

# CHUO KAIHATSU CORPORATION

Global Center



**CKC**

## Company Profile

Foundation 10<sup>th</sup> March, 1946

Representative Chairman: Ichiro Seko (Ph.D in Engineering, P.E.Jp(Civil Engineering))

President: Makoto Tanaka (P.E. Jp(Civil Engineering, Engineering Management))

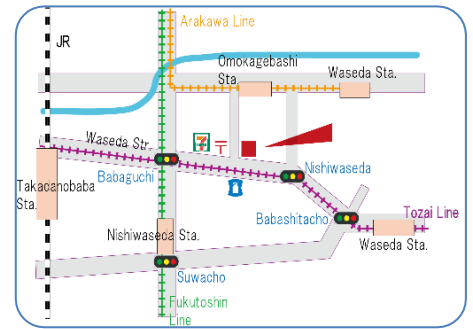
Capital 100 million yen  
(Owned Capital 4.027 million yen)

Sales 8,783 million yen (2022)

Employees 358 (May 2022)

Address 3-13-5, Nishiwaseda, Shinjuku, Tokyo,  
169-8612, JAPAN

Certification Quality Management Systems ISO 9001  
Information Security Management System ISO/IEC27001:2013  
Environmental Management Systems Eco Action 21



## Service Area

Consulting service

- Civil engineering, Architecture, Agriculture, Resources, Energy, Environment
- Design and maintenance of various structures, Supervision •Disaster prevention
- Residents participation and Consensus building •Tourism promotion

Investigation service

- Geology, Groundwater, Resources, Environment, Disaster prevention, Laboratory test
- Soil and groundwater analysis •Geophysical investigation •Active fault survey
- Disaster prevention monitoring

Survey service

- Topography survey, Land measurement, Power line survey(aerial/underground)

Information/ analysis

- Geographic Information System (GIS, Web-GIS, G-Cube) •Ground information publication

Construction work

- Purification of contaminated soil, Landslide prevention, Well digging

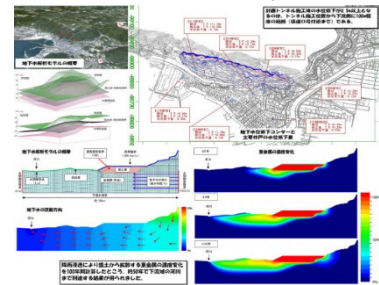
Soil investigation



Seabed drilling investigation



Groundwater analysis



Disaster monitoring



Structures inspection



Improvement of tourist reception



## International Work

- \* CKC engineers build basic social structure around people, water and soil.
- \* Started overseas business in 1973 and participated in various projects around the world
- \* Many experience in Latin American projects based on the Sao Paulo office, Brazil.
- \* Promoting disaster prevention based on the local subsidiary in Chengdu, China.
- \* Besides infrastructure and ground, recently focused on agriculture and business creation field.

### Our projects in recent years

Period	Country	Project	Note
2023.6~2025.3	Brazil	SDGs Business Validation Survey for Early warning monitoring system for landslides disasters in Brazil	JICA Public-Private Partnership
2019.4 - 2024.3	Brazil Argentina	Research and Analysis of Global Food Supply/Demand Research	Grain research and analysis
2021.6~2024.3	Brazil	Project of Public Relations and Sales Channel Promotion of Ibaraki Food Products to South America (Brazil)	Promotion, trial export, business meeting of Ibaraki food
2012.6 - 2023.3	Latin American countries	Project of Interchange, Cooperation and Business Creation for Nikkei Farmers of Latin America	Training course of agriculture and business matching with Japanese companies
2021.6~2022.3	12 countries	The information collection survey on needs for establishing smart food chain in developing countries and matching Japanese technologies of private companies with the needs	Needs survey, matching with Japanese companies
2021.10~2022.3	Brazil	Project of Shizuoka Prefecture Promotion to Nikkei Society in Brazil	Production of PR video and cooking recipe
2020.11~2022.3	Sudan	Ex -Post Project Evaluation 2020: Package II -5 (Sudan)	Ex-post evaluation
2020.2 - 2021.12	China	Monitoring of Large-Scale Iceberg Landslide Slopes	Institute of mountain hazards and environment Chinese academy of sciences
2019.4 - 2021.12	China	Frigid Area Slope Early Warning System	Institute of mountain hazards and environment Chinese academy of sciences
2017.8 - 2021.4	Myanmar	Advisor for Capacity Development on Greater Yangon Water Supply Improvement Project (Phase II) (I)(Earth Works) - Enhancement of water supply service of Kokkowa Water Treatment Plant	Advisory work for Embankment construction management
2019.6 - 2021.3	Argentina	Project for Development of Inclusive Value Chains Oriented to the Market with OVOP Argentina Concept (planning phase)	One Village, One Product Value Chain Promotion
2019.4 - 2020.3	Brazil, Argentina, Ecuador	Research and Analysis of Agriculture and Trade Investment Environment	Agriculture / Food dialogue, Survey
2019.12 - 2020.3	Around the world	Data Collection Survey on Smart Food Chain Development in Developing Countries	Brazil, Colombia, Kenya, Côte d'Ivoire
2019.4 - 2020.3	Bhutan	The Project for Capacity Development on Countermeasures of Slope Disaster on Roads in Bhutan	Providing, installing, and observing equipment for road slope monitoring
2014.3 - 2019.5	Brazil	Non-Revenue Water Control Project in Sao Paulo State	Supervision (ODA Loan)
2017.5 - 2019.3	Brazil	Research and Analysis of Agriculture and Trade Investment Environment	Bilateral talk, Grain Transport Infrastructure Improvement Survey
2017.8 - 2018.3	Colombia Costa Rica Brazil	Ex-post Evaluation of Thematic Issue Trainings	Ex-post evaluation of JICA training in Japan
2012.1 - 2017.7	Haiti	Project of Restoration of Water Supply System for the Reconstruction of Leogane city	Preparatory study and Construction supervision
2016.4 - 2017.3	Kenya, Ghana	Project of Capacity Building for Food Value Chain in Africa	Capacity Building
2015.6 - 2017.3	Brazil	Project of Development of Food Value Chain	Policy Dialogue, Seminar, Research
2016.11 - 2017.3	Angola	Data Collection Survey for Project of Cotton Production Development in Capanda	Irrigation, Distribution/Economy Analysis
2015.3 - 2016.12	Vietnam	Lach Huyen Port Infrastructure Construction Project (Road and Bridge Portion)	Supervision, Embankment Management



# Infrastructure



## Contribute to development of urban infrastructure with Professional Knowledge

Our engineers work on investigation, planning, construction management for improvement of infrastructure.

### Project of Non-Revenue Water Reduction in Sao Paulo State

Country: Brazil

Client: SABESP/JICA

Period: 2014.3 - 2019.5

SABESP aims to streamline and stabilize water supply in Sao Paulo State by Japanese ODA Loan. Our company was engaged in supervision of project implementation.



### Project of Restoration of Water Supply System for the Reconstruction of Leogane city

Country: Haiti

Client: JICA

Period: 2012.1 - 2017.7

Haiti was seriously damaged by the earthquake on January 12, 2010. We worked on recovery and improvement of water supply facilities through grant aid.



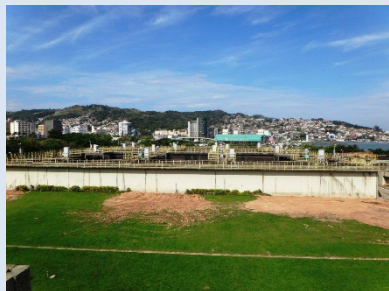
### Sanitation Improvement Project for Santa Catarina Coastal Region

Country: Brazil

Client: CASAN/JICA

Period: 2012.3 - 2016.1

We worked for building wastewater treatment plants and pump stations, also improving the wastewater network. In addition, we made the environmental impact assessment report.



# Agriculture



## Creation of agribusiness and food value chain

We are expanding our business in the agricultural field, which maintains our lives, mainly in Latin America.

### Project of Interchange, Cooperation and Business Creation for Nikkei Farmers of Latin America

Country: Brazil, Argentina, Paraguay, Bolivia, Peru, Colombia, Mexico, etc.

Client: MAFF (Ministry of Agriculture of Japan)

Period: 2012.6 - 2023.3 (11 consecutive years)

We utilize our South American network to promote technical interchange with Nikkei farmers, and realize training course and conference to develop good relationship.



### Data Collection Survey on Smart Food Chain Development

Country: Brazil, Colombia, Kenya, Côte d'Ivoire

Client: JICA

Period: 2019.12 - 2020.3

We conducted a survey to analyze and promote the current situation and issues regarding the overseas expansion of Japanese technology.



### Research and Analysis of Agriculture and Trade Investment (Food Value Chain Promotion)

Country: Brazil, Argentina, Ecuador

Client: MAFF (Ministry of Agriculture of Japan)

Period: 2019.4 - 2020.3

Global food value chain strategy is promoted to export Japanese food industry. CKC conducted Bilateral policy dialogue and research on grain transportation infrastructure development.





# Disaster Prevention



## Contribute to the world with Japanese disaster prevention technology

We provide comprehensive support for disaster mitigation with experience of disaster prevention and ICT.

### The Project for Capacity Development on Countermeasures of Slope Disaster on Roads in Bhutan

Country: Bhutan

Client: JICA (reinforcement participation)

Period: 2019.4 - 2020.3

In Bhutan, many slope failures have been occurred during the rainy season. Our engineers were engaged in the installation and observation of the slope collapse detection sensor "Kantaro" to strengthen the capacity of road slope disaster prevention.



### Monitoring of Large-Scale Iceberg Landslide Slopes

Country: China

Client: Institute of mountain hazards and environment Chinese academy of sciences

Period: 2020.2 - 2021.12

We participated in the investigation of properties of the ground by comparing the waveform with the seismic waveform and the research of the vibration characteristics.



Chengdu-Dongzhong 成都東中 <http://www.ckcnet.cn>

### Overseas Expansion of Disaster Prevention Technology (Slope Collapse Detection Sensor)

Country: Japan, China, Asian countries, Brazil

Client: Government Agency

"Kantaro" enables quick understanding of slope fluctuations and provide prompt warnings. We conduct a research of early warning system for prevention of sediment-related disasters in Brazil (JICA Public-Private Partnership).



# Ground (Embankment)



## Support construction with ground-related skill and technology

Expanding our geotechnical consulting services, such as ground investigations, analysis and testing.

### Capacity Development of embankment work for Kokkowa Water Treatment Plant - Greater Yangon Water Supply Improvement Project (Phase II)

Country: Myanmar

Client: JICA

Period: 2017.8 - 2021.4

In the Yangon metropolitan area, water demand is expanding. We served as a technical advisor for the embankment work of the Kokkowa water Treatment Plant.



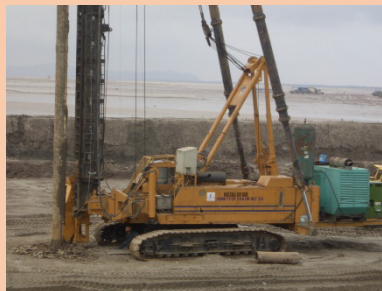
### Lach Huyen Port Infrastructure Construction Project (Road and Bridge Portion)

Country: Vietnam

Client: JICA (reinforcement member)

Period: 2015.3 - 2016.12

We've participated in the construction of basic infrastructure as engineer of the supervision and embankment management, for the new international deep-water port in Lac Fenn area of the eastern part of Haiphong City.



### East-West Highway Construction Plan of Algeria

Country: Algeria

Client: Ministry of Public Works  
(reinforcement member)

Period: 2008.9 - 2010.4

We were in charge of the geotechnical investigation, soil testing and quality control of the ground works in the eastern section of 400km of the 1,200km expressway construction project that crosses Algeria from east to west.





# Business Creation



## Support overseas expansion of Japanese companies

Working for developing new overseas business utilizing our overseas experience as consultants.

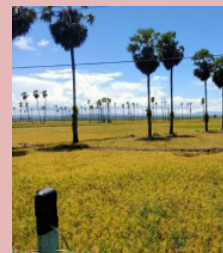
### Information collection survey on needs for establishing smart food chain in developing countries and matching Japanese technologies of private companies with the needs

Country: India, Bangladesh, Indonesia, Thailand, Vietnam, Turkey, Nigeria, Tanzania, Ethiopia, Mexico, Costa Rica, Brazil

Client: JICA

Period: 2021.6 - 2022.3

The survey of DX of agriculture in developing countries and Japanese technologies which fit to the needs to build a smart food chain.



### Project of Public Relations and Sales Channel Promotion of Ibaraki Food Products to South America (Brazil)

Country: Brazil

Client: Ibaraki Prefecture

Period: 2021.6~2024.3

In order to expand the sales channels of Ibaraki prefecture products to Brazil, we conducted a promotion, trial export and business negotiations.



### Project of Interchange, Cooperation and Business Creation for Nikkei Farmers of Latin America

Country: Brazil, Argentina, Paraguay, Bolivia, Peru, Colombia, Mexico, etc.

Client: MAFF (Ministry of Agriculture of Japan)

Period: 2012.6 - 2023.3 (11 consecutive years)

We are working on business matching with Nikkei farmers, in order to support the expansion of Japanese companies into Latin America in the area of technology of agriculture and food.





# Project Evaluation



## Analyze project result to improve project operation

Evaluate JICA project whether target effect was produced and make suggestion for better operation.

### Ex-Post Project Evaluation 2020: Package II -5 (Sudan)

Country: Sudan

Client: JICA

Period: 2020.11 - 2022.3

We conducted the project evaluation of Upgrading Food Production Infrastructure, Capacity Development for Irrigation Scheme Management in River Nile State, Improvement of Solid Waste Management in Khartoum State.



### Terminal Evaluation on the Project for Capacity Development for the Promotion of Irrigation Scheme Development under the District Agriculture Development Plan Phase 2

Country: Tanzania

Client: JICA

Period: 2019.7 - 2019.9

This technical cooperation project aims to strengthen the mechanism for improving and promoting irrigation development and we did a terminal evaluation.



### Ex-post Evaluation of Thematic Issue Trainings

Country: Colombia, Costa Rica, Brazil

Client: JICA

Period: 2017.8 - 2018.3

We investigated the subsequent situation of those who participated in the training conducted in Japan by JICA in the past and evaluated the effectiveness of the training.



# "KEIDO-JIZAI" Marine Drilling Method

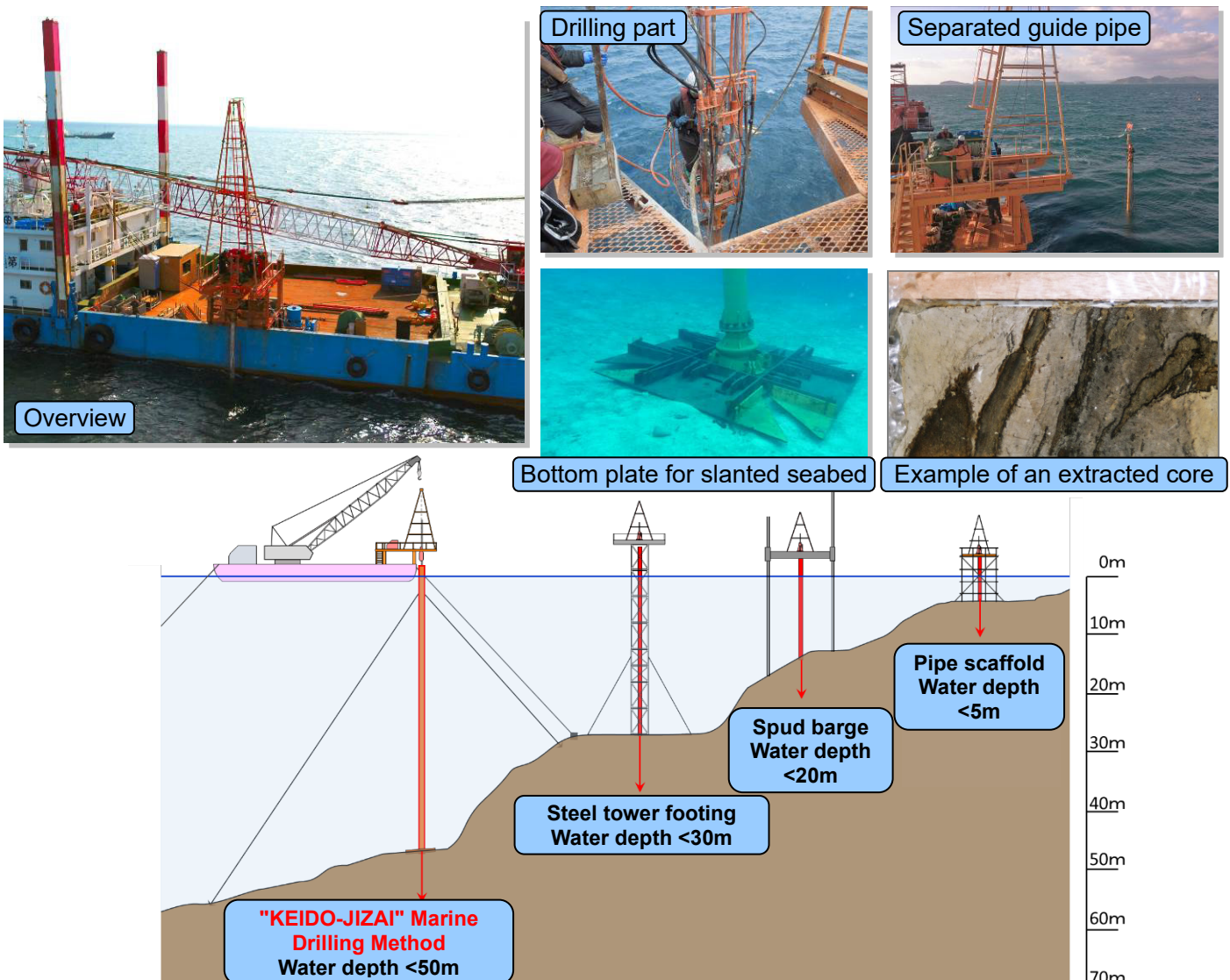
- Boring survey method of outstanding stability and mobility in sea areas -

\*Evaluation of private sector technology related to harbors No. 94302

Boring method available in deep water (up to approximately 50m)

## Characteristic

- ◇ Available during changes in weather and sea conditions due to independent structure of the guide pipe and boring unit on the base ship
- ◇ Offshore survey from the coast (maximum water depth of about 50m)
- ◇ Can be installed on a sloping sea floor (up to about 10° slope)
- ◇ Capable of evacuation in about 30 minutes in stormy weather and smooth resumption of operations





NETIS Registration: KT-130093-A  
 Trademark registration: No.5243857  
 #Joint development with Univ. of Tokyo and PWRI

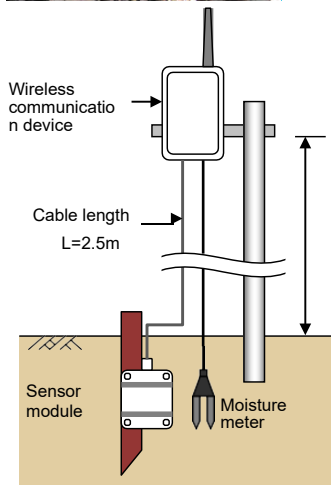
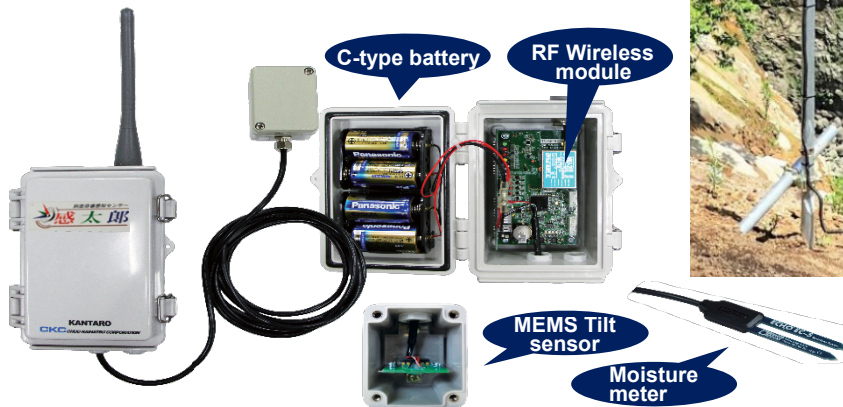
## Slope Failure Monitoring Sensor



The tilt of natural and artificial slopes gradually shifts due to loosening and slippage.

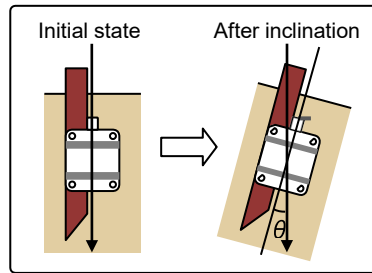
“KANTARO” is a clinometer developed for the purpose of capturing this shift.

- The measurement portion utilizes MEMS technology (Micro-electro Mechanical Systems), and the communication control portion employs a specified low-power wireless module, allowing the unit to be **small, lightweight, energy-efficient, and low-cost!**
- This has made it possible to **simplify installation and increase the number of points** compared to conventional observation equipment!
- By combining it with “**KANSOKUO**”, information about slope disasters can be **provided quickly!**



### Slope monitoring

Tilt sensor measures the inclination angle ( $\theta$ ) at constant intervals and captures the shift of the slope, in order to evaluate the risk of the slope.



#### Specification:

Slope failure monitoring sensor KANTARO

#### Sensor Unit

- 2-D Clinometer Module ( $-30^\circ$  to  $+30^\circ$ )
- 3-D Clinometer Module ( $-90^\circ$  to  $+90^\circ$ )
- Fall detection (when tilted  $\pm 30^\circ$ )

#### Soil moisture meter (optional)

- Simple soil moisture meter EC5-5
- Measurement accuracy:  $\pm 3\%$

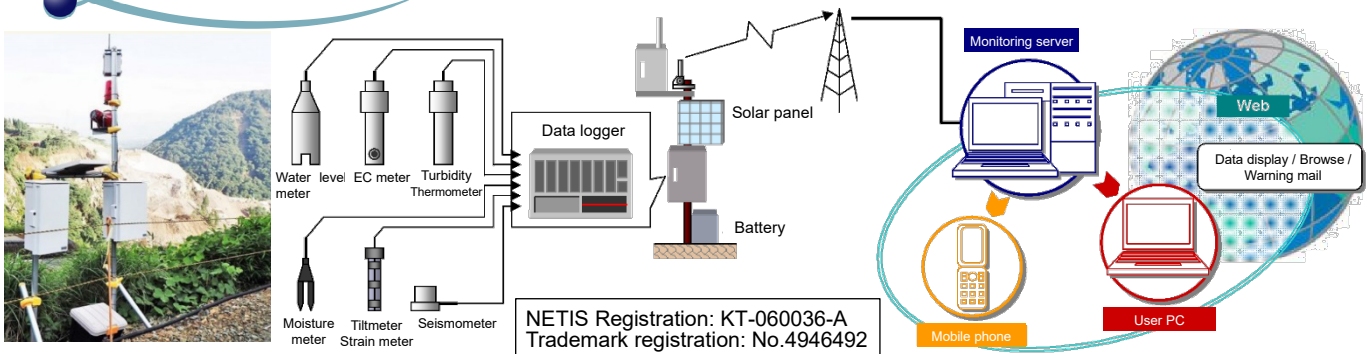
#### Communication

- Wireless: ARIB STD-T67
- Frequency range: 429.2500 - 429.7375MHz
- Range: About 600m (without barriers)

Automatic internet full duplex remote monitoring system



“KANSOKUO” is the system on which our K3-System (Automatic internet full duplex remote monitoring system) is based. On-site measuring instruments monitor landslides, slope failures, debris flows, rockfalls, and riverbank leakage. The collected data is graphed on our server and distributed via the Internet.



NETIS Registration: KT-060036-A  
 Trademark registration: No.4946492



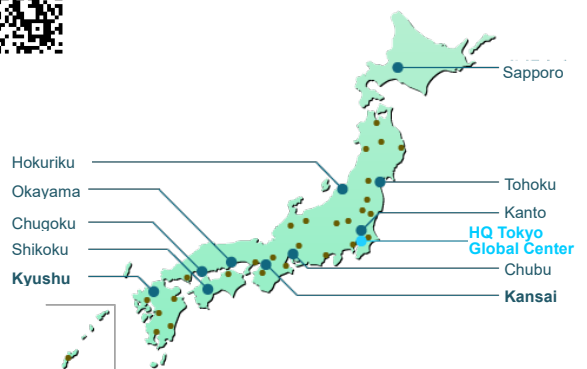
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