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Digital Twin Simulation Utilizing “Fugaku”
~Kobe City Center and Waterfront Area~

May 13, 2025

Kobe City, NTT Docomo, RIKEN

Kobe Smart City – DX Initiatives (as of Dec 2024)

Digital Twin

- Disaster evaluation simulation Using Supercomputers

- Smart Kobe Portal: 2.3 million page views
- Open Data: 140 datasets
- SaaS-type Urban OS

Data Utilization

- Dashboards: 101 across-departments
- Policy effect analysis (RQ): 80 users
- Population forecast via residence data
- Dashboard creation: 1,169 by 405 creators
- Data StaRt Award: received for three consecutive years

Smart City Projects

29 projects in 7 thematic areas

DX Human Resources

- In-house DX training: 74 DX leaders
- External experts: 26 individuals

Operational Efficiency

- Paperless Administration: 57.8% reduction (from 2017)
- AI chatbot FAQ (RAG): 1,000 accesses/day
- Generative AI Chat: 12,000 users
- Contactless Payment: 178 locations
- Drone Use: surveys, inspection, PR, disaster prevention
- Inclusive AI ordinance

Smart Municipal Government

- Smart Ward Offices: Remote consultation for disability
- Digitalized Procedures: 65.4% online
- Operation Apps: 1,400 developed
- e-KOBE: 400,000 users / 2,000 staff accounts
- RPA: 15,366 hrs saved/year
- System standardization in 7 fields
- Digital divide support: 17,296 people

Public transportation paralyzed by the Great East Japan Earthquake

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Paralysis of trains and other public transportation
Large number of people stay at the station

Many people with nowhere else to go occur in the city as well.

Highlighted the importance of measures for people who have difficulty returning home in large cities

Three Pillars of Measures to Prevent People from Returning Home

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Discouraging simultaneous returns to home

Avoid unnecessary movement from safe areas

Securing facilities for temporary stay

Registration of facilities willing to accommodate people who do not have a place to go

Support for safe return

Providing information on toilets and road conditions to ensure safe and smooth movement for those returning home on foot

Digital Twin Simulation (Overview)

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Utilizing the Digital Twin in Kobe City's Disaster Prevention Planning!

- Initiatives

Since 2016, Kobe City has maintained a business partnership agreement with NTT Docomo. In 2022, RIKEN also joined the project, which conducts evacuation guidance simulations to ensure the safety of visitors during disasters. The insights from these simulations are reflected in emergency plans and manuals.

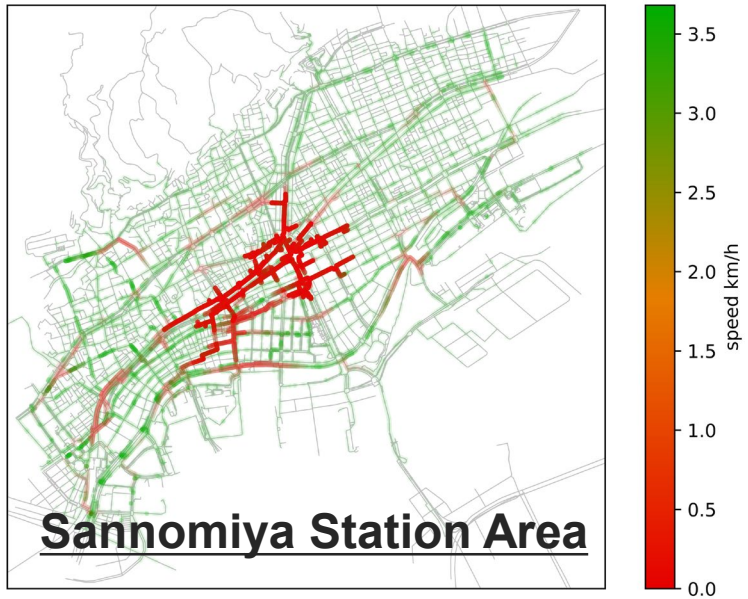
- Identifying congestion points caused by mass return movements during stranded commuter scenarios
- Designating entry/exit points at temporary evacuation areas (Higashi Yuenchi Park)
- Ensuring the feasibility of both vertical and horizontal evacuation around the Kobe Station area

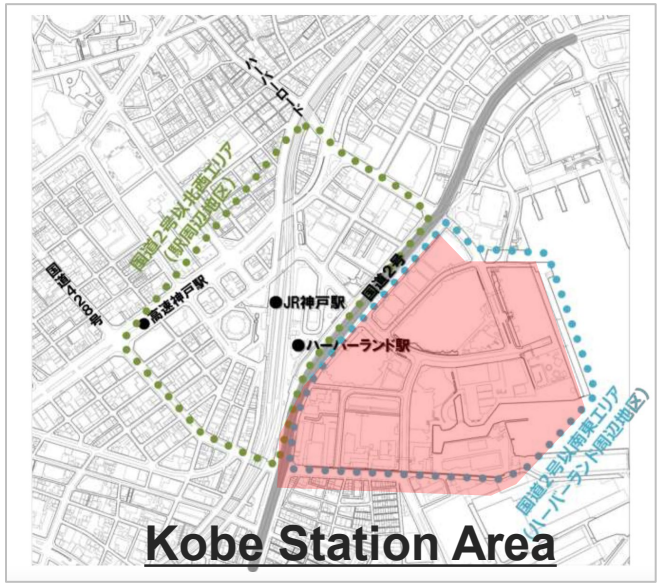
- Area to be covered

Kobe city center and
waterfront area

- Implementation period

April 2022 - March 2025





-Project Outcomes

Enhancing urban disaster preparedness for large-scale emergencies, including the expected Nankai Trough megaquake and increasingly severe and frequent heavy rain disasters

Alongside physical infrastructure improvements centered on the “Redevelopment of Central Sannomiya” project, efforts are being strengthened to implement soft measures that ensure the safety of not only Kobe citizens but also visitors to the area.

Verification of plans and manuals based on scientific evidence!