神州控股
DC Holdings

DC Holdings Limited

Utilizing Spatial Data for Accident and Emergency Management

March 2023

Digital China Holdings

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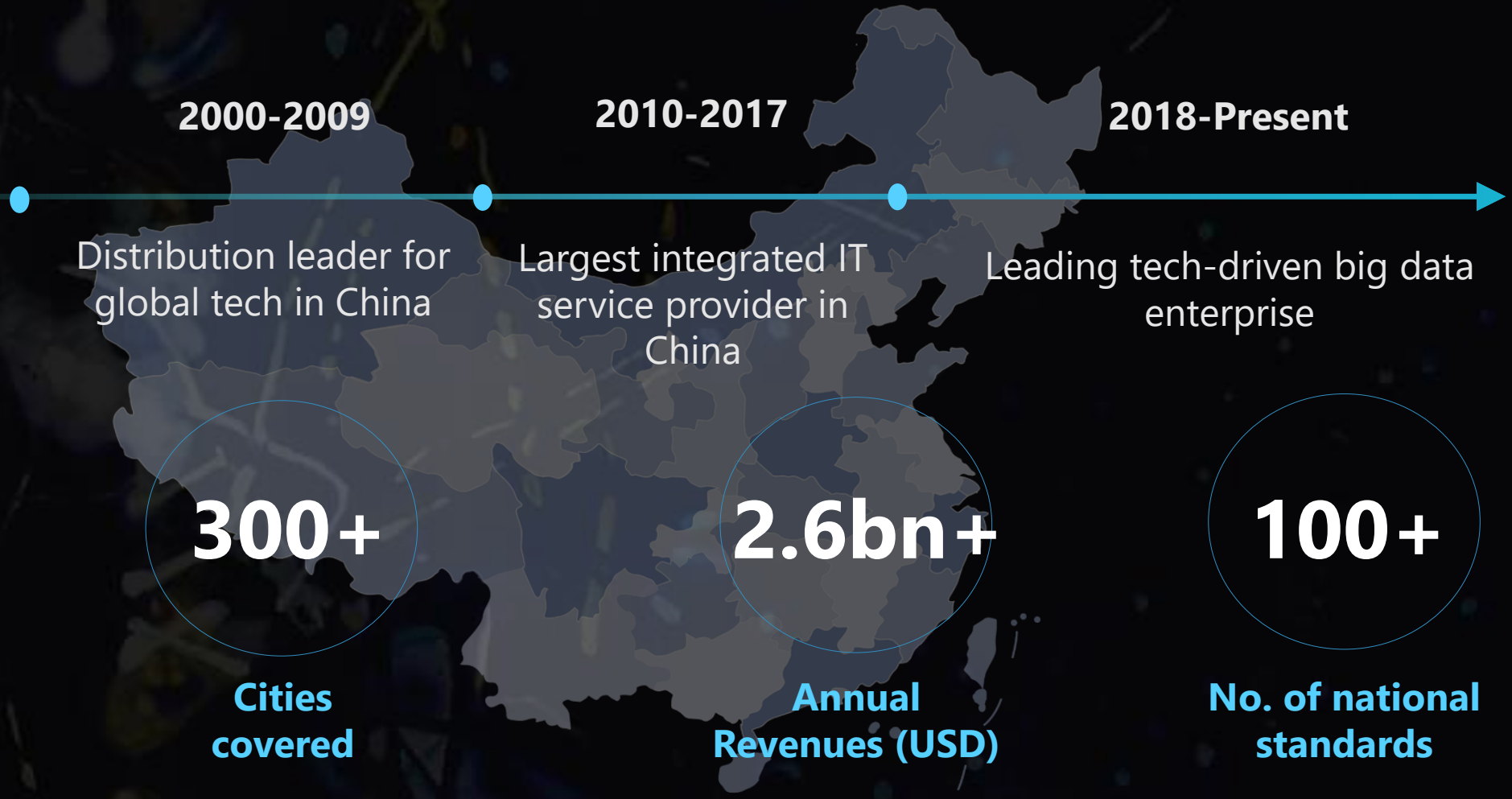
Digital China Holdings was founded in 2000, going public in 2001. Over the last two decades, we have committed to "Digitalizing China" as our core mission and we keep innovation at the forefront of our business.



1984-1999

Legacy/ Predecessor business

2000-2009

Distribution leader for global tech in China

2010-2017

Largest integrated IT service provider in China

2018-Present

Leading tech-driven big data enterprise

20yrs+

Execution exeprience

300+

Cities covered

2.6bn+

Annual Revenues (USD)

100+

No. of national standards

Spatial Data Solution Overview

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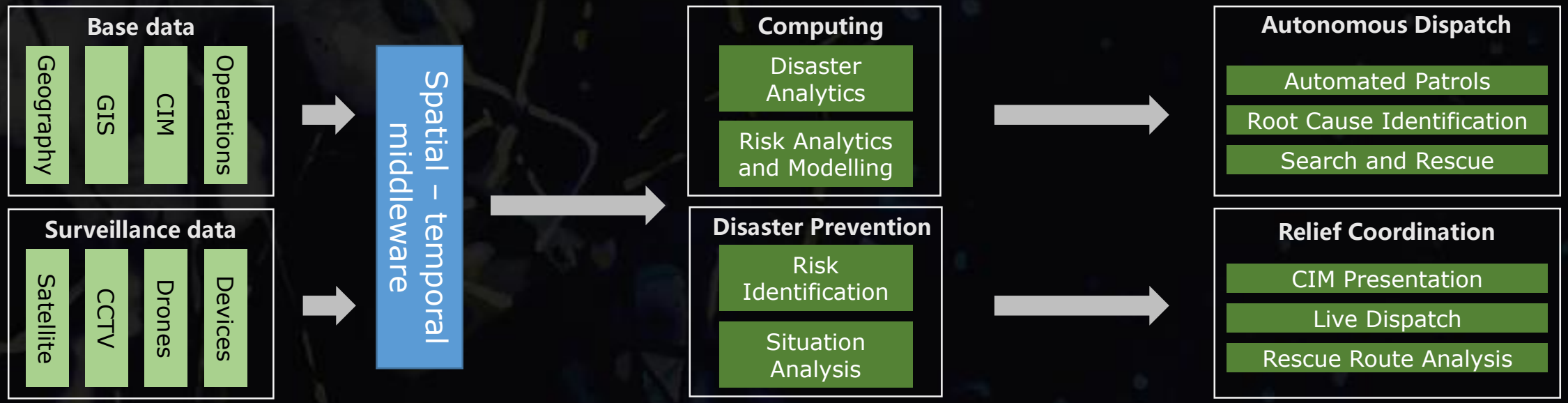
By utilizing DC Holdings **proprietary spatial-temporal middleware**, a unified database that integrates multi-source **heterogeneous data as well as monitoring data** (e.g. GIS, satellite, IoT, and business data) can be established.

Through **data mining, analytics** and high-precision **risk identification algorithms**, **fully customized solutions** covering fire, flooding, landslide/earthquakes and coastline management to achieve real-time coverage and management.

By integrating elements in the sky, on the ground, and with individual citizens, multi-dimensional analysis can be executed which in turn can drive the **development of early warning / disaster prevention systems** as well as **emergency response and dispatch systems**. By leveraging data analytics, better and more informed decisions can be made for disaster relief.



Solution Architecture

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Mobile Device

PC

Display

Application

Data Analytics

Infrastructure

Emergency command and dispatch interface for disaster and risk prevention

3D City Map | Emergency Plan Map | Assistance Map | Police & Rescue Map

Applications

Risk Warning
- Crisis
- Disasters
- Weather
- Situation
- Satellite
- Verification

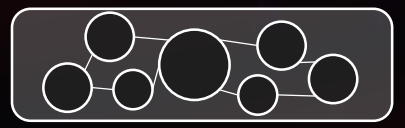
Planning
- Key Parties
- Plan Management
- Fire Services

Emergency Management
- Shift Control
- Command Center
- Resources
- Collaboration
- Mobile

Spatial-temporal middleware

Digital Twin (CIM/BIM/GIS)

Knowledge Graph



Development Portal

- Database
- API
- Algorithm
- Data Platform
- Yan Cloud DaaS
- IoT
- A.I.

Infrastructure

- Computing Equipment
- Storage Equipment
- Network Equipment
- Sensors
- Timers
- Networks
- CCTV
- GIS

Emergency Command and Dispatch

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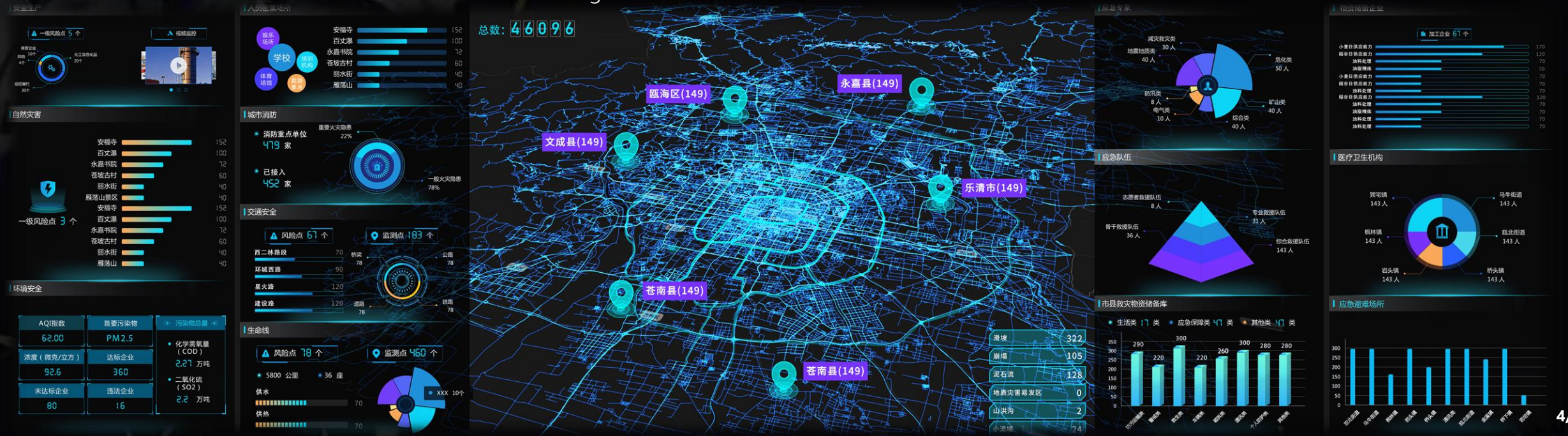
The operational dashboard gathers information across a **wide variety of sources**, compiling and matching such data will allow feedback to be provided to **on-site disaster rescue** teams to support the disaster relief process. By having a one-page overall interface connecting all the important elements of disaster relief, data analytics can be run in order to **provide insights and improve decision-making cycles**.

3D City Map： Based on a 3D geographic rendering engine, 3D urban buildings and environment are automatically generated according to geographic data, supporting real-time traffic control, navigation, layer query, etc.

Operation Guidance Map： through 3D visualization technology, relief and rescue resources are clearly mapped out, supporting automatic data analytics and output, thus helping to triangulate different factors to assist decision making

Rescue Map： Plot real-time HKPF/FSD/GFS resources on the 3D city map, including on-site officers, en-route officers and reserves. Can also be used for post-disaster reaction assessment and evaluation



Comprehensive Functionalities

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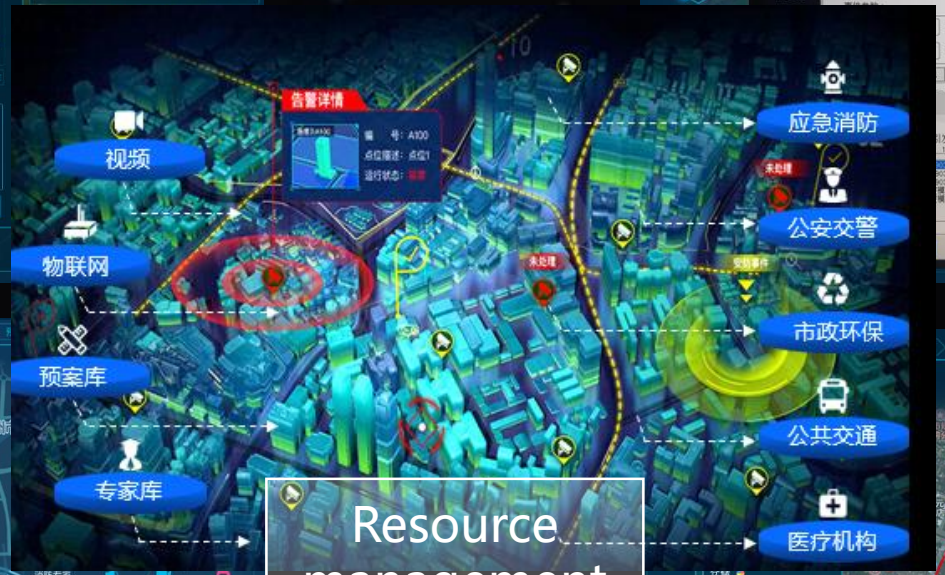
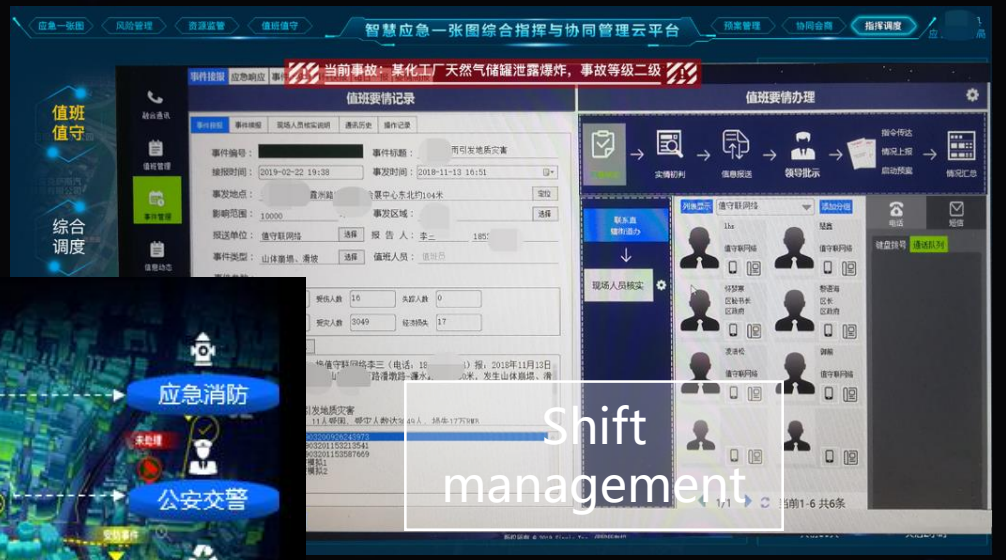
Emergency Plan management



Resource management



Shift management

Collaboration

Command and Control

Explosion and Hazardous Substance Solution

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High-precision 3D modelling, combined with each IoT sensing device and real-time data collection and monitoring, allows for **real-time monitoring and the implementation of early warning systems**.

At the same time, the solution can **integrate different sources of information** e.g., that from inspection, reporting, supervision and others so as **to identify potential dangers**, potential implementation of rectification methods, supervision of rectification and others, with an objective to comprehensively supervise the safety treatment and removal of explosives and hazardous substances.

Use Case – Weihai City in Shandong

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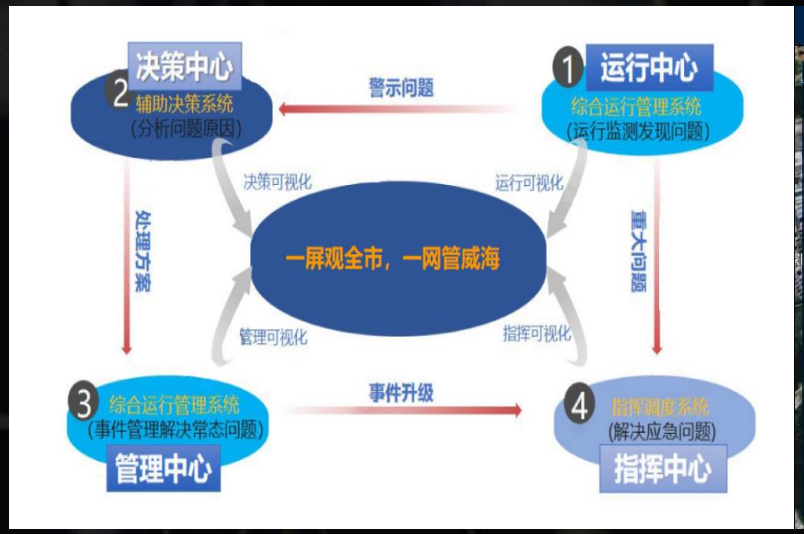
First phase of the project established a) one command center, b) one platform (comprehensive situation monitoring), c) one dashboard covering six domains (citizen livelihood services, government services , environment, transportation, culture and tourism, and urban management). **Combing all six domains, over 350,000 data elements were processed, creating a bird's eye view of the city**.

In this process, we utilized big data, A.I., IoT and others to **fully integrate city data resources**, and build a comprehensive **emergency command and dispatch dashboard** that allows **data aggregation and command & control** to support **risk prevention and early warning systems**. This integration allows for the establishment of a comprehensive command platform that is capable in **disaster response** and handling to provide timely support across the city, and form a city operation management and **command system that is interconnected between various departments**. Data related to emergency events is spatially processed and creates visualization.



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Thank
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