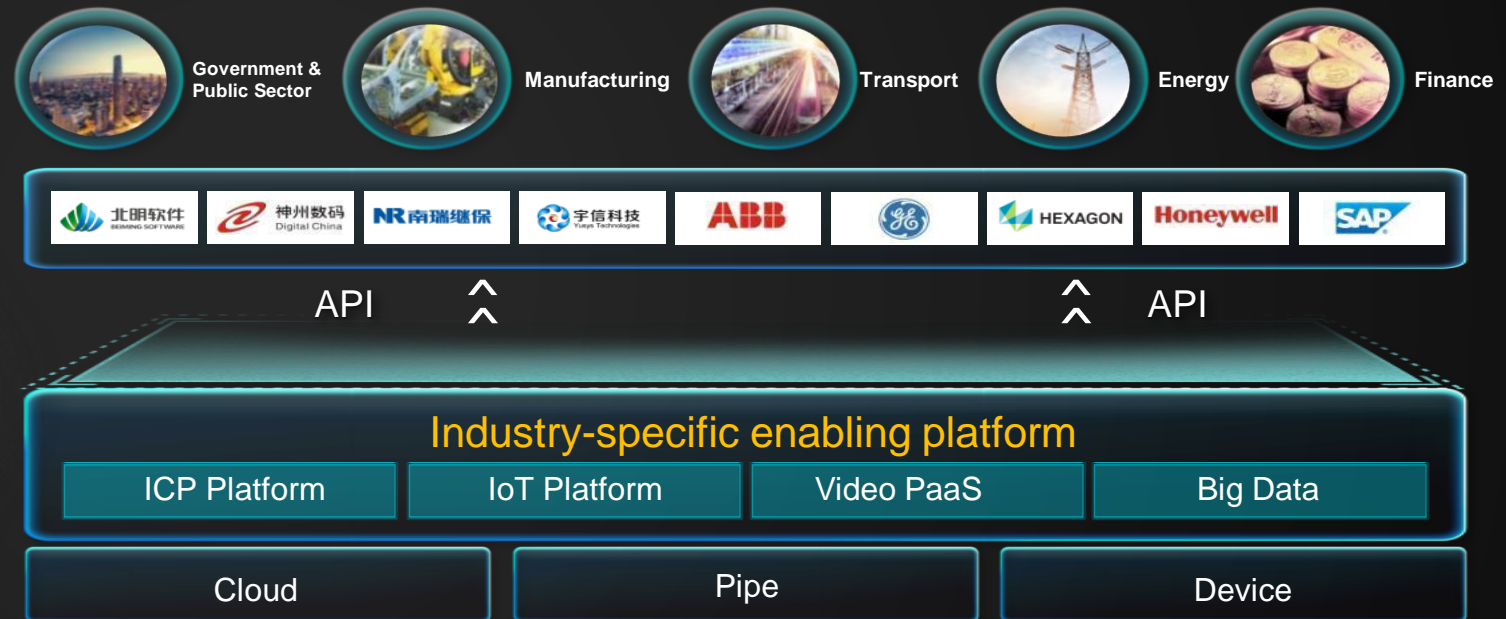| APP1		APP4	
Cloud	Pipe	Cloud	Pipe
IoT Platform	Device	ICP Platform	Device

....

APP2		APP3	
Cloud	Pipe	Cloud	Device
IoT Platform	Video	ICP Platform	Big Data

Digital Platform Model (right panel):

Government & Public Sector   Manufacturing   Transport   Energy   Finance

北明软件 BEIMING SOFTWARE | 神州数码 Digital China | NR 南瑞继保 | 宇信科技 Yucis Technologies | ABB | GE | HEXAGON | Honeywell | SAP

API ^^ ^^ API

Industry-specific enabling platform

ICP Platform	IoT Platform	Video PaaS	Big Data

Cloud	Pipe	Device

Full-stack ICT infrastructure: Open, Secure, Reliable

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Fully Connected and AI Enabled Customs

Smart Customs

| E-clearance | Single Window | Risk Management | Logistics Control | ... |

AI

Business Enable

- Data Integration
- Knowledge Docker
- API Integration
- APP Integration

NEW ICT

- IoT
- Big data
- Video
- ICP
- GIS
- ...

Cloud

Security

| Huawei | Partners |

5G Brings Seamless Broadband with Massive Coverage

2019: 5G is rolling out worldwide

Speed
20X (20Gbps)

Latency
1/20 (1ms)

Connection
10X (1M / km^2)

3G and 4G have deeply changed our life, what's next when 5G comes…

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5G Accelerates Innovations
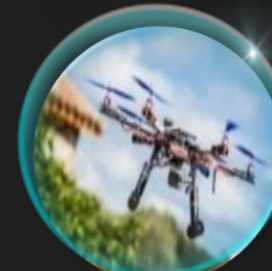
Internet of Things   Automated Port

AI Assistant

Industry 4.0   Connected Vehicles
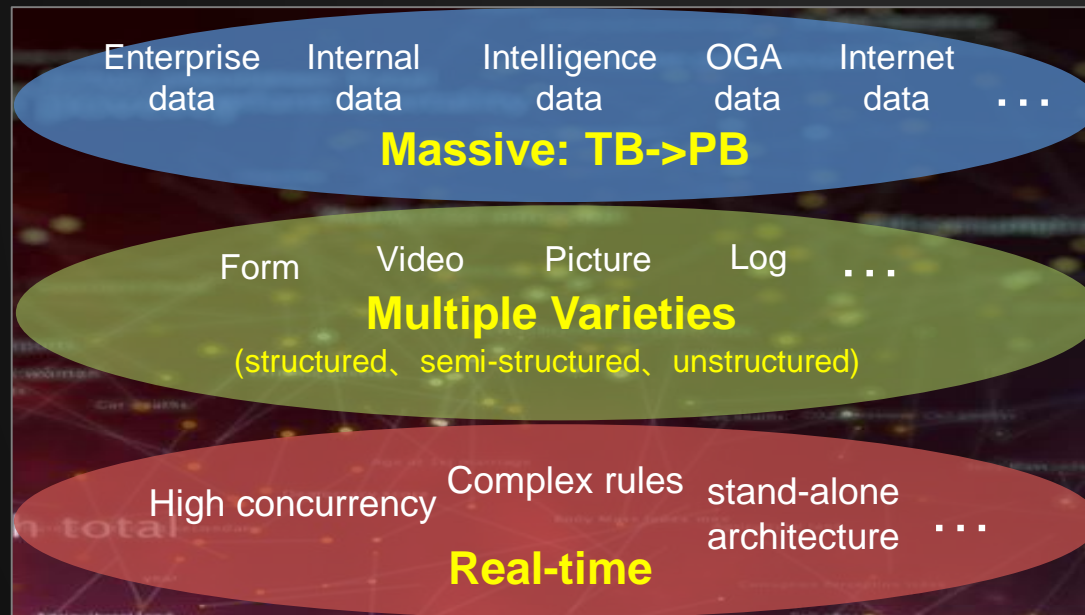
Connected UAVs

5G Applications Being Deployed In China Tianjin Port and Qingdao Port

Closed-Architecture Hinders Massive Data Processing

Data Processing Challenge

Risk Management

Off-line Analysis

Risk Modeling

AI + X-ray

...

Enterprise data   Internal data   Intelligence data   OGA data   Internet data   . . .

Massive: TB->PB

Form   Video   Picture   Log   ...

Multiple Varieties
(structured、 semi-structured、 unstructured)

High concurrency   Complex rules   stand-alone architecture   . . .

Real-time

Traditional Closed-architecture system's pain points:

Traditional database scaling

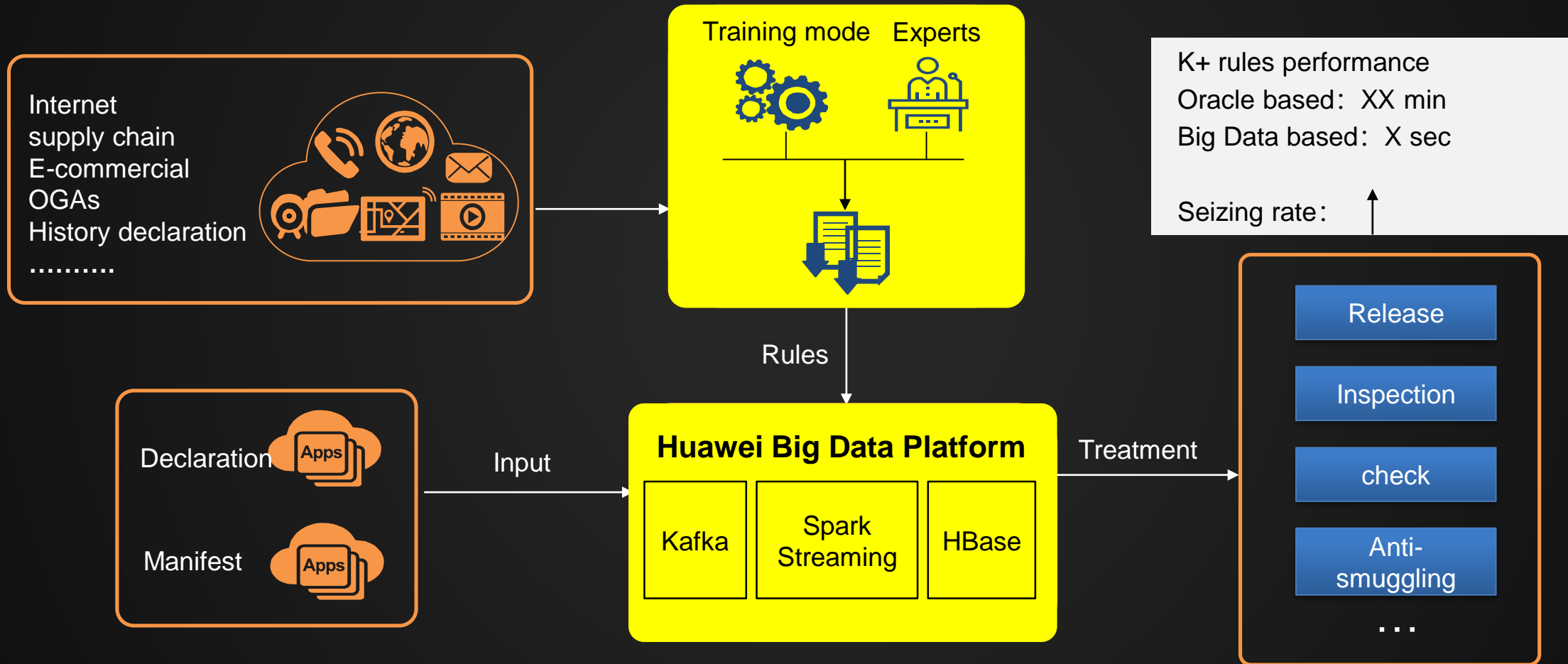| Slow for multiple varieties of data types computing |
|---|

Poor real-time performance

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Converged, Open, and Intelligent Big Data Platform is

Risk Management	Off-line Analysis	Data Visible	Machine Learning	...

Distributed Database GaussDB	**Big Data FusionInsight**	**AI FusionMind**

OLAP DB GaussDB 200	OLTP DB GaussDB 300	Hive/Spark/HBase/Flink/Redis… **Pollux**	ModelArts	MindSpore

Data lake

Block storage interface   Object storage interface   File storage interface

Hot data   Warm data   Cold data

Declaration data

Manifest data

IoT data

Video data

Government OGAs data

Cross-border e-commerce data

Key features:

1. Converged OLTP, OLAP, and AI capabilities
2. High concurrency, massive, real-time data processing
3. Online upgrade, HA for all components, unified management
4. Hybrid deployment and unified scheduling of resources ARM, x86, and GPU servers

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Case: Real Time Risk Management

Internet
supply chain
E-commercial
OGAs
History declaration
....

Training mode   Experts

Rules

Declaration Apps

Manifest Apps

Input

Huawei Big Data Platform

Kafka | Spark Streaming | HBase

Treatment

K+ rules performance
Oracle based: XX min
Big Data based: X sec

Seizing rate：

Release

Inspection

check

Anti-smuggling

. . .

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Smart & Real-time Video Supervision

Remote Instruction
Voice/Video trunkings

On-site Enforcement
LTE/WIFI Body Camera

Inspection & Record
PAD or Mobile

Integrated Communication Platform

GIS MAP

Command & Supervision Center

Overall Declarations: 11,234
Overall Value: $22.34M
Overall Weight: 56,345 t

BIG DATA
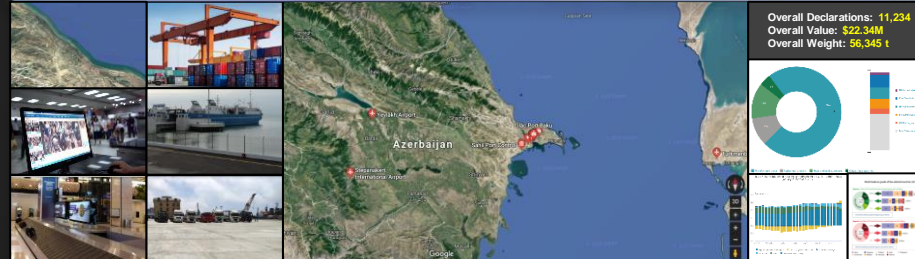
Risk Management

Convenience

Retrospective

- ☐ **Integrated, visualized, mobile system** supports real time monitoring
- ☐ Save **at least 60% human resource** with centralized monitoring

- ☐ All process is **automatically recorded** with video or image
- ☐ **Transparent and justice**

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Intelligent Video Analysis Scenarios

Vehicle plate number recognition
(Entry/release gate)

Container ID recognition
(Entry/release gate)
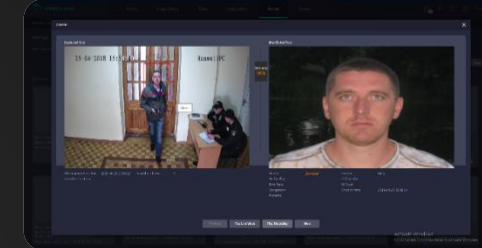
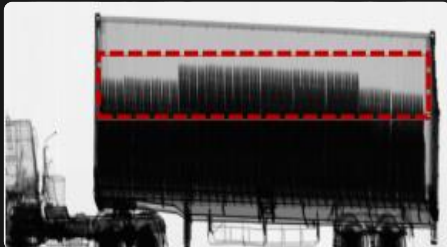Blacklist-based Face Alert
(Passenger check)

Automation

Intelligence
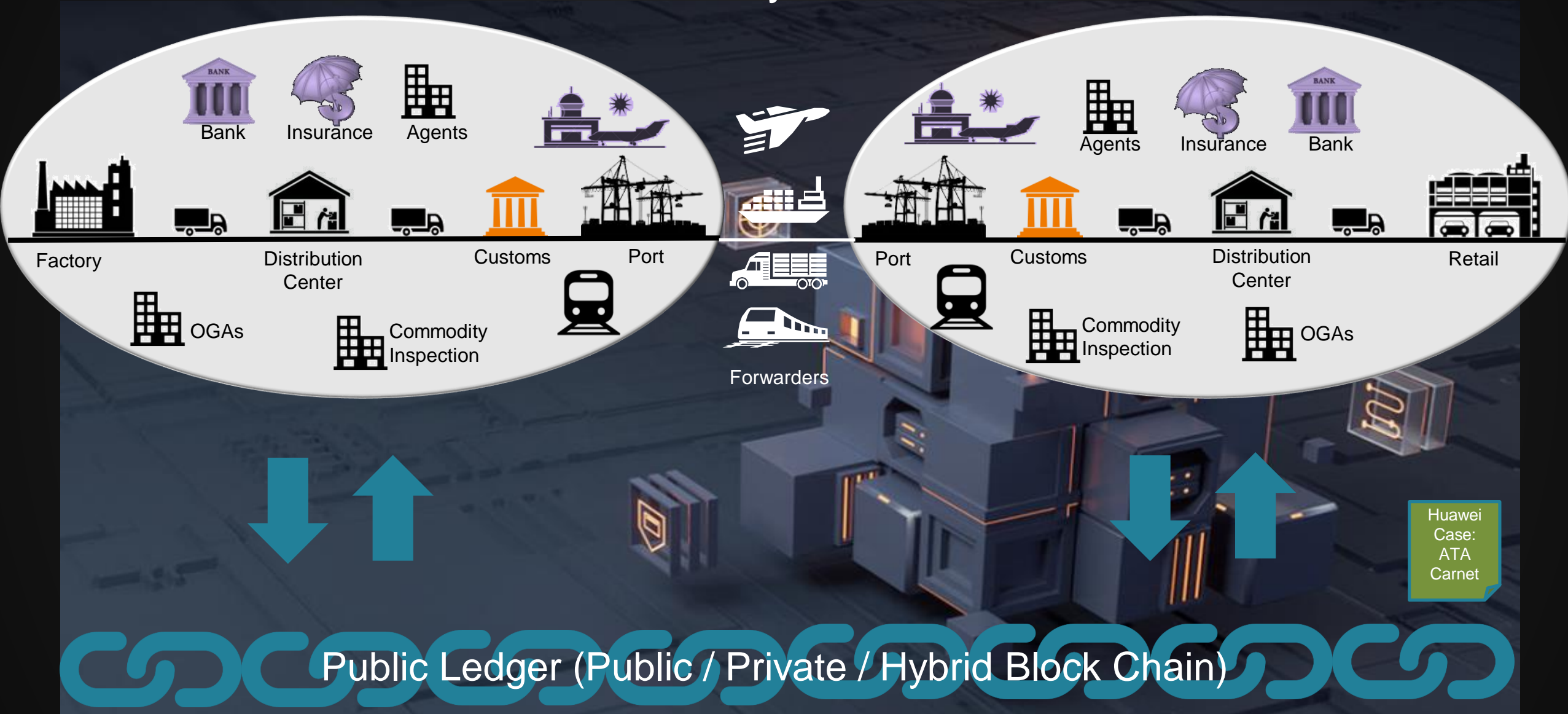
Image Audit with Liquid, gun, cigarette
(Cargo inspection)

Face recognition gate
(Office)

Intrusion Alarm
(Warehouse/Border)

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Block Chain Facilitates Multi-Party Process

Bank
Insurance
Agents
Factory
Distribution Center
Customs
Port
OGAs
Commodity Inspection

Agents
Insurance
Bank
Port
Customs
Distribution Center
Retail
Commodity Inspection
OGAs

Forwarders

Huawei Case: ATA Carnet

Public Ledger (Public / Private / Hybrid Block Chain)

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Smart Border ≠ Pursuit of new technologies & concepts

0% or 100% inspection

Govt. departments co-location

Operational Statistics

Smart Border = Efficiency & secure oriented long-term evolution

Non-emotional-intervened free trade

Borderless full services

Innovative new opportunities

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THANK YOU