

Translating Locally-led Resilience into Action
in the Age of Complex Risk and Digital Transformation
복합위험과 디지털 전환시대, 지역주도 복원력의 실행

The 5th



International Disaster Resilience
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인천 국제재난복원력 지도자 포럼



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송도컨벤시아 그랜드볼룸 A
Songdo Covensia, Grand Ballroom A

New Strategies for the Prevention and Management of Complex Disasters Using AI

A Mongolia-focused perspective

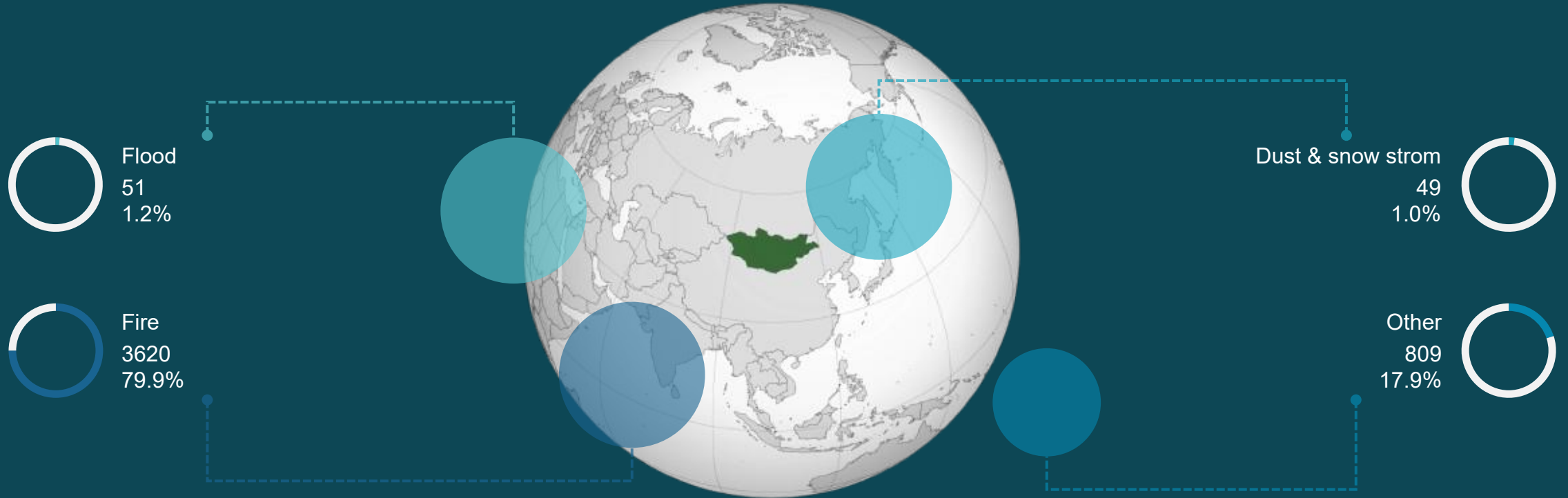
Ulziibayar.L

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Department

National Emergency Management Agency
MONGOLIA

Hazardous phenomena in Mongolia

(Approximately 4530 hazardous events occur annually)



01

Fire (building & wild)

Fire incidents are increasing annually due to population growth, urbanization, and industrial development.

02

Flood

Climate change is contributing to an annual increase in both flood occurrences and associated damage.

03

Dust & snow storm

Mongolia's vast territory increases the risk of people becoming lost and suffering fatalities during dust and snowstorms.

04

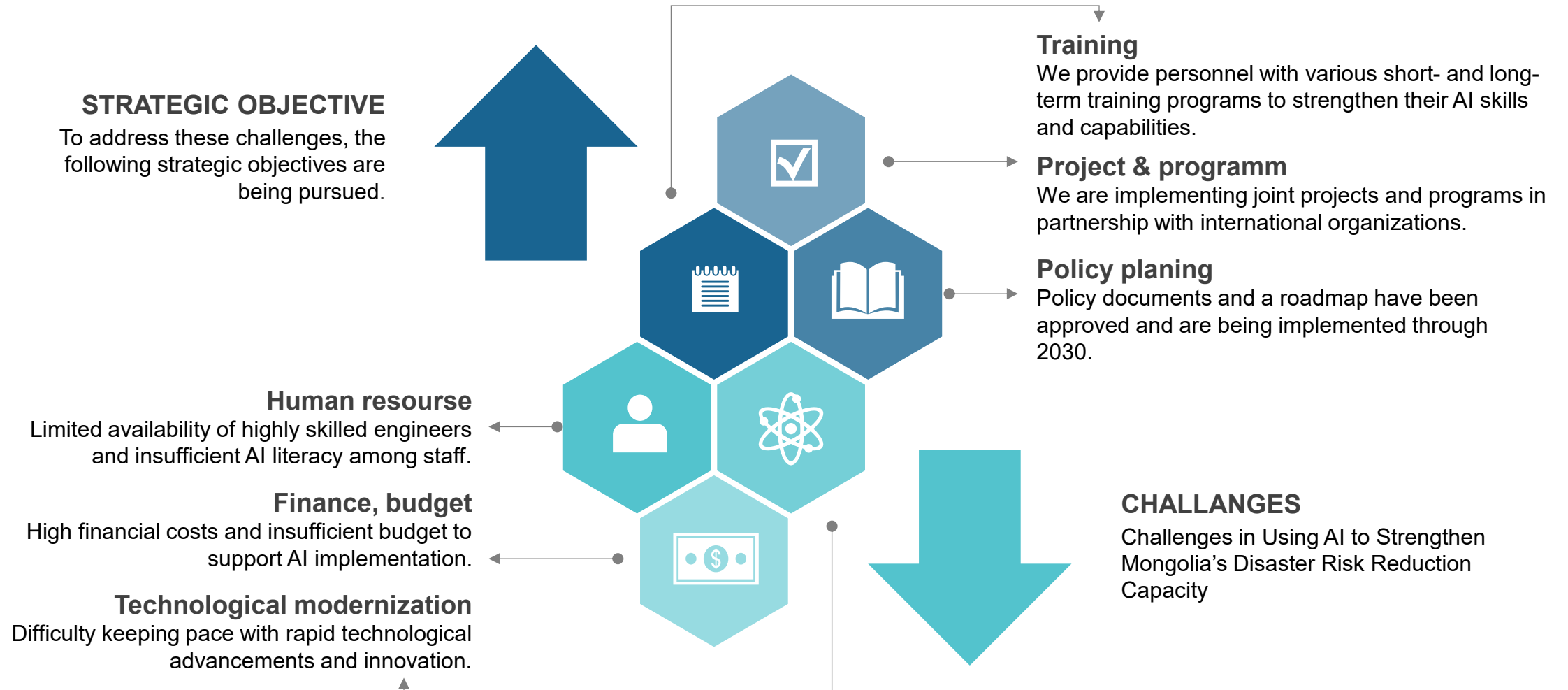
Other

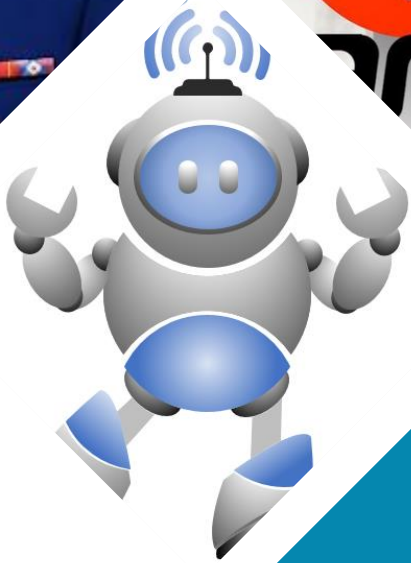
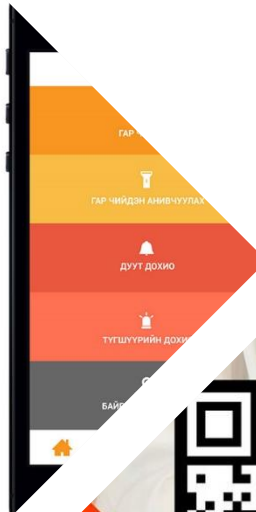
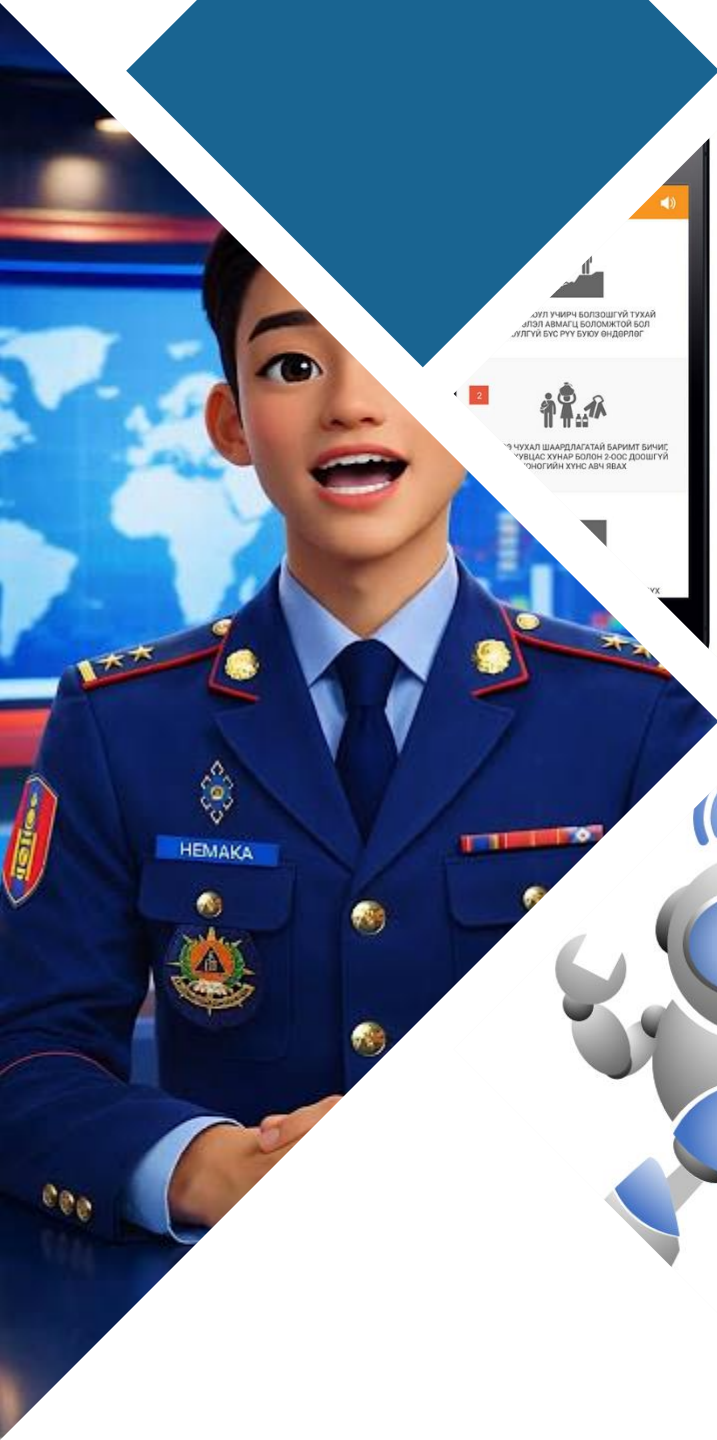
NEMA responders handle over 20 types of emergencies, including household, industrial, traffic, chemical, and mining accidents.

DISASTER RISK MANAGEMENT SYSTEM



Challenges in AI Adoption and Future Priorities in Mongolia





NEMAKA (AI-Powered Media Assistant)

AI to produce video news, public warnings, and safety information, enhancing the speed and reach of disaster risk communication.



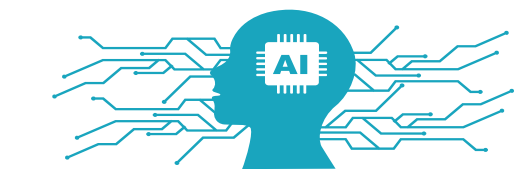
APP, training module

AI based disaster prevention contents, apps and training modules are being developed and introduced to the public.



Chatbot

NEMA uses an automated chatbot on Facebook Messenger to provide 24/7 disaster-related information, safety guidance, and prevention messages to the public.



DISASTER PREVENTION

AI&VR (virtual reality) based training



- ☐ Earthquake
- ☐ Post earthquake fire
- ☐ Realistic evacuation scenarios will be simulated to provide practical training.

- ☐ Office
- ☐ School, kindergarden
- ☐ Hotel
- ☐ Home & household settings

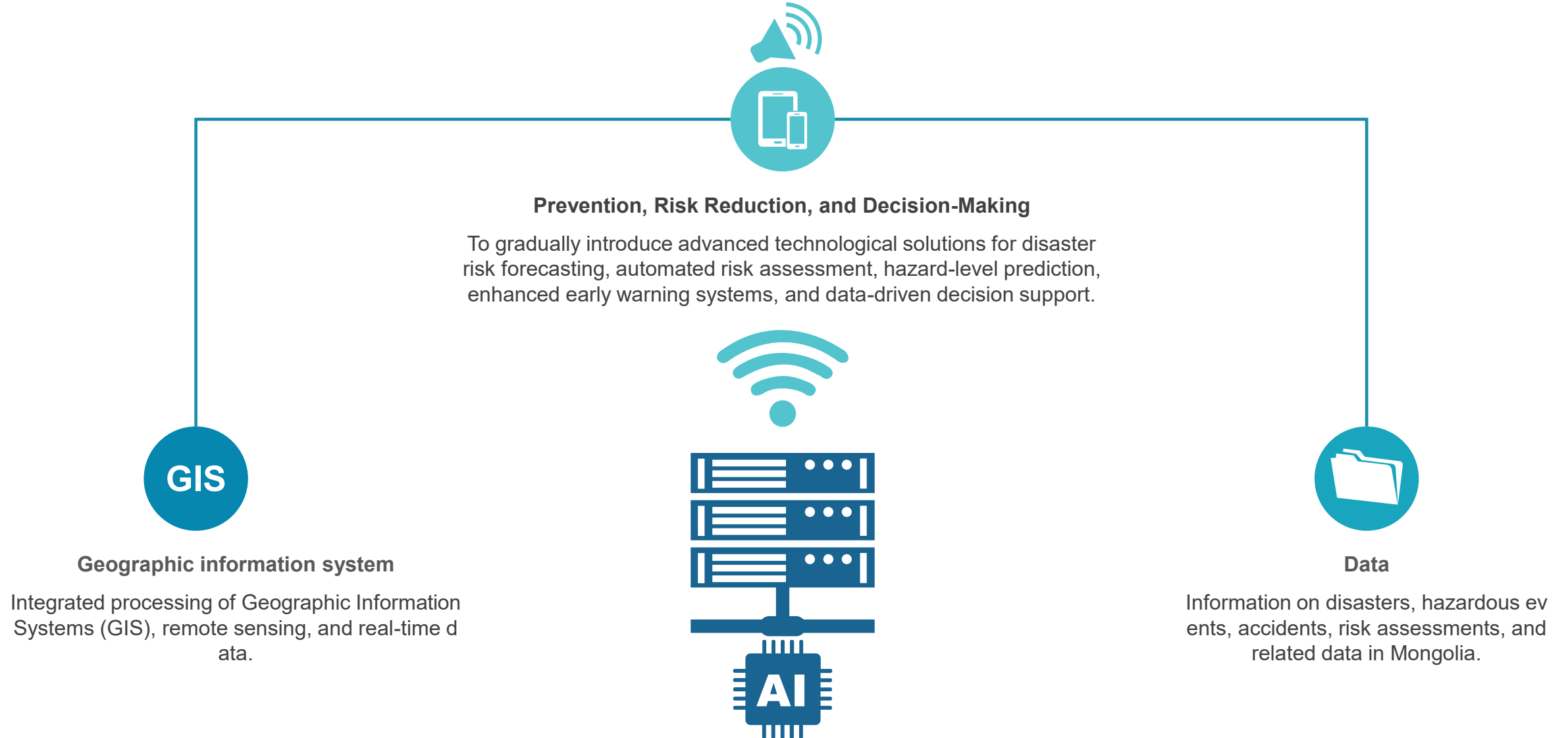
CONTROL CAMERA

AI based fire detection camera system

Terminal cameras equipped with smoke detection sensors are being installed across all 13 districts of the Ulaanbaatar city to enable the rapid detection of fire hazards within a radius of up to 10 kilometers. The PTZ (Pan-Tilt-Zoom) terminal cameras are equipped with smoke detection sensors and can rotate 360 degrees to provide continuous video surveillance. When a suspected fire incident is detected, the cameras primarily serve to conduct surveillance, assessment, and situational analysis of the surrounding area..



Efforts to Strengthen the Early Warning System (ongoing)



The Need for AI in Search and Rescue Operations for NEMA of Mongolia

- Preventing Human Errors
- Saving Time and Ensuring Rapid Response
- Effective Planning and Successful Operations
 - Modernizing (fire and rescue)Equipment and Technology
 - Conducting Training for Personnel
 - Post-Operation Analysis and Lessons Learned

Thank you for your attention



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