

2022 | *inspur* 浪潮

中国粮食行业数字化转型实践

China's Experience on Digitalized Grain Management

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Food Security Faces New Challenges and Urgently Requires Technological Support

- The international order and global governance system is experiencing further changes, which brings more risks and challenges for food safety.
- To firmly grasp the initiative in food security, it is urgent to promote the deep integration of modern digital technology and grain business.

Grain Reserves Expanded Rapidly

- Along with improvement of the standard of living, the demand for grain increases while the farmland is limited, so it is necessary to expand imports.
- Farmers' willingness to store grain has been greatly reduced.

Labor Force Shortage

- With the aging of the population and the diversified employment opportunity, the willingness of young people to engage in farming decreased annually

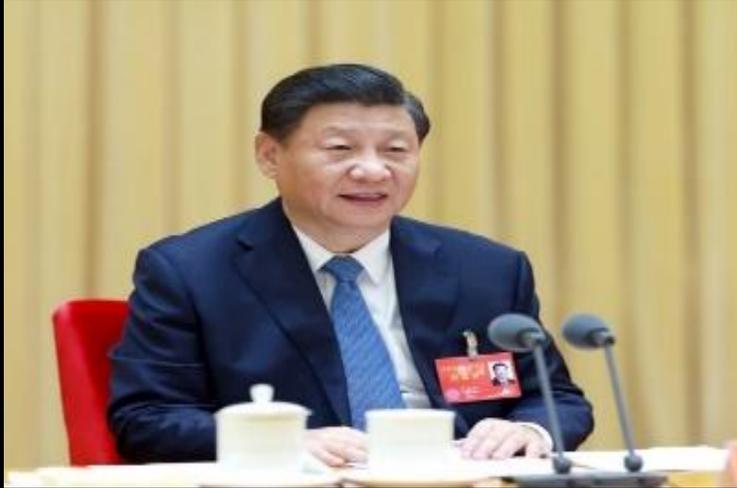
Grain Storage Technology Widely Applied

- Widely applied green grain storage contributes to comprehensively raising storage facility effectiveness and reinforcing management in each granary segment

Technology Empowerment: **Safe, Smart, Modern** and **Intelligent** "Granary Of Great Powers"

Grain Industry Trends and Policy Guidelines

Grain Industry Policy Guidelines



中华人民共和国国家发展和改革委员会
National Development and Reform Commission



国家粮食和物资储备局
National Food and Strategic Reserves Administration

Outline of the 14th Five-Year Plan (2021-2025) for National Economic and Social Development and Vision 2035 of the People's Republic of China

It is essential to ensure absolute security of staple food, basic self-sufficiency of grain. Efforts will continue be made to create an appropriate layout of regional emergency supply bases for agricultural products, to deepen reforms for the purchase and storage of agricultural products. Better regulation and control grain reserves will be applied and the food security law will be enacted.

"14th Five-Year" Development Plan for the National Food and Strategic Reserves Informatization

*With the purpose of improving decision-making, strengthening security, enhancing coordination, improving service capabilities, and creating a digital grain storage, seven main tasks are raised: Improving the unified network and standard system, strengthening the ability to gather and share big data, strengthening the ability of emergency command and dispatch, enhancing the digital supervision ability in the field of grain purchase and sales, **improving the informatization level of reserve management, improving the digitalization level of the grain industry, and Improving the level of digital public services***



The Digital Transformation of the Grain Industry under the New Situation

White Paper on Digital Transformation of the Grain Industry

China's first "White Paper on Digital Transformation of the Grain Industry"



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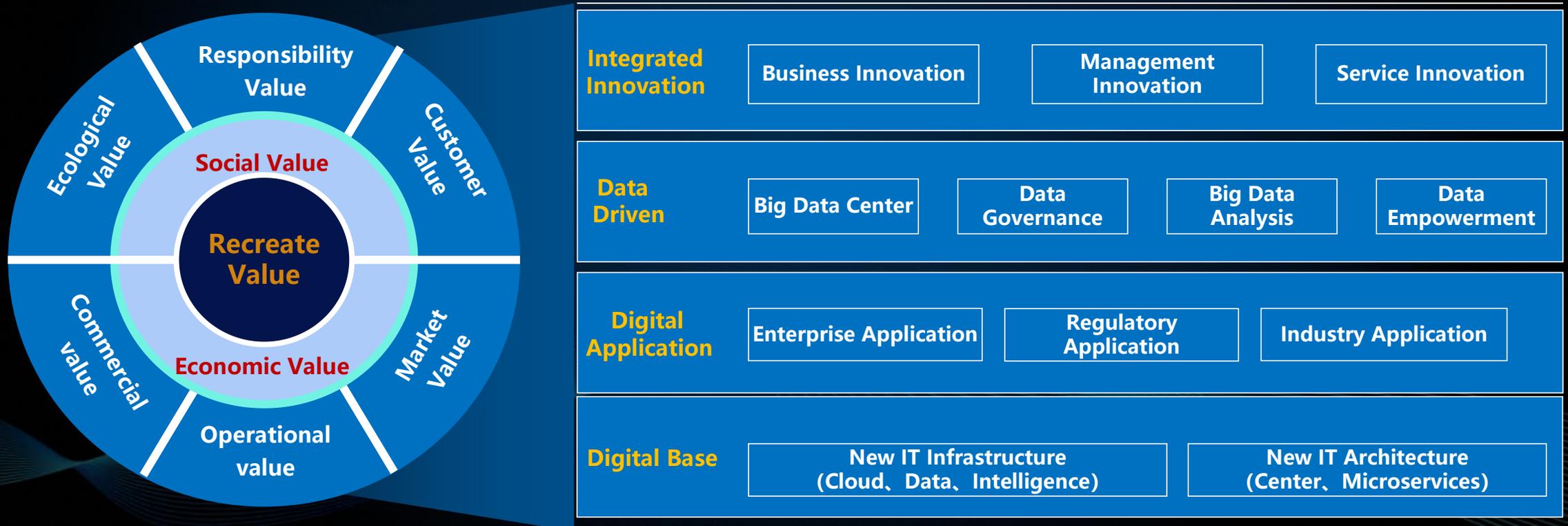
China Grain Network
Compiled

Joint Release

The Digital Transformation of the Grain Industry under the New Situation

Understanding of Digital Transformation in the Grain Industry

The essence of digital transformation is to use digital technology to drive enterprise innovation, achieve enterprise value growth, and give new momentum to the high-quality development of the industry.



The Digital Transformation of the Grain Industry under the New Situation

Research on the Direction of Digital Transformation of Grain Industry

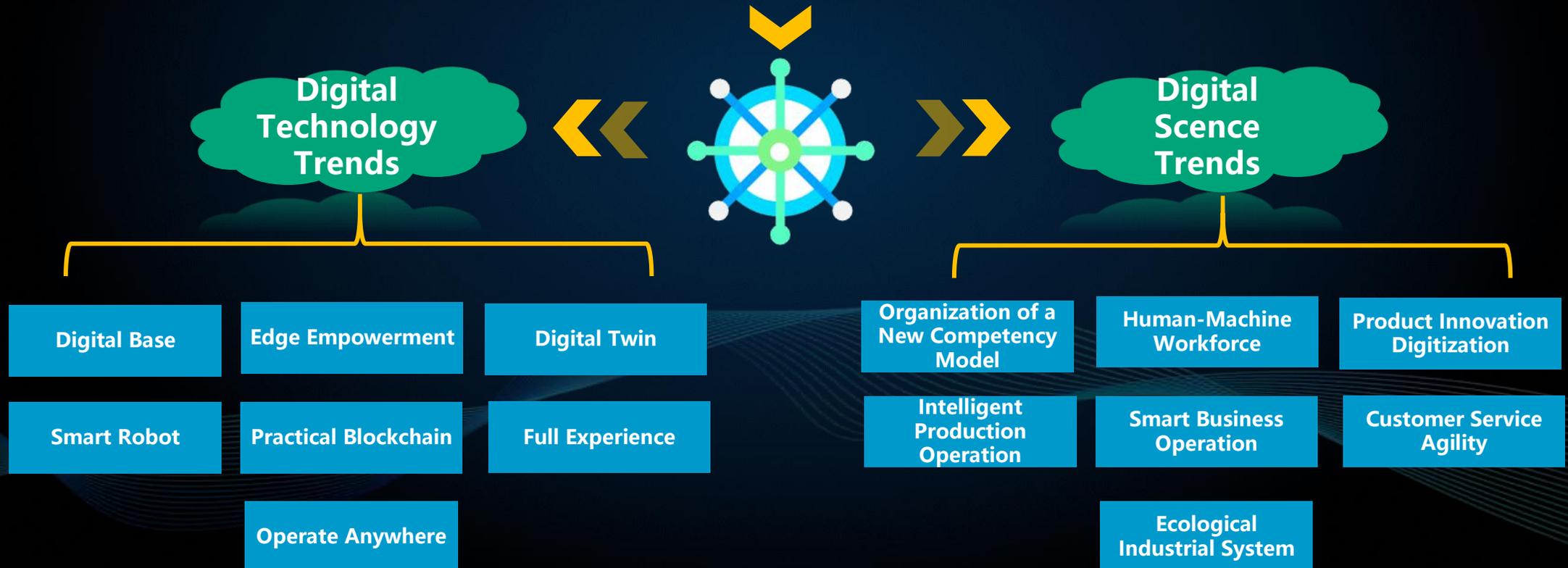
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Three Aspects of Digital Transformation

Business operation

Business Supervision

Industrial Ecology



The Digital Transformation of the Grain Industry under the New Situation

Digital Transformation of Grain Purchase and Storage Enterprises

Standardized Management System

Smart Operation Platform

Purchase and Sale Operation

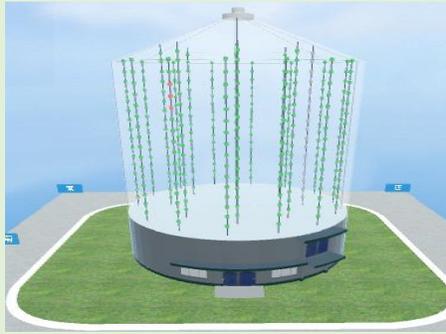
Storage Management

Production Safety

Risk Internal Control

Credit Evaluation

Digitalised Granary



3D Visualization

Quantity Monitoring

Grainry Monitoring

Smart Operation Platform

Smart Safeguard



Smart in and out warehouse



Smart Warehousing



Information Security System

Grain Purchase and Storage Data

Supplier/Client

Purchase and Sale Data

Policy Grain Data

Commodity Grain Data

Warehouse Operation Data

Device Sensing Data

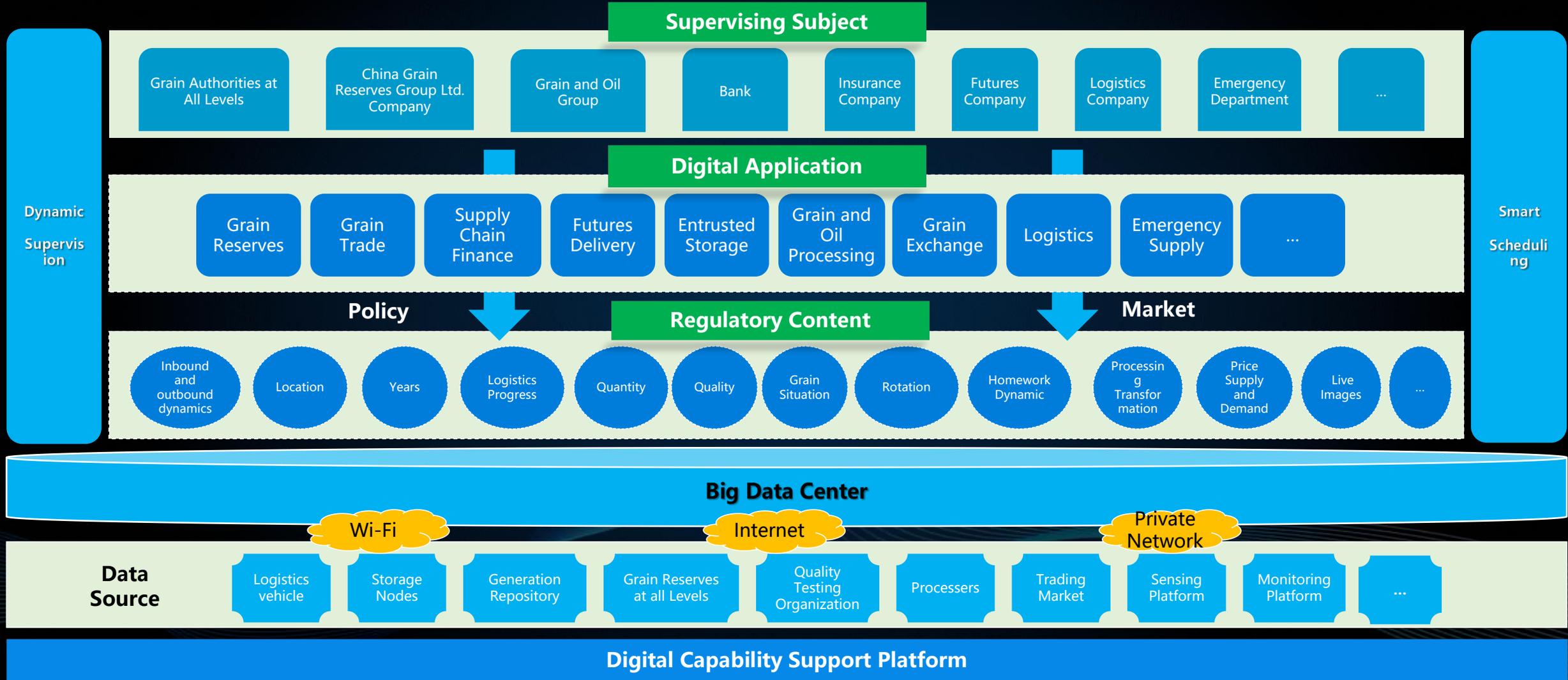
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New IT Infrastructure (Cloud+Containerized+Distributed+Microservice Architecture+Middle Office Architecture)

New IT Architecture (Cloud+Smart Computing Center+IoT Facility Equipment)

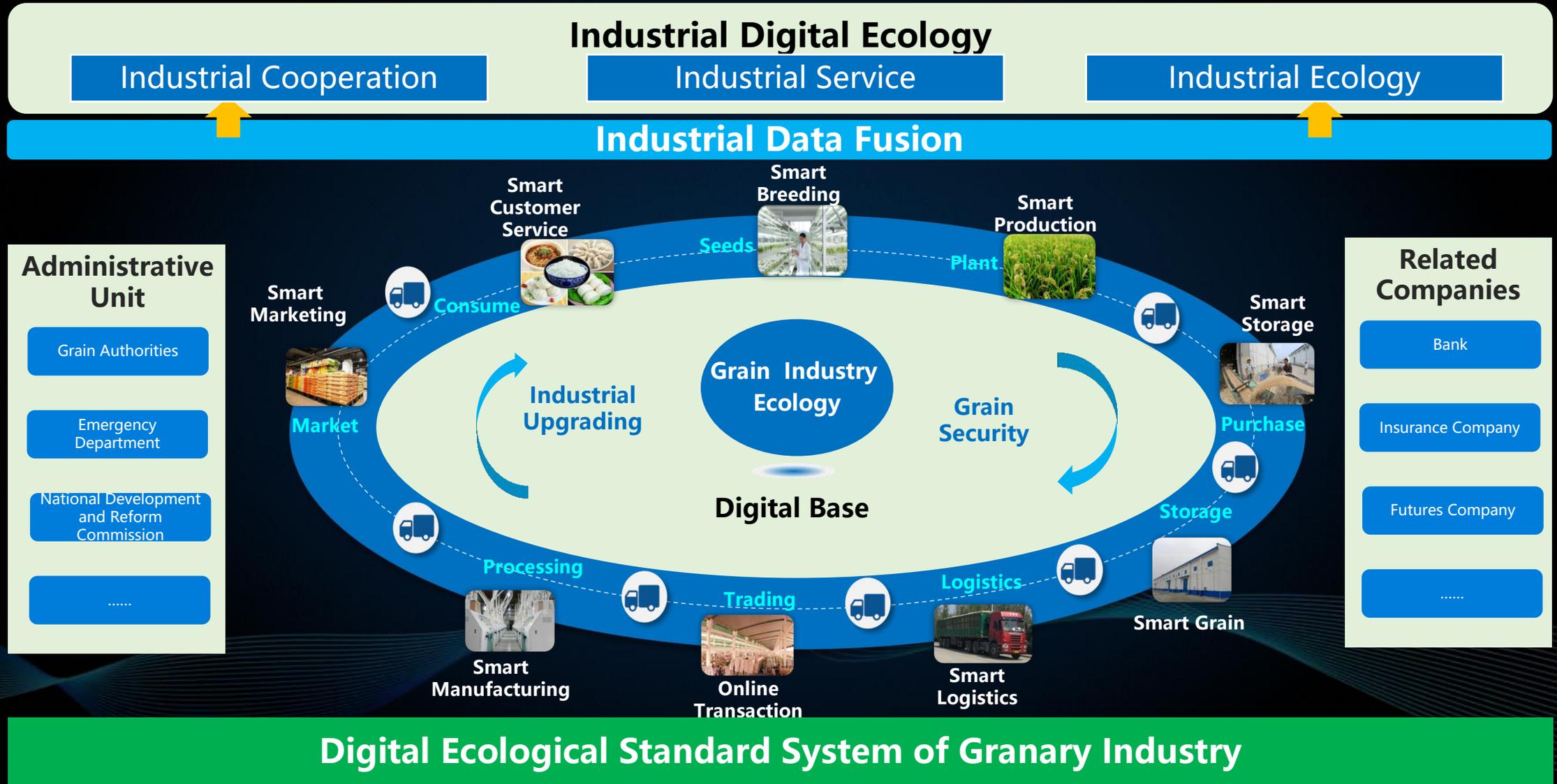
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Digital Transformation of Grain Regulation



The Digital Transformation of the Grain Industry under the New Situation

Create a Digital Ecosystem for the Grain Industry

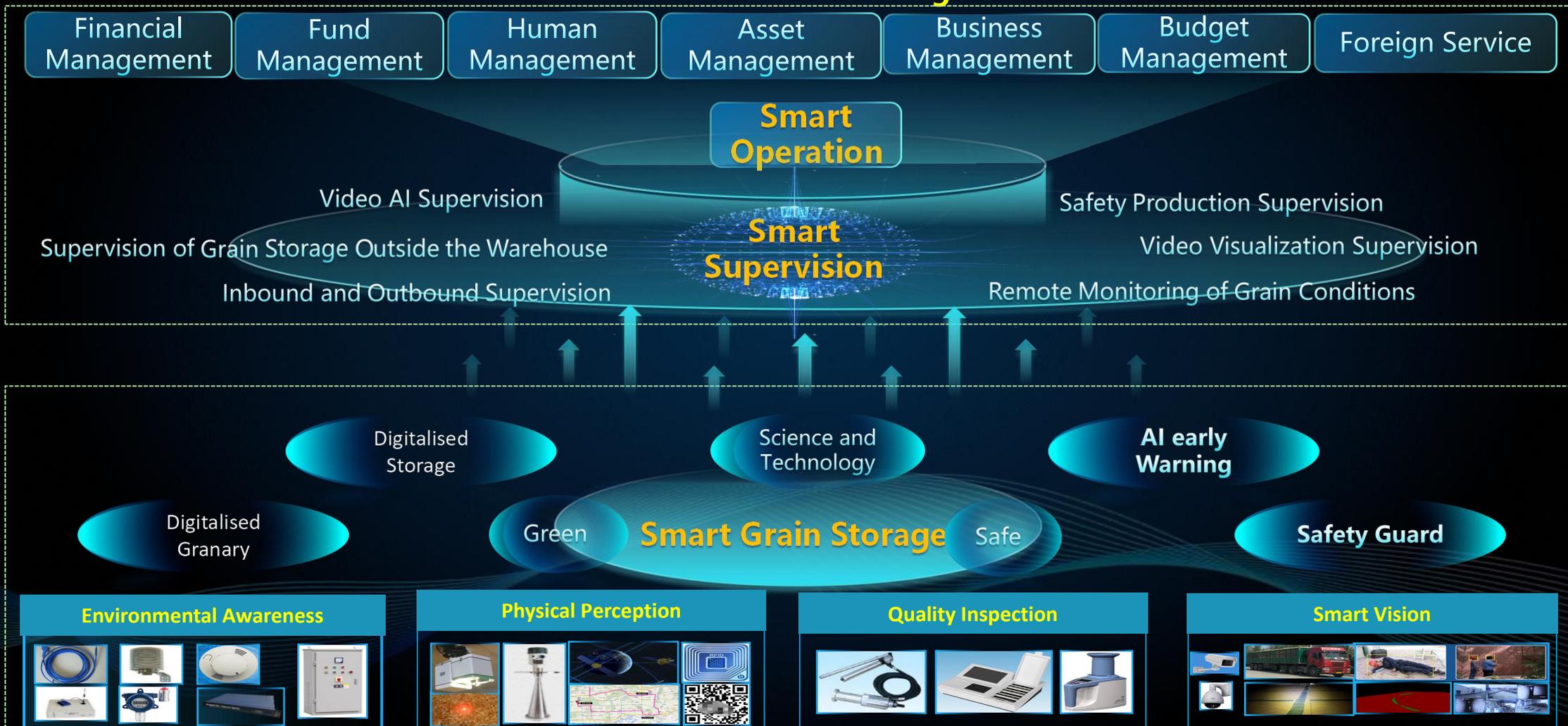


Experience on Digitalised Grain Management

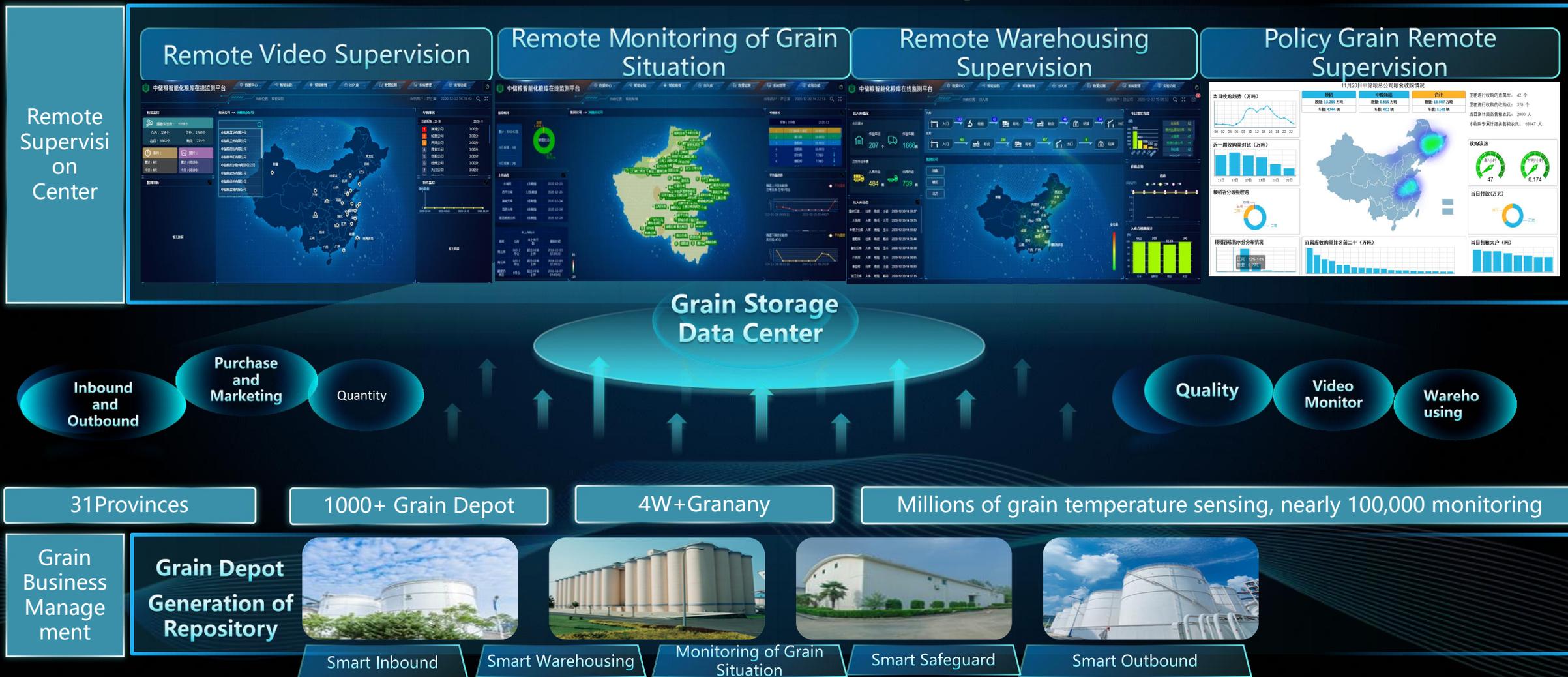
China Grain Reserves Group Ltd.
Company

Build the world's largest grain storage

Internet of Things



Realize Remote Visual Supervision



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