8th International Conference on BIG DATA & Data Science for Official Statistics

BILBAO 2024

Informing Climate Change and Sustainable Development Policies with Integrated Data

BILBAO. SPAIN | 10-14 JUNE 2024 | #UNBigData2024

United Nations Global Hub on Big Data and Data Science for Official Statistics

UNBDC

Briefing on Work of UNBDC

United Nations BigData

EUSKO JAURLARITZA GOBIERNO VASCO

GOBIERNO DE ESPAÑA MINISTERIO DE ASUNTOS EXTERIORES, UNIÓN EUROPEA Y COOPERACIÓN

BC3 BASQUE CENTRE FOR CLIMATE CHANGE Klima Aldaketa Ikergai

EXCELENCIA MARÍA DE MAEZTU 2023-2027

INE Instituto Nacional de Estadística

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PART 01

Overview of Work

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01–1 Serving for the Capacity Building of Global Official Statistics

1 UNBDC held International Seminars on big data and data science from a broad perspective in 2020 and 2021, including the topics “Sound and Sustainable Data Ecology”, “Capacity Development in Big Data for Official Statistics” .

01–1 Serving for the Capacity Building of Global Official Statistics

2022

2023

2024

2 Focusing on specific fields, UNBDC held International Seminars in 2022, 2023 and 2024, with the topic of “Measuring Shared Prosperity and Inclusion: Challenges and Innovative Approaches”, and “The Innovation and Application of Remote Sensing in Agriculture Statistics”, and “Measuring the Digital Economy”, which make seminars as an important platform for the United Nations to strengthen the capacity building of global official statistics.

01–1 Serving for the Capacity Building of Global Official Statistics

3 Focusing on sub-topic, with the support of UNSD, UNBDC hosted **"Precision Improvement of Automatic Extradition of Earth's Surface Information"** workshop, which attacted international and domestic experts from the NBS of China, the Chinese Academy of Sciences and other institutions, to share the "Chinese practice" and the latest research progress in agricultural remote sensing.

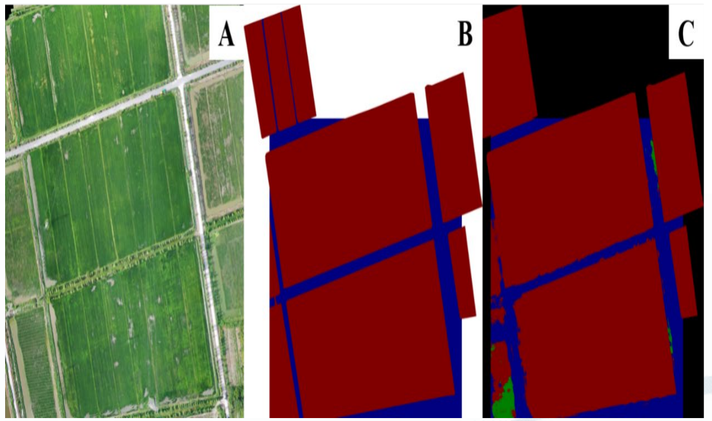
01–1 Serving for the Capacity Building of Global Official Statistics

4 UNBDC has organized and promoted **United Nations Hackathon Competition** for three years, and invited data science talents from the Asia Pacific region to actively participate in the competition. The first China compitition was held with 98 teams envolved.

01–2

Innovative Application for Big Data in Official Statistics---Agricultural Remote Sensing

1 **The Laboratory of Remote Sensing for Statistics** was established, with 9 experts from many institutions, such as FAO and State Key Laboratory of Remote Sensing Science in China.



UNBDC has completed the **High-Resolution National Statistical Remote Sensing Application Demonstration System Project** (second phase), and a series of achievements were seen in key technologies, operation systems, and demonstration.

UNBDC has been promoting the iterative upgrade of the **Intelligent Agricultural Survey System in Zhejiang**, focusing on data collection, review, process management and application, resulting in the digitization of the entire process of agricultural survey.

01–2
Innovative Application for Big Data in Official Statistics--E-commerce

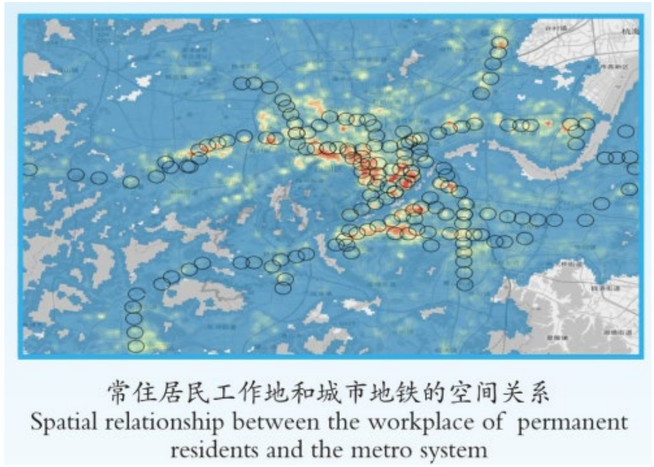
2 Based on over 3 billion **transaction data** from more than 90 e-commerce platforms, a multi-dimensional measurement and analysis on the development of online retails by industries and regions in Zhejiang was conducted.

UNBDC has improved the ways of using the **scanner data from supermarkets** and the mechanism of data cleaning, matching and auditing in CPI survey.

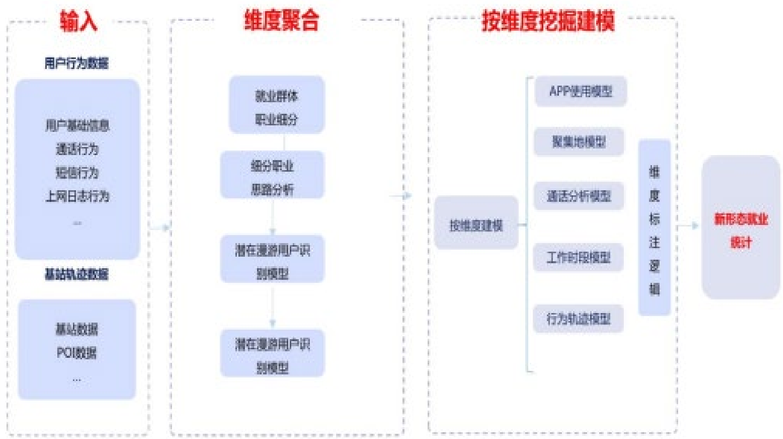
01–2

Innovative Application for Big Data in Official Statistics---Demographic Statistics

2021–2022年杭州市城市更新过程中的居民常住地迁徙
Change of permanent residence in Hangzhou’s urban renewal, 2021–2022



常住居民工作地和城市地铁的空间关系
Spatial relationship between the workplace of permanent residents and the metro system



3 UNBDC used **mobile signaling data** to reflect new trends in employment, developed a perception model for population dynamic distribution among regions or cities, and conducted exploratory research on precise identification and dynamic monitoring of new employment groups（such as the couriers and the deliveryman）.

01–3 In-Depth Cooperation and Exchanges

1 The side event of 4th UN World Data Forum in 2023.

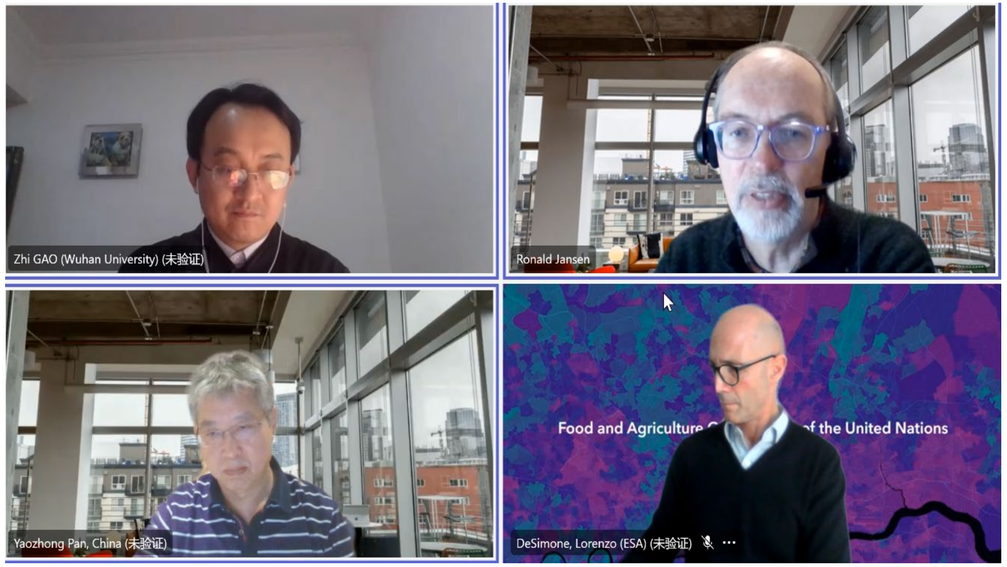
- Li Junhua, Under Secretary-General of the UN, Kang Yi, Commissioner of the NBS, Li Yanyi, Vice governor of Zhejiang Province, and Stefan Schweinfest, Director of UNSD, attended the side event.

A **joint statement** was signed by four regional hubs including China, Brazil, Rwanda and the UAE with the agreeement to join each other's efforts for further exchanges and cooperation.

01–3 In-Depth Cooperation and Exchanges

2 UNBDC has actively participated in international conferences and projects under the United Nations framework. This year, UNBDC attended the United Nations Statistical Commission's side meeting "Strengthening the Use of Big Data for Official Statistics in the Asia-Pacific Region" and the International Seminar on Data Science for the Statistics and Transport Communities to further strengthen the exchange of big data experience under the multilateral framework. UNBDC also attended relevant professional seminars such as "Mobile Phone Data and Official Statistics" and "Measuring Digital Trade Webinar".

01–3 In-Depth Cooperation and Exchanges



3

UNBDC has provided public goods and intellectual support for global official statistics. In March this year, UNBDC held a preparatory meeting for the preparation of the Global Agricultural Remote Sensing Manual, and will coordinate the preparation of the manual under the guidance of relevant departments of the NBS of China.

Since the beginning of this year, the experts from the UNBDC's Expert Database in Agricultural Remote Sensing have provided intellectual support to the Regional Hub in Indonesia and Rwanda on two major topics, namely "Rice Estimation using Earth Observation Data in Indonesia" and "Comprehensive Monitoring of Agricultural Resources and Disaster Impacts using Earth Observation Data", and shared China's experience and practices.

01–3 In-Depth Cooperation and Exchanges

4

UNBDC **visited several scientific research institutions** such as the Zhejiang Lab, Ant Group, and China Data Valley to seek the possibility of cooperation.

UNBDC carried out **domestic cooperation on a large scale**. UNBDC has signed a strategic cooperation agreement framework with Zhejiang Lab to carry out cooperation in various fields, and signed agreements with Zhejiang University, Zhejiang Gongshang University to jointly build training bases.

01–4 Research, Application, and Support of New Technologies

Privacy and Data Fusion Computing

1 UNBDC is implementing the **National Key Project of Statistical Science Research** about Privacy Computing Technology.

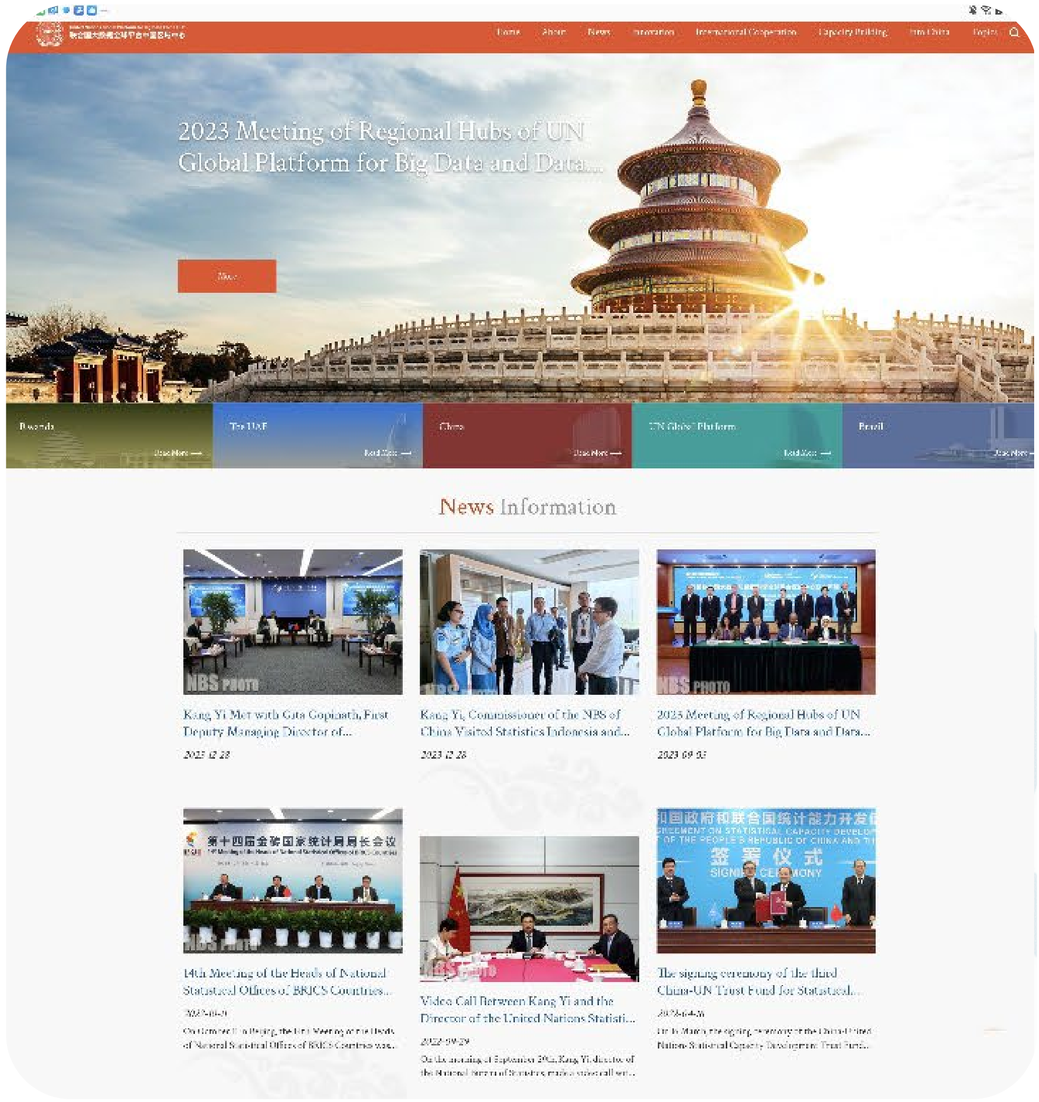
UNBDC is promoting the **Data Fusion Computing Platform** to achieve secure sharing and integrated computing of tens of millions of data across multiple departments, and has successfully applied them to multiple social governance scenarios such as economic management and water resource utilization.

	等级	水效系数	说明
规上工业企业水效水平	A档	S≤0.5	工业企业用水效率在整个规上工业中相对较高
	B档	0.5<S≤3	工业企业用水效率在整个规上工业中处于中等
	C档	S>3.0或S<0	工业企业用水效率在整个规上工业中相对较低

01-4 Research, Application, and Support of New Technologies

Portal Website

2 **UNBDC portal website** brings together more than 300 international statistical indicators from more than 200 economies and regions and encompasses specialized sections, including International Statistics, COUNT Online Interactions, International Cooperation and Capacity Building, showcasing international vision, Chinese elements, Zhejiang characteristics.



01–4 Research, Application, and Support of New Technologies

Intelligent Industry Coding System

3 UNBDC is promoting the **Intelligent Industry Coding System** with the features of fast and intelligent recommendation of the optimal industry categories and codes. At present, the system has been deployed in the formal environment of the 5th National Economic Census which has been serving the on-going Census.

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PART 02

Key Tasks in the future

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- UNBDC will endavor to achieve breakthroughs in **agricultural remote sensing** and **e-commerce fields**, and make more theoretical research and application achievements.

- UNBDC will expand the application of big data for statistical purposes by focusing on **monitoring labor and employment**, and promote theoretical and practical innovation.

- UNBDC will promote the key project on **"privacy computing technology"** by collaborating with Zhejiang Lab, and propose solutions from technical and organizational aspects.

02–2 Accelerate Construction of the Statistical Remote Sensing Laboratory

- UNBDC will facilitate **the approval of the lab's construction plan**, accelerate the construction of software and hardware facilities.

- UNBDC will **promote research projects** in 2024:
  - Draft of Global Agricultural Remote Sensing Manual.
  - Automatic extraction technology for crop planting land.
  - Technologies for remote sensing image on agricultural and rural statistics.

02–3 Capacity Building and Training

- UNBDC will promote the exchanges and sharing about **classic cases and technical methods of statistical application of big data** from various countries on the United Nations Big Data Global Platform.

- A series of international exchange activities：
  - **International seminars on big data**
  - **International and domestic training courses** in specialized sub-fields around the themes of "agricultural remote sensing" and "labor and employment".
  - 2024 United Nations **Hackathon** Competition and the 2nd China Competition.

02–4 International Exchanges and Cooperation

- UNBDC will strengthen the opening-up and international cooperation on application of big data in official statistics, plan and carry out **intergovernmental cooperation projects**.

- UNBDC will consolidate and deepen cooperation with other regional hubs, organize or participate in **annual exchange activities** to share the latest progress, experience, and achievements related to the application of big data in official statistics.

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Thanks !

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