Digital twin simulation for better disaster prevention planning

Our system enables Evidence Based Policy Making (EBPM) for municipal disaster management plans

#Business Resilience

データを活用した災害に強い街づくり・街運営をめざす
Aiming for data-driven disaster-resilient town development and management

帰宅困難者対策
Measures for people who have difficulty returning home

エリア別の避難誘導
Evacuation guidance by area

データ収集および不足データの特定
Various data collection and identification of deficiencies

地図データ精緻化
Map data refinement

防災対策課題
Disaster Prevention Issues

データ収集
Collecting data

NTT docomo
KOBE 理化学研究所

科学的根拠に基づく政策立案
science-based policy

防災計画への反映
Reflection in Planning

シミュレーション実施
Simulations

現状把握・改善案の推察
Observation of current situation and improvement plan

(例)
一時退避場所の出入口設定
Setting in a shelter

(例)
混雑箇所の特定
Identification of congestion points

富岳 Fugaku

///Technical Issue
Disaster prevention plans often rely on local government employees' experience rather than evidence, especially for assisting those unable to return home.

///Research Goal
Developing a system for instant, accurate evacuation simulations based on scientific evidence, adaptable to municipal changes, without needing specialized knowledge.

---Technology
A Digital twin simulation will be performed by integrating DOCOMO's demographic data with municipality's open data (such as detailed city maps, person-trip surveys results, and signal information) and utilizing high-speed computing resources from the city's research institute.

---Novelty
The first simulation in Japan to combine private-sector and municipal data based on detailed city information; offered as a NTT Group product for the public sector, reducing the amount of work municipalities spend on disaster prevention measures by about 45%.

---Applicable Business
This will be applied disaster prevention plans, like helping those unable to return home and preventing crowd crushes, as well as urban planning for pedestrian flow and evacuation routes during city redevelopment, by around 2026.