

ES DATA

Big Data Platform Software

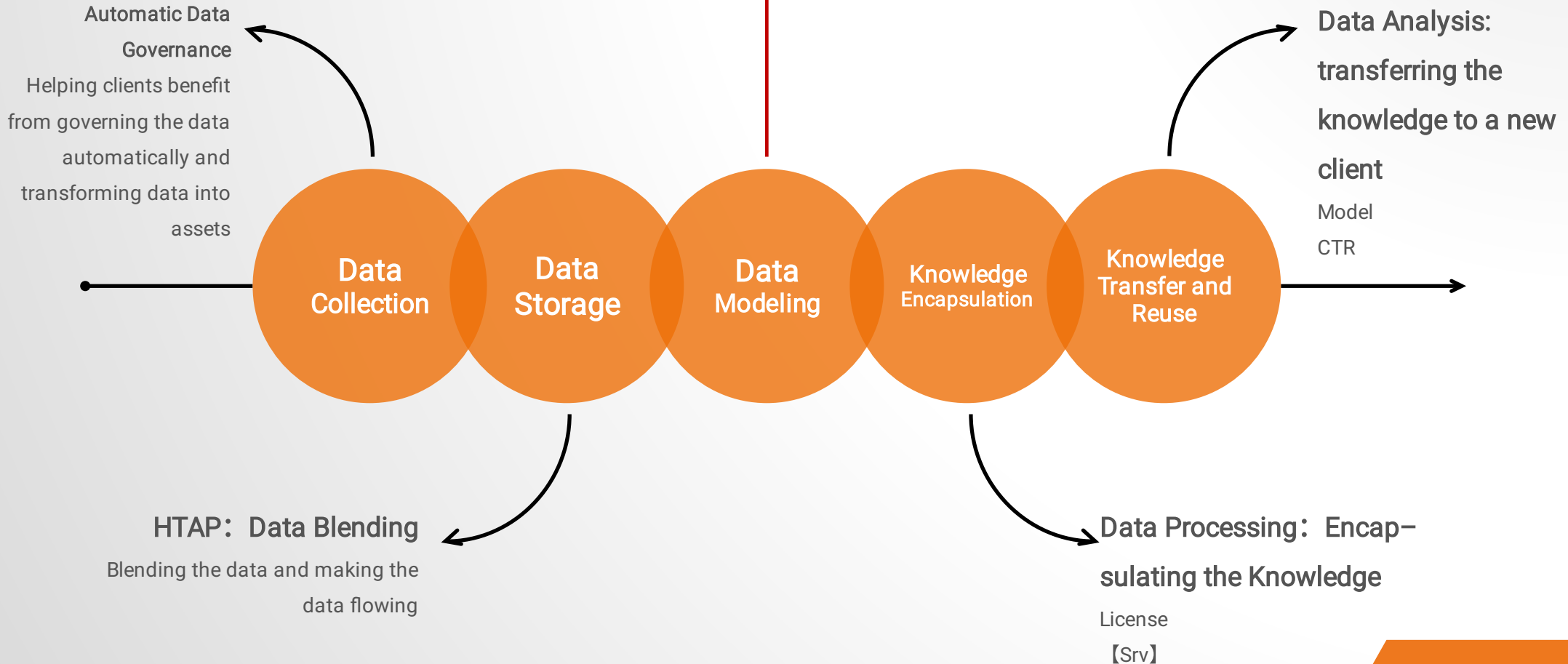


- ES Data is committed to offering independent financial services driven by data, to push forward bigdata and AI production to market at scale. As the only science and technology firm that offer distributed AI platform and bigdata infrastructure at the same time, ES Data is honoured with the title of National Hi-tech enterprise and Zhongguancun Hi-tech enterprise.
- 2019, ES Data is honoured with National AI highest award - Wu Wenjun ARTIFICIAL intelligence Award



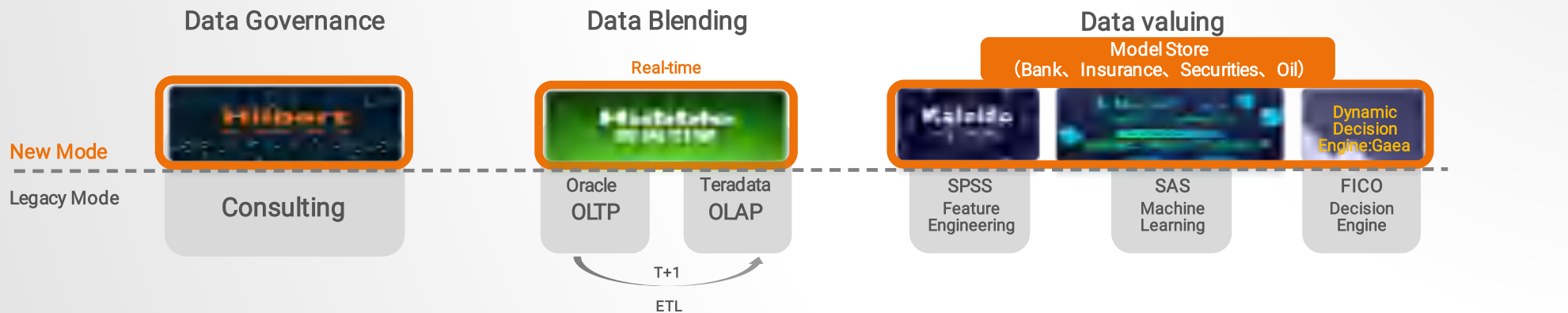
The path of enabling an industry with AI

$$Y = F(x)$$



Key Technology

ESData's full stack products: building the Packaged business Capability



ESData's Product

Complex Network Platform: Hilbert

- Distributed System Architecture
- Hot switch between multiple data sources
- Embeds multiple customized configs
- Supports the most widely used Graph Computing Algorithms
- Supports the most widely used APIs

HTAP Database: Hubble

- Supports High Concurrency
- Distributed System Architecture
- OLAP+OLTP
- Multi-source Heterogeneous data service
- Supports full SQL Standard

Feature Engineering Platform: Kaleido

+ Generalduty AI Platform: MaximAI

+ Dynamic Decision Engine: Gaea

- Distributed System Architecture
- Automated Machine Learning
- Supports the most widely used statistical & machine learning algorithms
- Do not need coding
- Supports open-source machine learning framework

ESData's Clients and partners



Client Distribution and Area

Clients we served

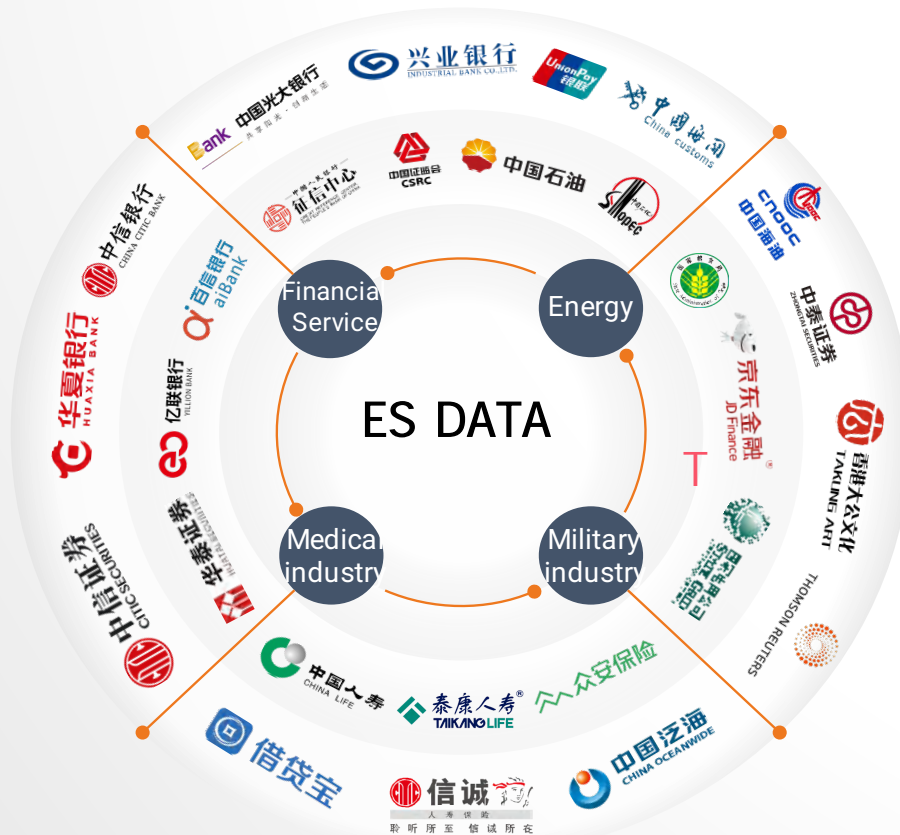
Involved in Fintech since 2013

Typical projects have been launched in Bank, Insurance and Internet Finance

- **Bank:** Anti-fraud in credit card application, Application Scoring, Behavior Scoring, etc.
- **Insurance:** Business-oriented EDW, Precision marketing, etc.
- **Internet Finance:** Detecting the guarantee circles, Blacklist for requesting loan from multiple lenders, Complementing personal information, etc.

Set up a benchmarking medical + AI enterprise

- Constructing a top-ranking AI-enabled medical research platform
- Cultivating talents with master skills in AI-enabled medical research
- Exporting first class AI-enabled medical solutions and products



Benefit oil industry from AI

Help the oil industry improve work efficiency, reduce cost and open mind to face the emerging challenges.

- Improving resolution with well seismic joint method
- Smart assistant for well-logging
- Smart selection of Carbonate reservoir bed
- Flowing pressure measuring based on electric parameters
- Fault early warning in drilling
- Smart video application on oil field

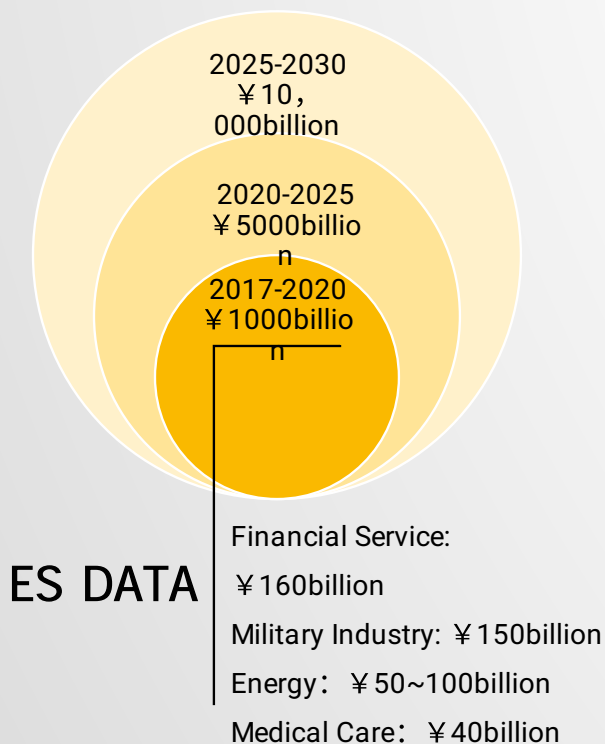
Aimed at serving national defense security, anti-terrorist

- Explore the military AI application scenario
- Research the military AI technique and product
- Construct the military AI standards
- Launch the military AI projects
- Promote the application of AI in Military

Advantages of ESData's Products

1、 Be capable of serving industries with huge market volume

The market size of industries that have been served by E S data's products



2、 Promote the production efficiency of AI

Building and deploying a model in a short period



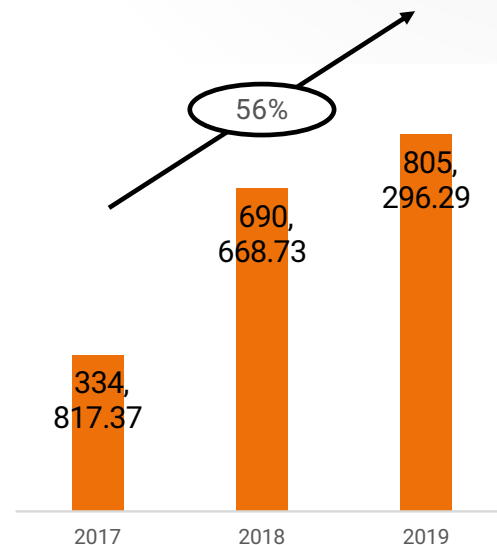
- Cost only 7 days on average per model
- Automation: AutoML、AutoDL

Delivering the model with a low cost



- Mature modeling tools
- With low requirements for operators, no need for data scientists
- Systems running smoothly with little breakdown

3、 Promote the per capita output



2.1 Distribute AI Platform

2.1.4 CSRC (China Securities Regulatory Commission) Abnormal Transaction Detection System

- In 2018, ESdata assisted the CSRC (China Securities Regulatory Commission) to build its supervision technology, Abnormal Transaction Detection System, PK Hang Seng Electronics, the off-site funding model of Jinzheng Securities, and the early warning model for asset management products. Anti-plug-in model, homogeneous monitoring model, etc.
- In 2019, ESdata off-site funding model has covered 20 head brokers, including CITIC Securities, China Merchants Securities, Huatai Securities, Galaxy Securities, Zhongtai Securities, etc.

Case 1: Off-site funding model

• Hang Seng Electronics Co., Gold Certificate Co., etc. use experience rules to summarize the characteristics of the abnormal account, for example, based on hundreds of features to determine whether it is a allocation account, such as frequent password changes in the morning, multiple repetitions of the same target Transactions, etc. The accuracy of the model is not high; ESDATA uses an algorithm to build model, based on the confirmed abnormal account as positive sample, As well as all the trading activities in the past 3 years, and the accuracy rate has been greatly improved.

Case 2: Rigid redemption model

• Forecasting asset management products bursting in 3 consecutive months, with an accuracy rate of up to 99%, which has been highly recognized by the leadership of the China Securities Regulatory Commission



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2.1 Distribute AI Platform

2.1.5 AI system for crude oil mining in the oil industry

PetroChina VS IBM-Watson / Microsoft

- The IBM Watson team introduce AI “Cognitive Platform” project to CNPC headquarters in 2017. Through its own experts, it took 2 years to make 2 application models in Guangdong Zhanjiang Oilfield
- ES DATA in 2018, empowered experts in China's petroleum to use the AI PaaS platform completed dozens of models in two months, greatly improve the efficiency of building AI model; it is convenient for CNPC headquarters to overall deployment, and solve a series of problems such as petroleum exploration, Mining and transportation ;
- At the end of 2018, ESDATA exceeds IBM and Microsoft, and successfully won the bid for the AI Cognition Platform project of CNPC headquarters etc.



PetroChina VS Schlumberger geological seismic wave interpretation model

- The geological seismic wave interpretation model produced by the AI PaaS platform, is a model based on LSTM (Long-Short-Term Memory Network Algorithm). Sinopec has opened the full amount of geology and seismic wave data under the country's 9.6 million square kilometers for model training in Northwest Oilfield.
- At present, the accuracy of POC(Proof of Concept) testing is higher than that of traditional experts analysis of companies such as Schlumberger, Halliburton, Baker Hughes, improved the oil exploration rate by 10% and saves 2,800 to 7,100 \$/well ; Increased resolution can find more hidden reservoirs. Beagledata Ltd geological seismic wave interpretation model is expected to be billed at 2,000 \$/km², which is lower than the traditional oil service company's 4,200 \$/km² fee.



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Schlumberger

Customer requirement :

Exploration: oil reservoir seismic wave detection, geological structure automatic interpretation

Drilling Oil: well location intelligent targeted, dynamic liquid level prediction, oil deposits prediction

Transportation: early warning of oil and gas pipeline leakage

2.2 HTAP Database: Hubble

HTAP Solved Problems

1. Processing TB Magnitude Data

Large and medium-sized banks do not lack artificial intelligence application scenarios, but lack the ability to produce artificial intelligence models on a large scale. For example, there are hundreds of models behind China Merchants Bank Mobile 3.0 ;

2. Support more than one thousand concurrency

Based on Hadoop/Spark cluster, support massive data query (CRUD), high concurrency performance exceeds ORACLE two orders of magnitude, replace ORACLE Exadata A level core system in a commercial bank

3. Multi-database and Multi-tables processing

Directly loaded External table data, Unified processing heterogeneous data, Business customers need to choose different database interface for different businesses, and open source components cannot meet this demand.



**Big
Dat:** Processing TB
Magnitude Data



**High
Concurrency:** support
more than one
thousand
concurrency



Ad-Hoc:
support SQL query

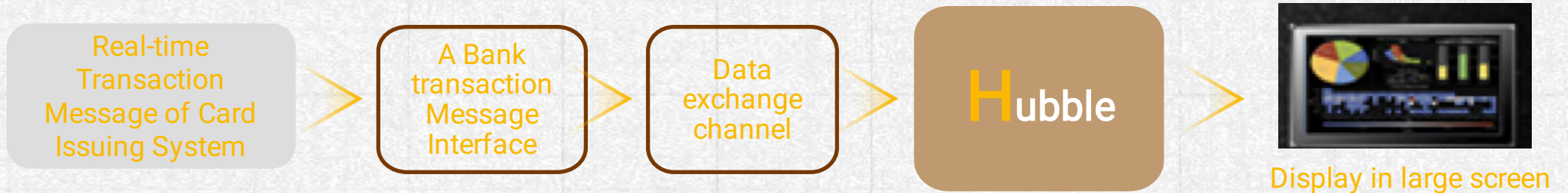


Transaction;
consistency



Hubble Database Project: A Bank Credit Real-time Transaction Processing System

Solution: Applied Hubble Database instead of Hbase and Spark Streaming



Hubble Database support real-time data processing

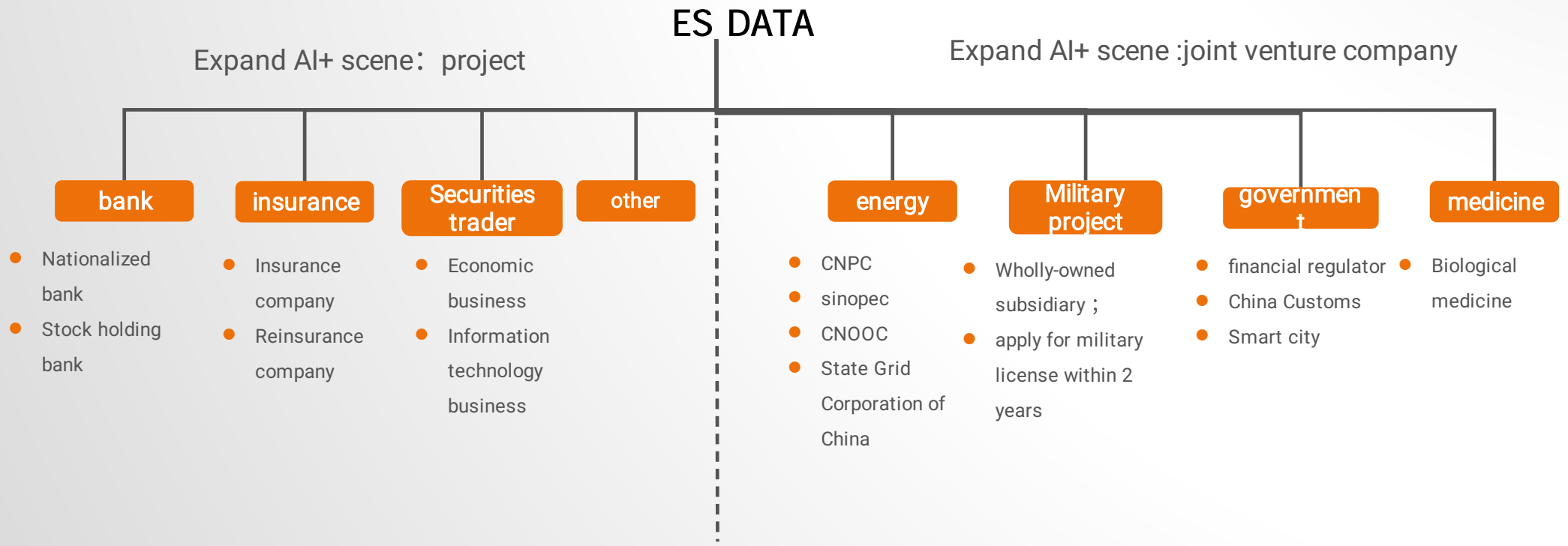
Hubble Database support JDBC protocol, support kinds of interface of report display

Hubble Database provide original repair services, reduce the cost of operation and maintenance.

Hubble Database support SQL protocol, avoid learning new language

3. Future development -AI facilitates the digital transformation of traditional industries

Occupying data resources & landing data scenes
 accelerating the upgrading and transformation of traditional industries with AI technology





ESVISION

Power Humanity with AI

www.esvision.tech