航天宏图
PIESAT

股票代码
688066

PIESAT Information Technology Co., Ltd.

Serve the Earth & Space Community

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PIESAT

PART.1

About PIESAT

Company Profile

Briefing

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PIESAT Information Technology Co., Ltd. (stock code: 688066), established in 2008, is a leading domestic satellite operation and application service provider, and one of the first companies listed on the Science and Technology Innovation Board.

Our headquarter is in **Beijing**

160+ branches across the country

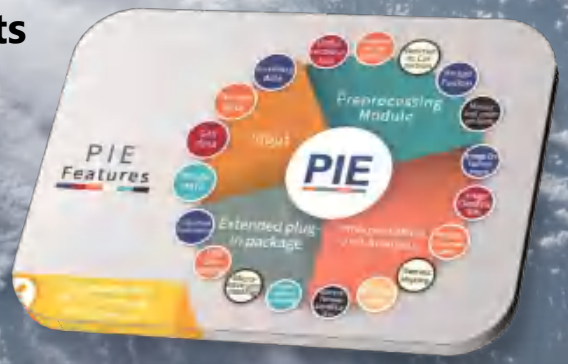
3500+ employees

800+ software copyrights

150+ patents

Business Logic

The company's overall business logic is based on the space-ground integrated perception network of satellites, drones, and ground sensors to perceive the real physical world, digitally simulate the operation of the physical world, and build a digital twin world.



Development Process

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PIESAT Founded

2008

Office Area：50㎡

Employee： 10

2009

Office Area： 200㎡

Employee： 40

2010

Office Area： 800㎡

Employee： 140

2012

Office Area： 1700㎡

Employee： 200

2015

Office Area ： 3500㎡

Employee： 500

2018

Office Area： 5500㎡

Employee： 1000

Listed in SSE STAR Market

2019

Office Area ： 8000㎡

Employee： 1600

2020

PIESAT-01 Satellite Initiation

Office Area ： 15000 ㎡

Employee： 2000

PIESAT Building

2022

Office Area ： 25000㎡

Employee： 3500

Ph.D. : **150+**

Master : **1300+**

Qualified Engineer: **200**

Technicians: 80%

Satellite Application Service Provider → **Satellite Operation and Application Service Provider** → **Earth Sciences and Big Data Leader**

- **More than 10 qualifications;**
- **More than 800 software copyrights and 150 invention patents.**

ISO9001 quality system certification

CMMI Level 5

System Integration Level 4

Class-A surveying and mapping qualifications.

Service Network in China

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Service network covers all the provinces in China

160+ branches
7 research centers
12 drone production bases

38 satellites launching plan

Headquarter

Research Center

Branches

审图号： GS (2019) 1825号
自然资源部 监制

International Subsidiaries

航天宏图 PIESAT

12
International Subsidiaries

审图号： GS (2016) 1613号
自然资源部 监制

2020.2	2020.3	2020.8	2021.8	2021.12	2022.1	2022.1	2022.4	2022.5	2022.6	2022.6	2023.1
Australia	UK	Switzerland	Thailand	Cambodia	Singapore	Laos	UAE	Pakistan	Romania	Denmark	Malaysia

Business Scope

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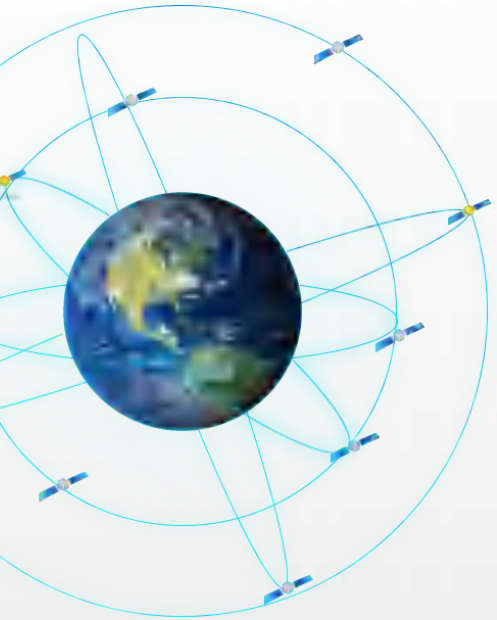

PIE

Spatial infrastructure planning and construction

- High resolution earth observation system
- Civil spatial infrastructure planning
- Beidou navigation system

PIE software and industrial solutions

- Natural resource
- Ecological environment
- Emergency management
- Meteorology
- Hydrology
- Beidou navigation application

Cloud service

- PIE-Engine
- Air pollution monitoring
- Smart Agriculgure
- Water
- Forest resource management
- Forest fire monitoring

Space-Sky-Terrestrial Integration 3D Sensors

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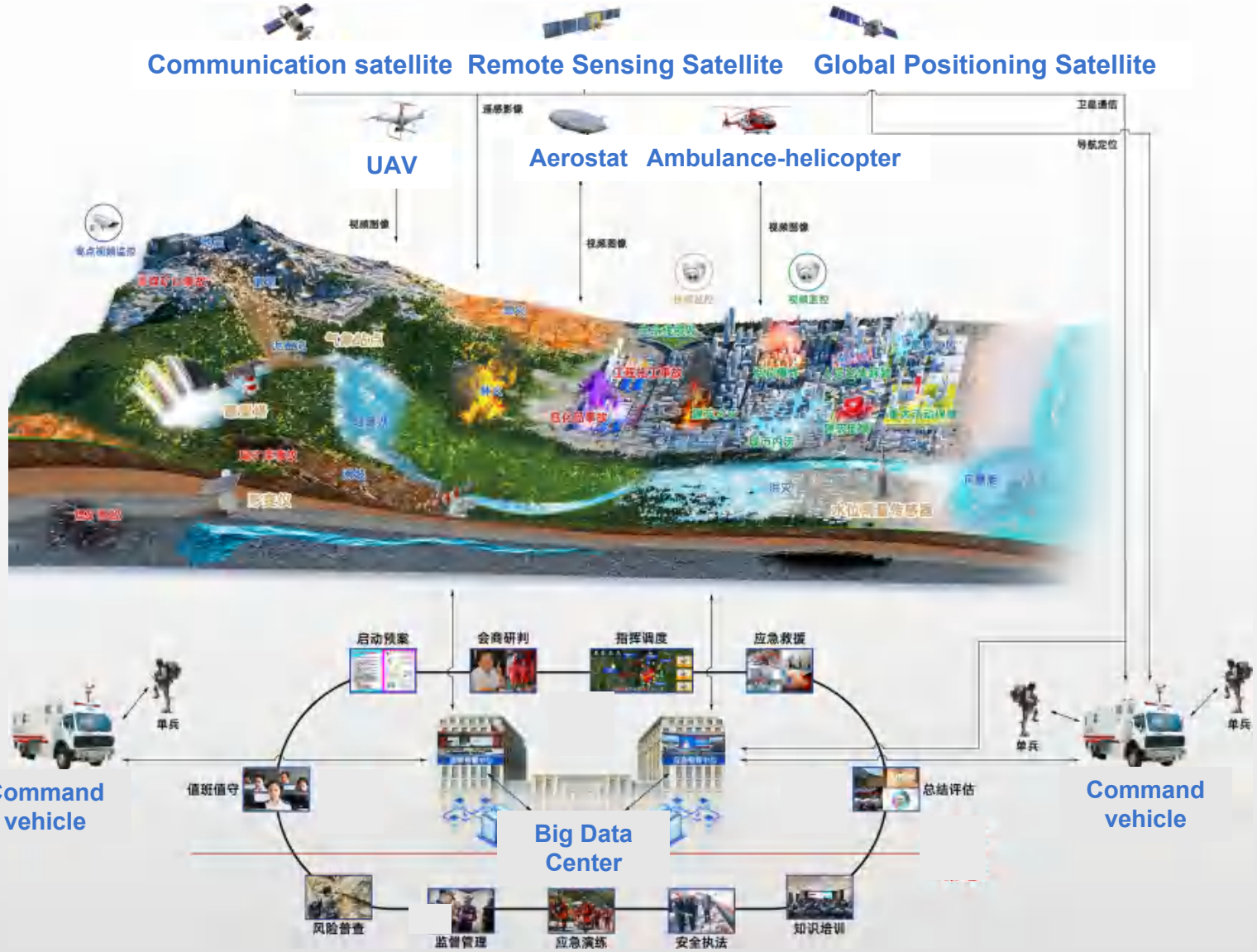
Satellite

Airborne

UAV

Sensors



Nuwa Constellation

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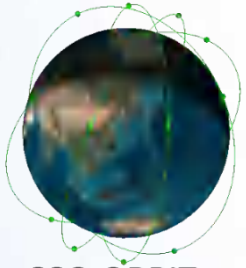
Nuwa Constellation Phase I Project

Provide multi-target、**multi-scale、multi-feature、all-day、all-weather and full spectrum** real time remote sensing information

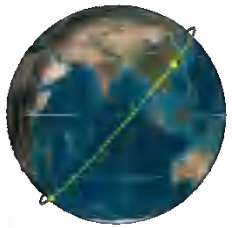
Build a **real time** global remote sensing information communication platform.

Create **space-sky-ground-application** integrated commercial aerospace technology corporation.

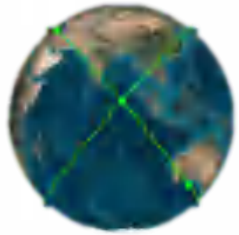
4 XSAR SATELLITES
ALTITUDE 528KM



SSO ORBIT
12 XSAR SATELLITES
ALTITUDE 528KM



LEO ORBIT
4 CSAR SATELLITES
ALTITUDE 528KM



LEO ORBIT
8 CSAR SATELLITES
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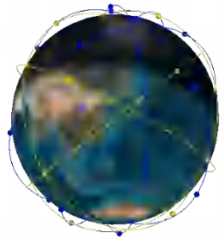

SSO ORBIT
10 OPTICAL SAT
ALTITUDE 520KM

PIE-Engine Cloud Platform

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Remote sensing data

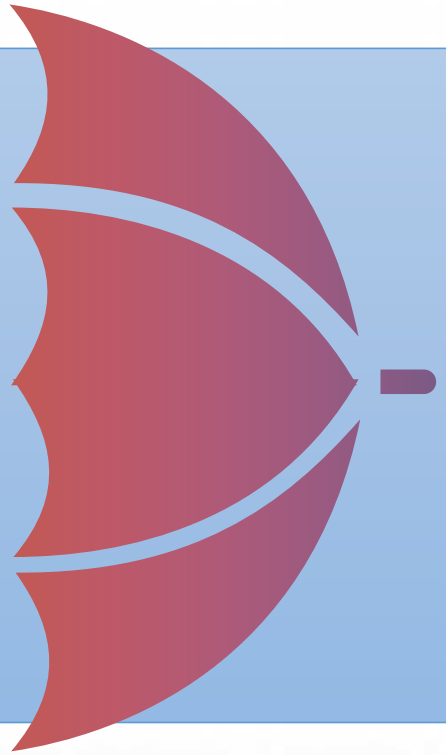
Remove barriers between data and applications

Industrial applications

PIE engine

Computing resources | Storage resources | Data resources

Industrial resources | Technology resources | Intellectual resources



Solve

Professional
Public
Research
Industrial
Government
Social
…

Requirements

Makes remote sensing technology anywhere and anytime available.

Industrial Solutions and Applications

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Natural Resource

Natural resource monitoring
Land security and monitoring

Meteorology

Precise meteorological forecast
Extreme weather warning

Marine Application

Marine ecological monitoring
Island and costal monitoring

Water Management

Water resource monitoring
Flood and drought monitoring
Soil and water conservation

Emergency Management

National risk census
Disaster risk monitoring
Disaster early-warning

Ecological Environment

Air pollution monitoring
Ecological reserve projection

Beidou Navigation

Situation support
Patrol and monitoring product

Smart Agriculture

Plantation management
Growth monitoring
Agricultural disaster monitoring

UAV

UAV manufacturing
Flight operation
UAV data processing

Land Resource

Land use change detection
Illegal mining monitoring

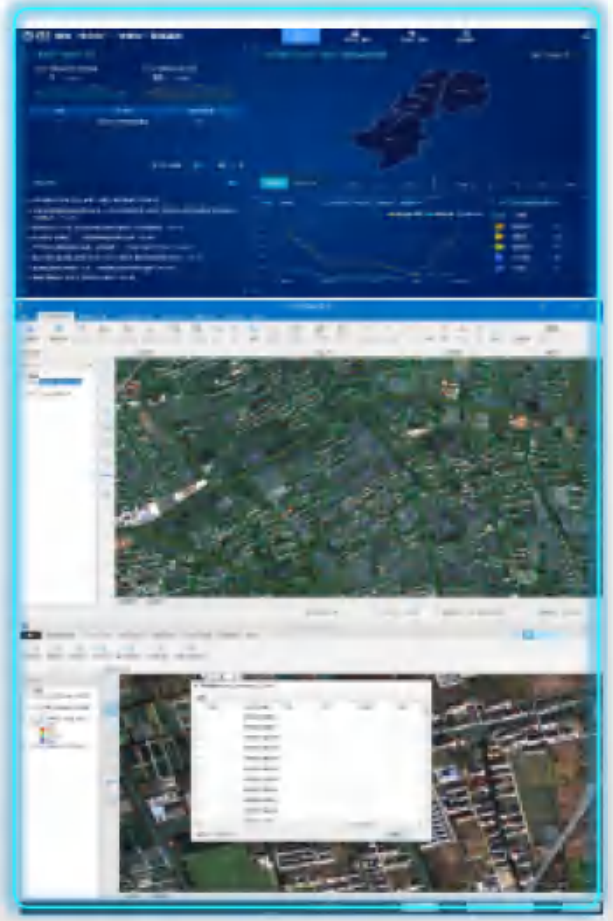
Consultation

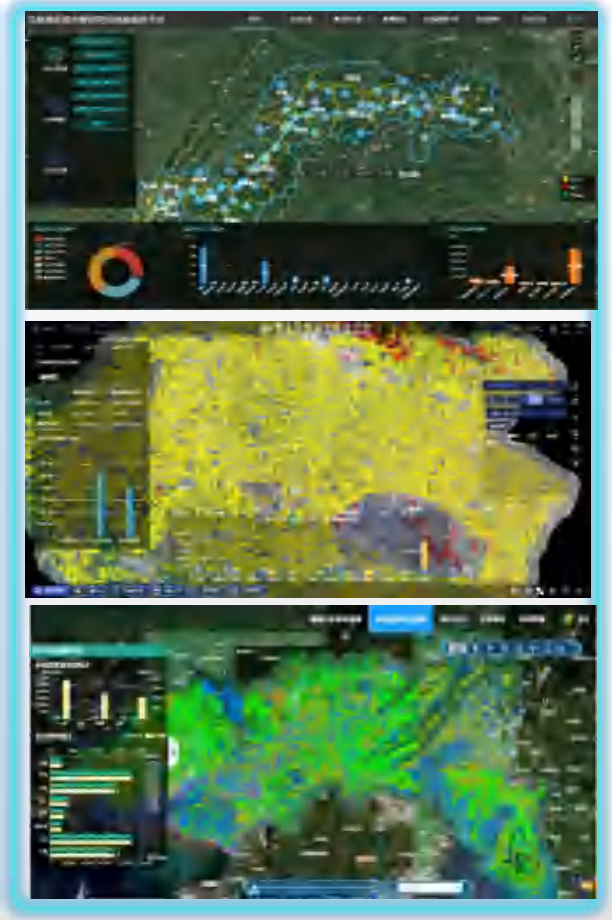
Satellite engineering project
Feasibility analysis
Preliminary design

More...

Typical Applications

Natural Resource Application





Geological Disaster Monitoring and Early Warning

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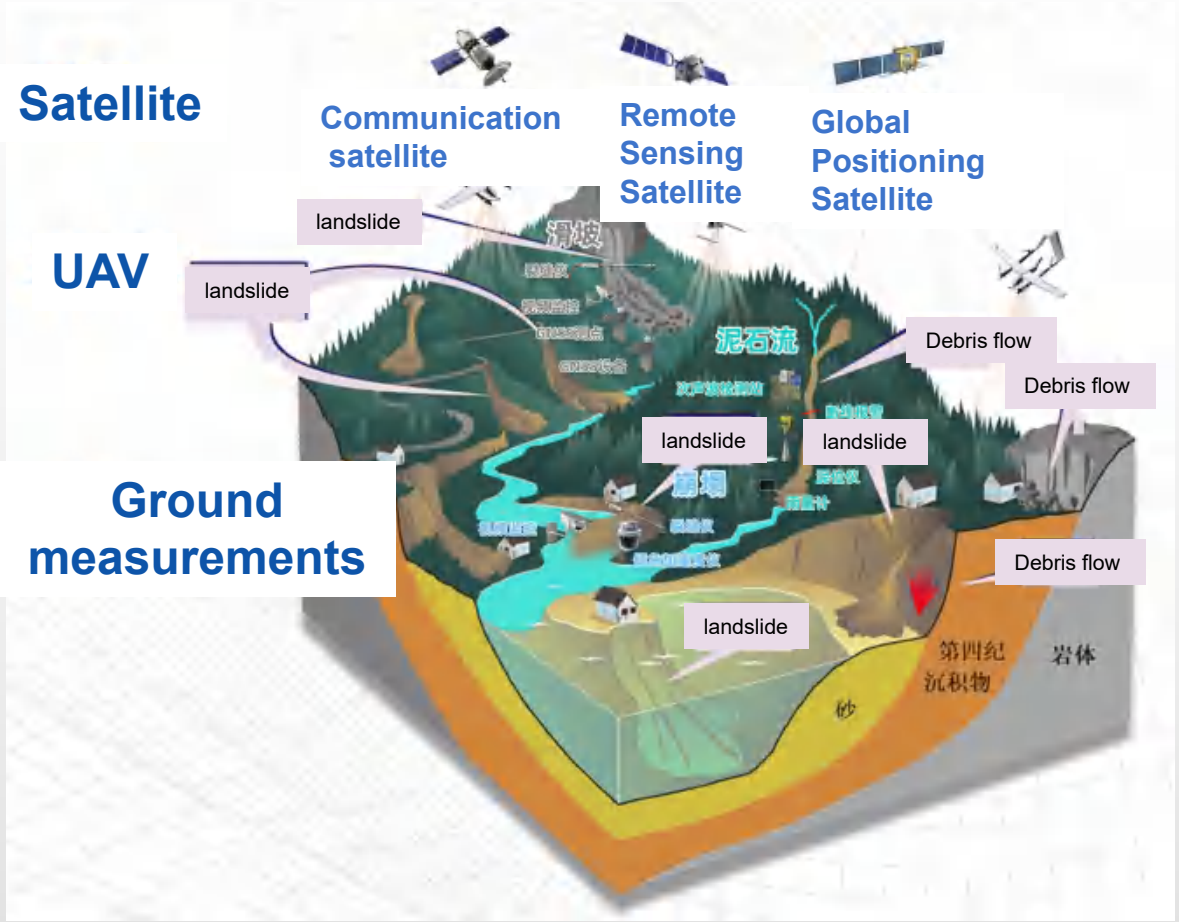
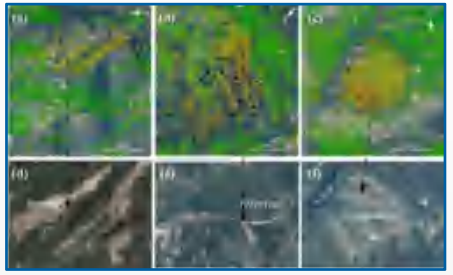
Based on PIE-Engine SAR Cloud service platform， monitor geological disasters **all-weather, all-time, all-dimension** using remote sensing satellite、and UAV. Use time series InSAR, LiDAR and Real Three-dimensional technologies with early warning model to monitor geological disaster efficiently and to support **geological disaster investigation and evaluation, monitoring and early warning, and emergency rescue**.

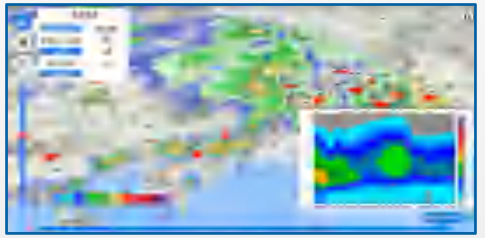




Comprehensive identification

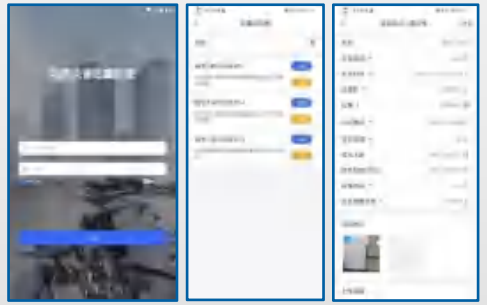
Monitoring and Warning

Emergency rescue



Meteorological Warning

Geological hazard monitoring



Mobile Terminal APP

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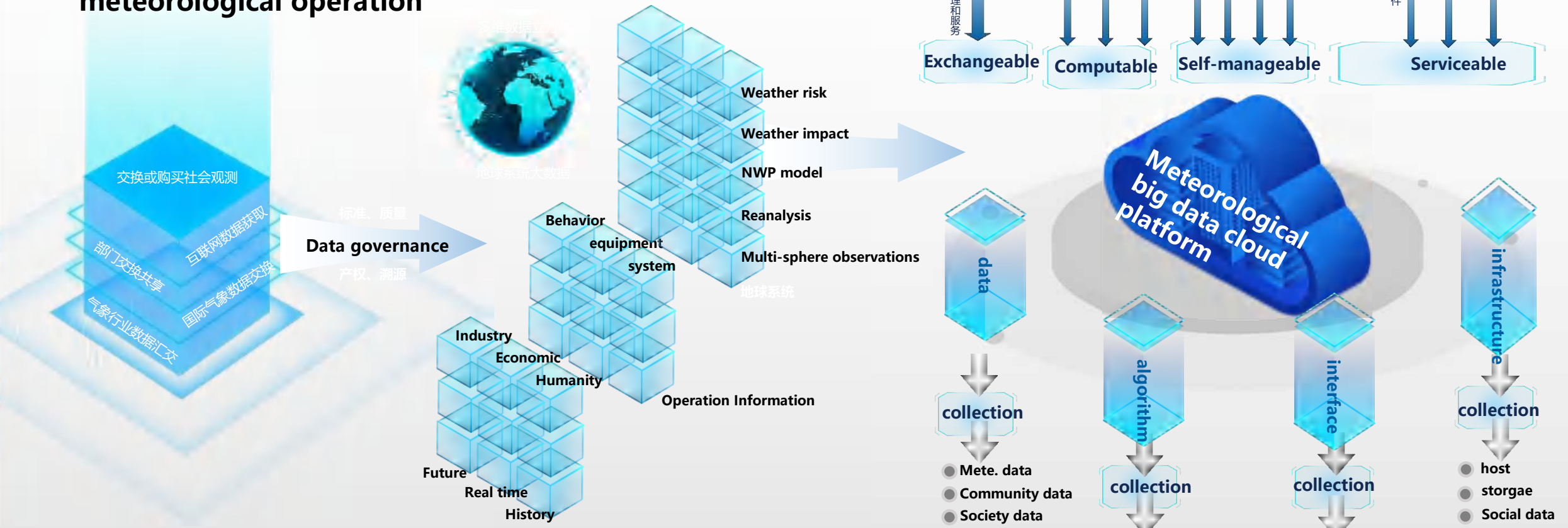
PART.2

Meteorological Capability

What are we capable of

Meteorlogical Operational System

Provide platform-based services that integrate data and computing, and fully support the "cloud & terminal" meteorological operation



◆ Undertake the development of business systems such as "product processing", "storage management", "meteorological business intranet" and "China Meteorological Data Network" for the meteorological big data platform

Meteorological remote sensing cloud service platform

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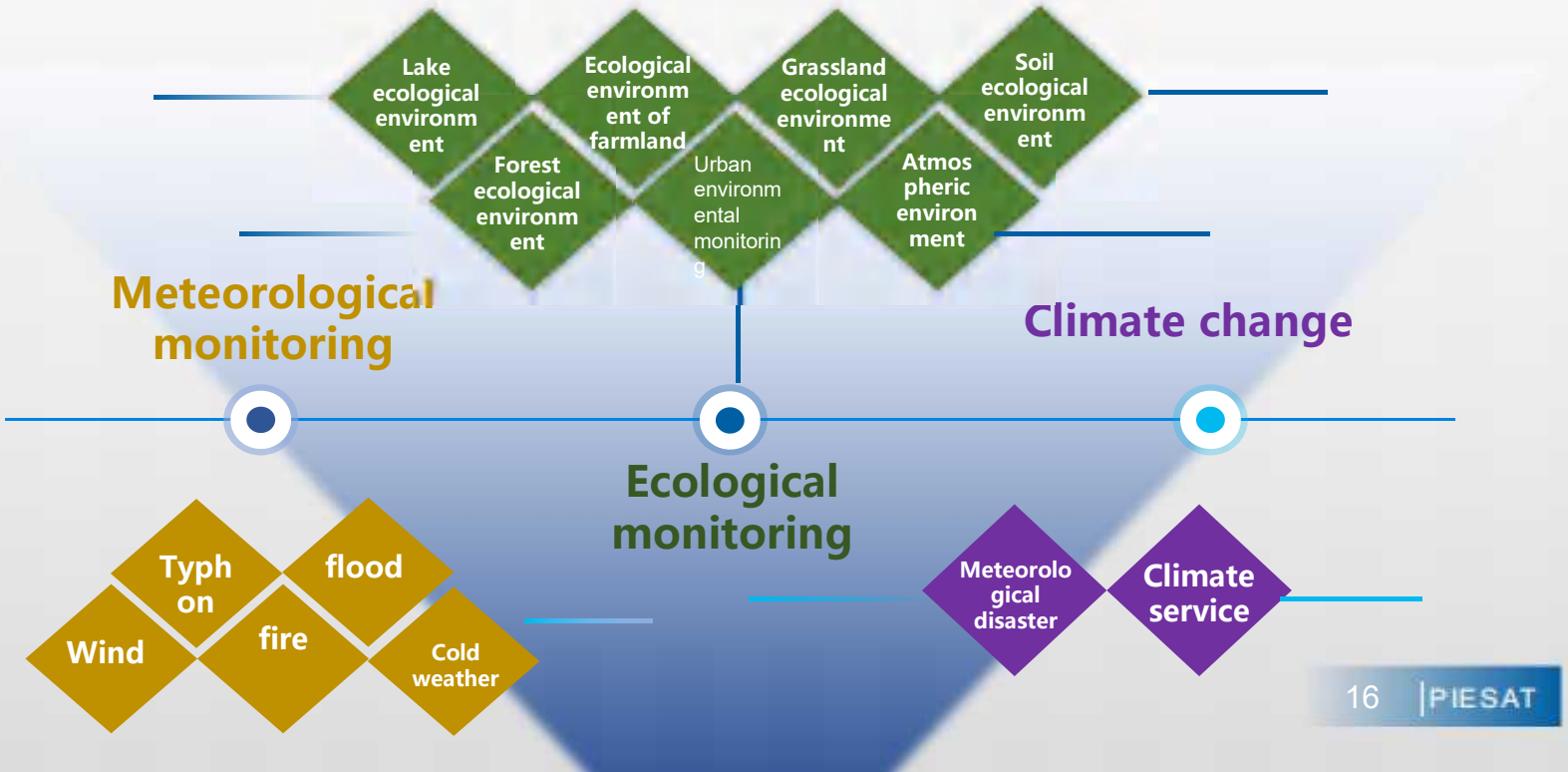
Based on PIE, it adopts the "cloud + terminal" technology framework to provide ground application system platform construction for polar-orbiting meteorological satellites, geostationary meteorological satellites and Gaofen series satellites

Provide algorithms of severe convection weather monitoring, meteorological disaster monitoring, ecological environment monitoring, climate change monitoring and typhoon, severe convection, fire, aerosol, dust, fog products and services。

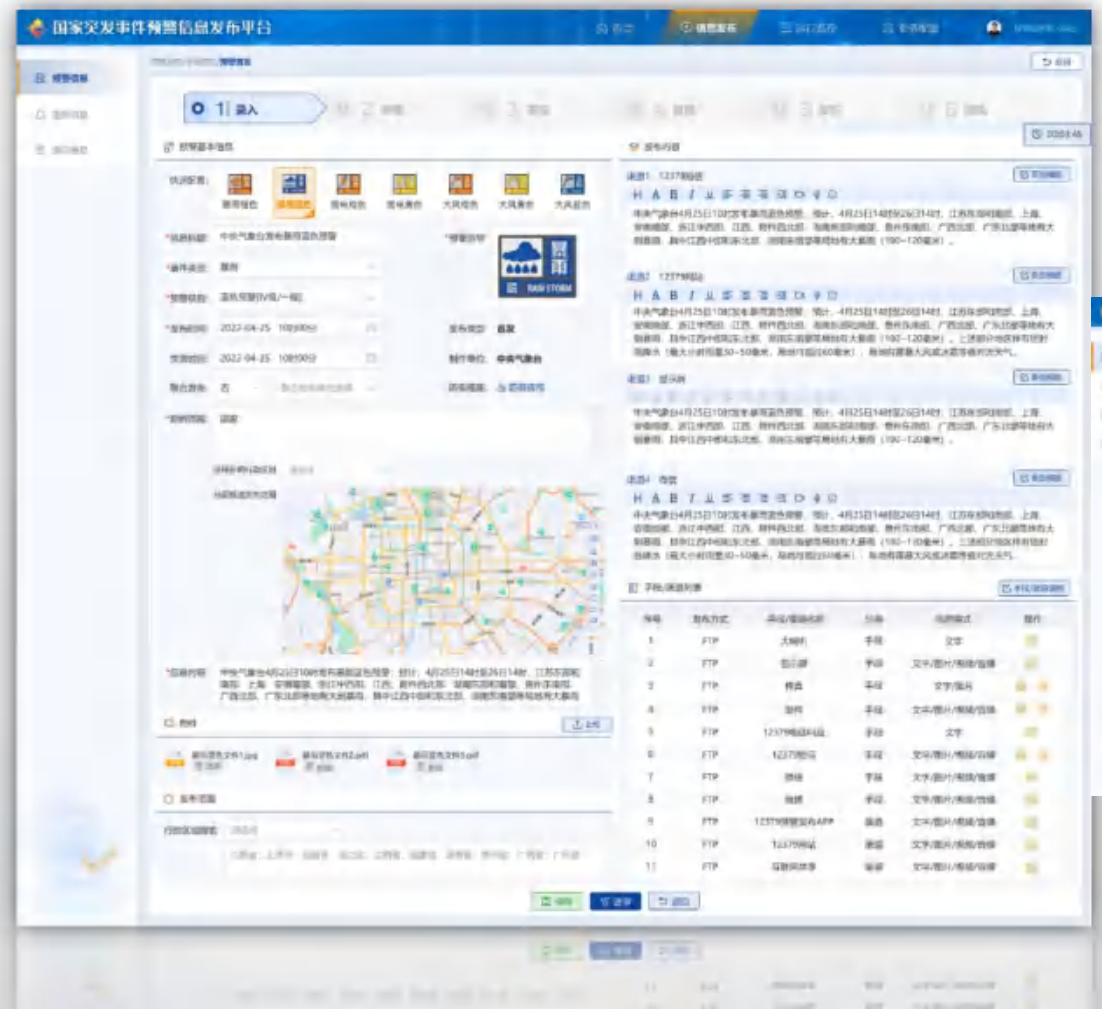
Remote sensing by Fengyun-3 satellite
Monitor and analyze application clients

Fengyun 4 weather application client



National Emergency Warning Information

Provide personalized emergency early warning information issuing applications and customized services for various users such as national ministries and commissions, enterprises and the public. Realize the second-level release of early warning information and has the capability of accurately target services for different events and different users.



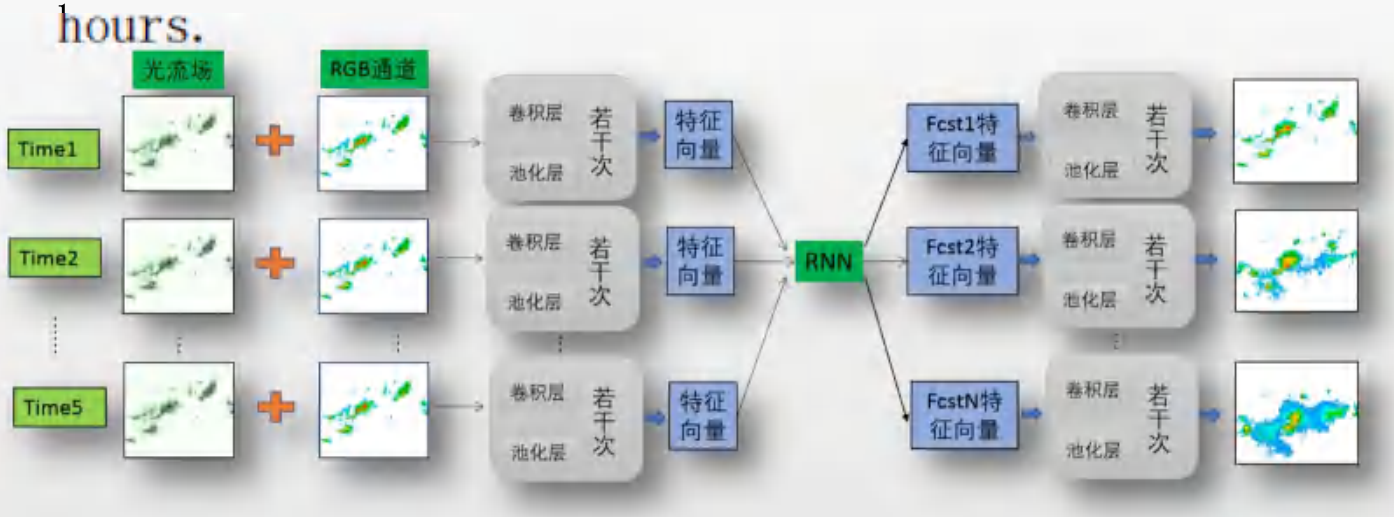
process support for emergency disposal

Prevention Preparation → Monitor Warning → Disposal Rescue → Recovery Reconstruction

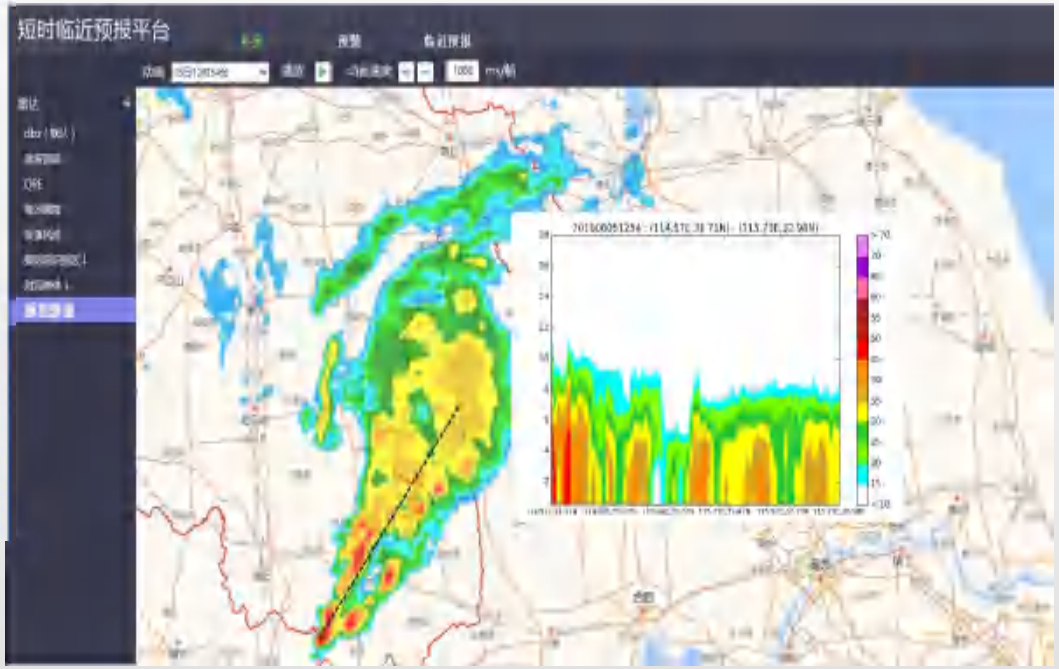
Operational supporting for making and releasing of early warning information

Early Warning Information Browsing Service

Based on optical flow method, neural network and other technologies, it integrates radar + satellite + numerical model forecasting to achieve minute-by-minute and kilometer-by-kilometer identification and tracking of strong convective cells; achieves nowcasting of severe weather such as thunderstorms, strong winds, lightning, hail, and heavy precipitation, the early warning period covers: 0 to 2 hours, 0 to 6 hours and 0 to 12 hours.

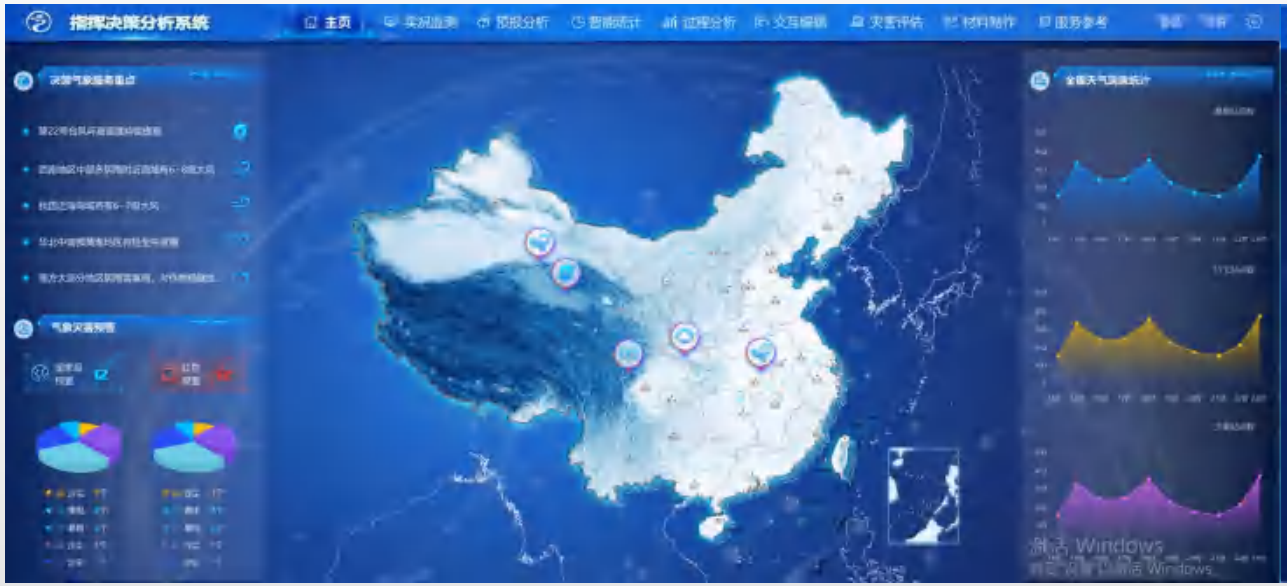


0-2 hours AI forecasting

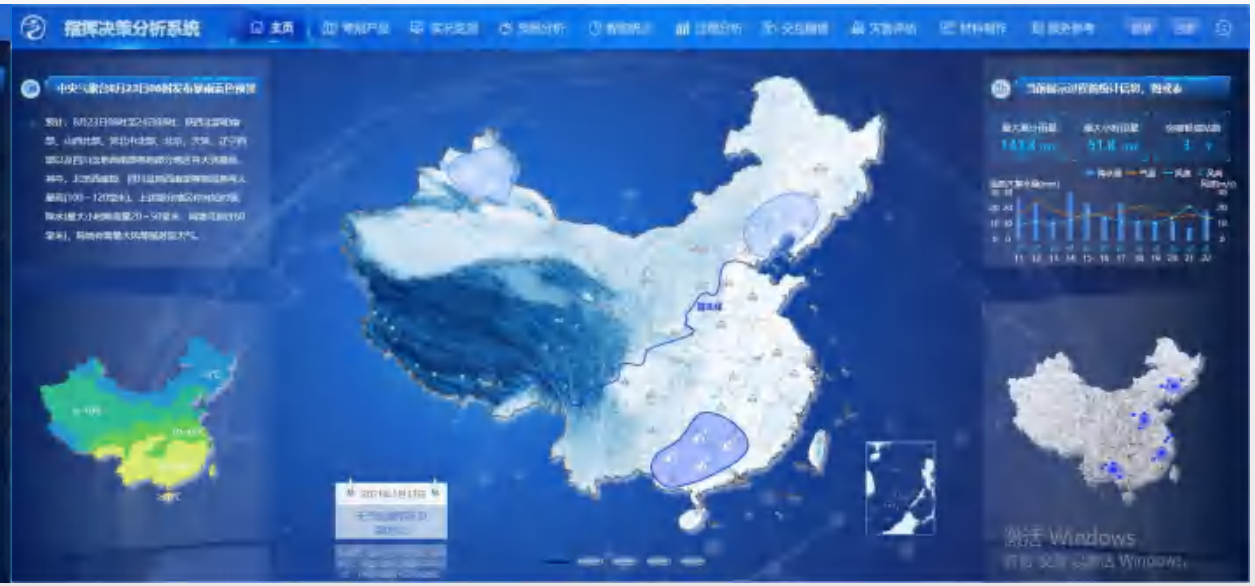


Meteorological decision support system

Based on intelligent forecasting and early warning methods, it can intelligently identify current weather changes such as typhoons, strong winds, high temperatures, and cold waves, and intelligently push and provide weather products related to weather types in specific areas for decision-making commanders, and thereby realize the integration of live, early warning and forecast information and to achieve the purpose of assisting decision-making.



Intelligent identification of key weather



Comprehensive display of cold wave weather process, actual situation and forecast information

Application on Disaster Prevention and Mitigation

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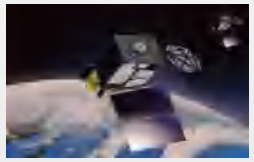
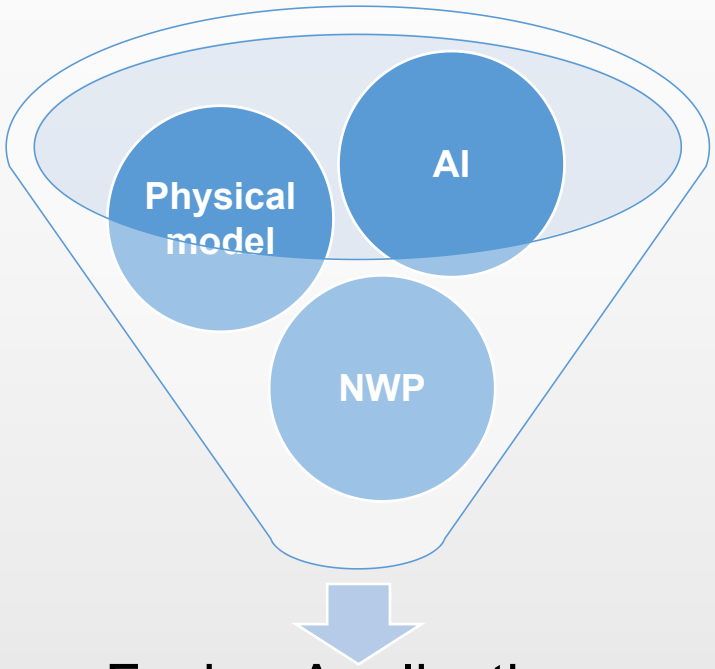
We have established a multi-scale and multi-type meteorological monitoring and warning operational system which can make full use of data such as in-site observations, satellite measurements, radar echoes, numerical forecast production, etc. It has the capability of monitoring and early warning of large-scale cloud system identification, typhoon, rainstorm, heavy fog and other meteorological disasters.





Fusion Applications

1 Large-scale cloud

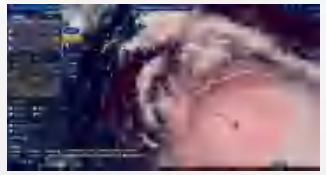
2 Typhoon

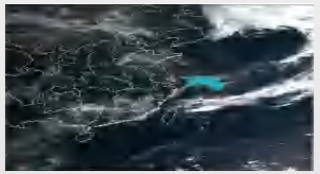
3 Strong convection

4 Thunderstorm

5 Dust

6 Heavy fog





Comprehensive display of cold wave weather process, actual situation and forecast information

"Earlier" "Accuracy" "Fast" "Wide" "Real"

Thank you.

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