

Urban NetZero and Digitalization Policy

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1. Urban Policy for Green Spaces



G7 Sustainable Urban Development Ministers' Meeting

**Ministers' Communiqué– Achieving Sustainable Urban Development Together –
9 July 2023 in Takamatsu, Kagawa**

I. Preamble

II. Net-zero and resilient cities

Cities and buildings' contribution to net-zero and climate resilience

The impact of climate change on cities and their role

Green and blue space and infrastructure in cities

Biodiversity in cities

Land use and urban transformation

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Financing the cost of transition

Working together

III. Inclusive cities

IV. Digitalisation in cities

V. Conclusion



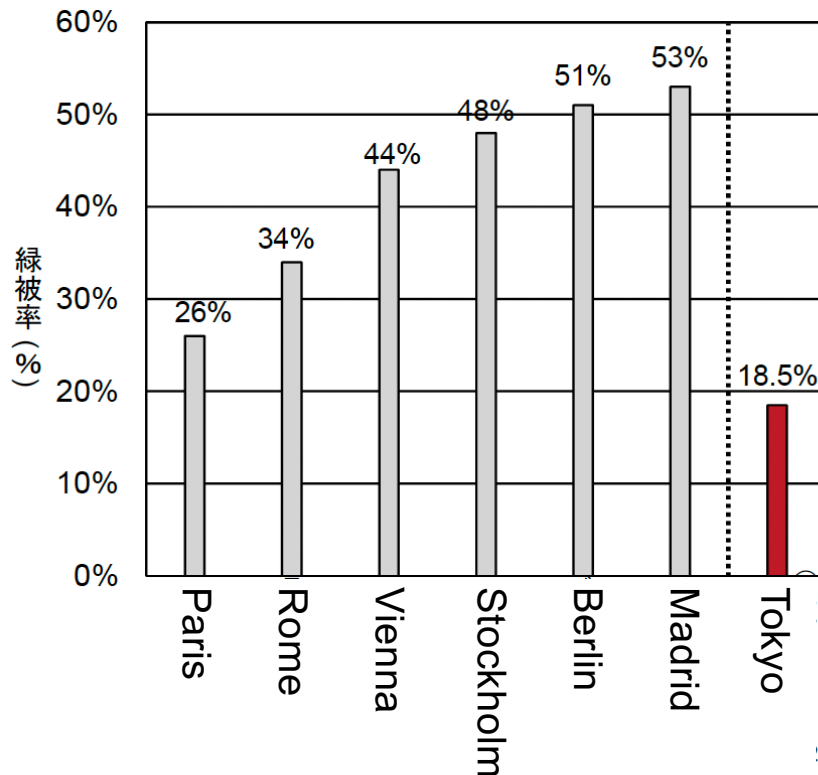
KAGAWA TAKAMATSU

Sustainable Urban Development
Ministers' Meeting



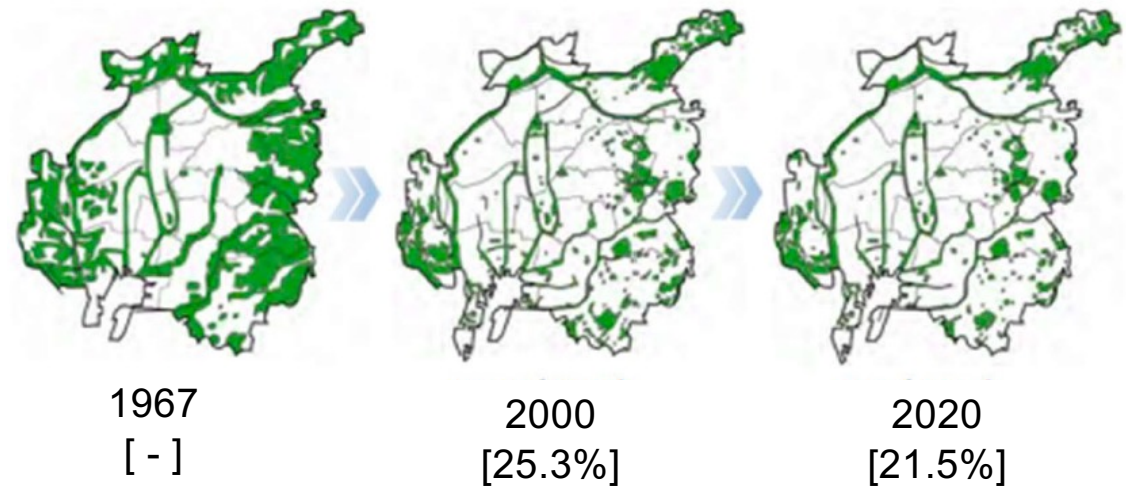
Problem of Declining Green Coverage

Green Coverage Rate in major European cities and Japan



European Data Source: "Percentage of total green infrastructure, urban green space, and urban tree cover in the area of EEA-38 capital cities (EEA: European Environment Agency)"

Decreasing Green Coverage rate (Nagoya City)



Demand for Green Spaces after COVID

Visitors toward Urban Parks in Tokyo

Daily visited
person / ha



Source: Compiled from the number of visitors to three parks in Tokyo (Metropolitan Sayama Park, Metropolitan Musashikokubunji Park, and Metropolitan Nogawa Park).

The reason for being in the downtown

What activities downtown do people most want to do post-pandemic?



City Pulse Survey | Future of Business Districts

Source: Gensler Research Institute. (2021). City Pulse Survey Fall 2021.
<https://www.gensler.com/gri/gensler-city-pulse-survey-fall-2021>

Environmental Value reflected towards Rent in Building

Comparison of property value among various levels of certificate

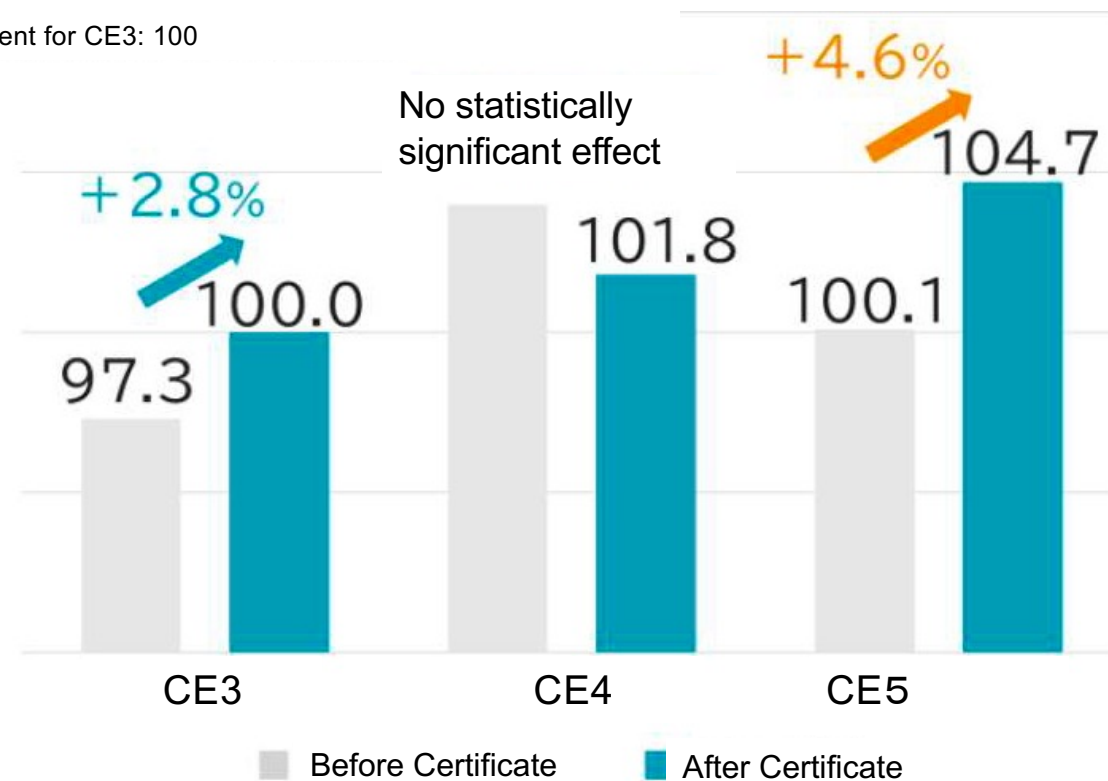
Rent for CE3: 100



CE: Certified Evaluation

Comparison of property value before and after certificate

Rent for CE3: 100



Before Certificate After Certificate

Source: Mitsui Sumitomo Trust Bank

Biodiversity Conservation

International discussions on biodiversity conservation are proceeding, including the adoption of the "Kunming-Montreal Biodiversity Framework," a new global goal by 2030, at COP15 (December 2022, Montreal, Canada).

Target 3: 30 by 30

Ensure and enable that by 2030 at least 30 per cent of terrestrial, inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities including over their traditional territories.

TARGET 1: Spatial Planning

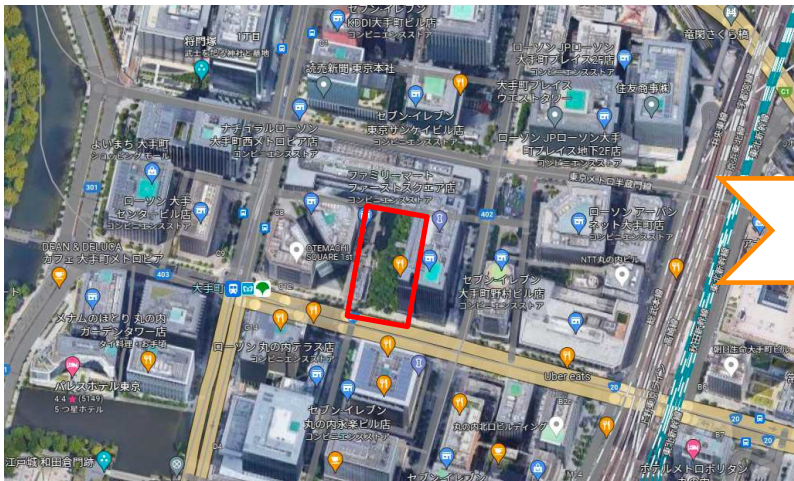
Ensure that all areas are under participatory integrated biodiversity inclusive spatial planning and/or effective management processes addressing land and sea use change, to **bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030,** while respecting the rights of indigenous peoples and local communities.

Target 12: Green Space and Water Conservation

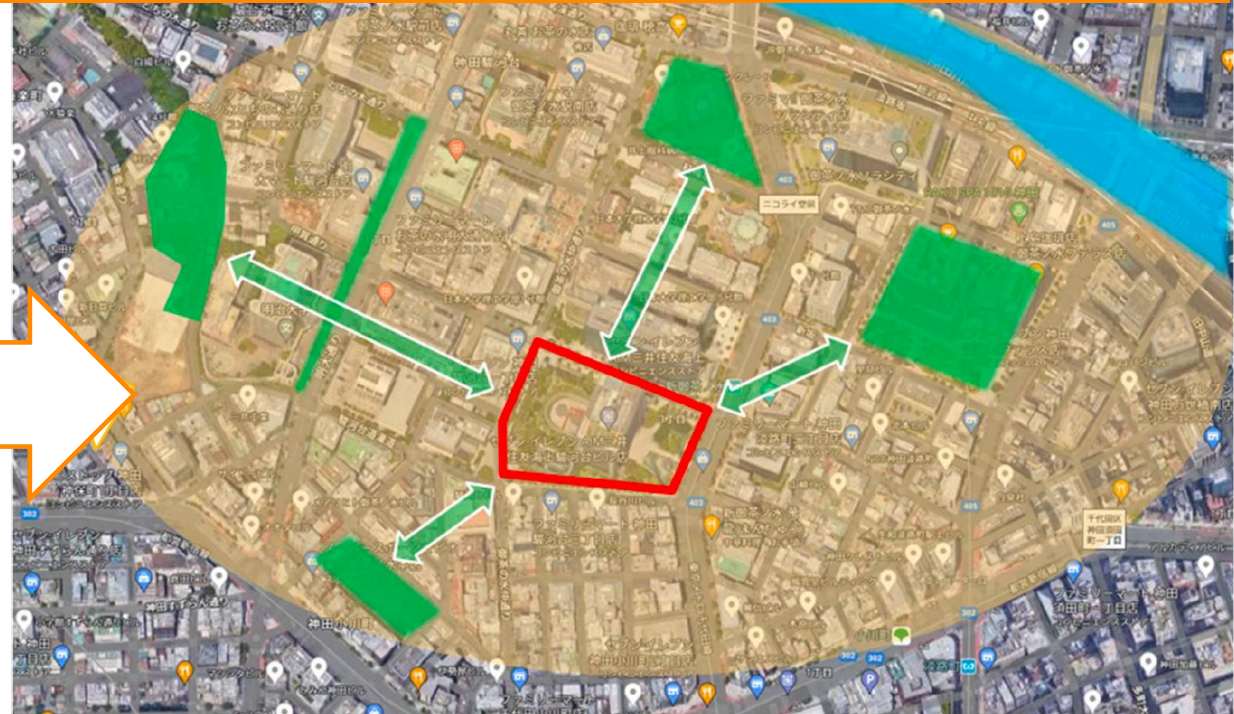
Significantly increase the area and quality and connectivity of, access to, and benefits from green and blue spaces in urban and densely populated areas sustainably, by mainstreaming the conservation and sustainable use of biodiversity, and ensure biodiversity-inclusive urban planning, enhancing native biodiversity, ecological connectivity and integrity, and improving human health and well-being and connection to nature and contributing to inclusive and sustainable urbanization and the provision of ecosystem functions and services.

Proposed Green Evaluation Scheme

Single green space within a city block



Green space that contributes to the value of the neighborhood



2. Digitalization / Smart City



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***Benefit of digitalisation:
for human-centred urban development
for decision making and participatory process***

Enablers of digitalisation in cities

Working together

V. Conclusion



Virtual G7 Ministerial Photo Session

Open Data



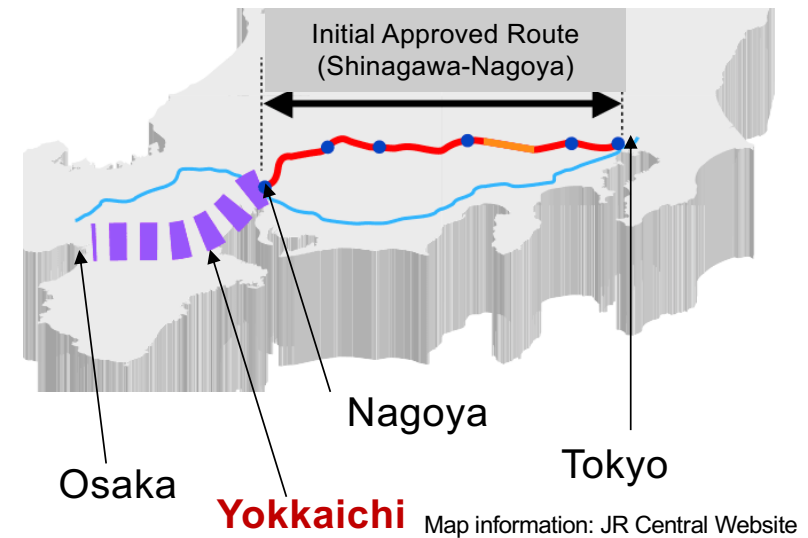
City Design Contest after G7 meeting

Examples of Smart City in Japan

Yokkaichi City



Super Conducting Maglev Route



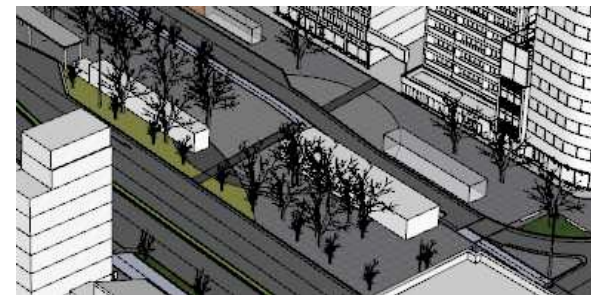
Proposed Smart Technologies



Digital Signage / Smart Dashboard

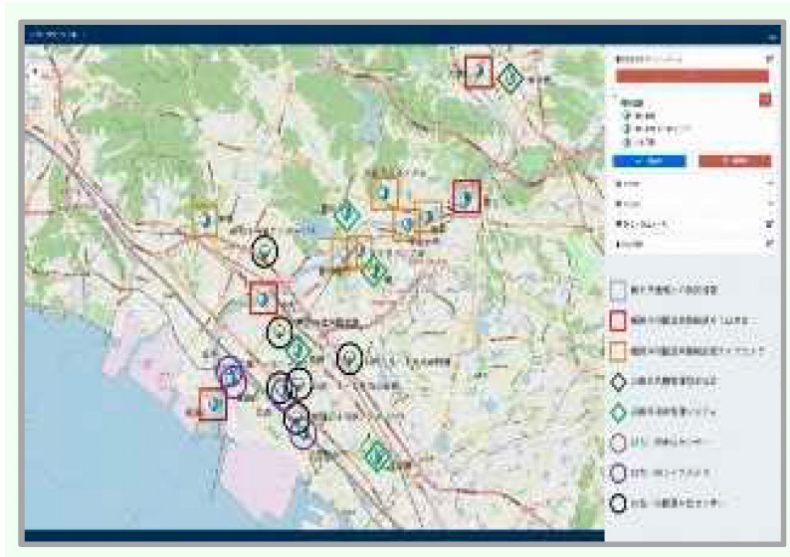


Maas / Autonomous Driving



Use of 3D City Model (City Planning)

Kakogawa City



Geographic information dashboard

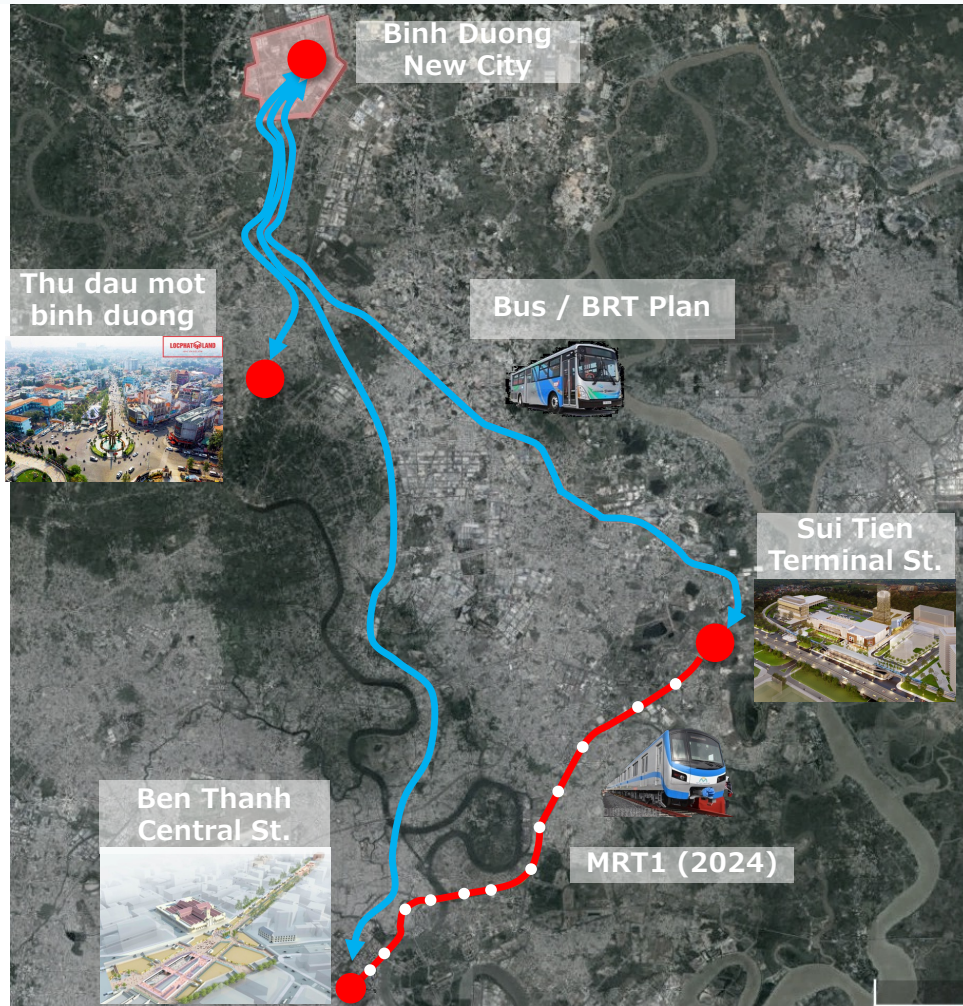
Visualizaition of disaster management information among various types of entities.



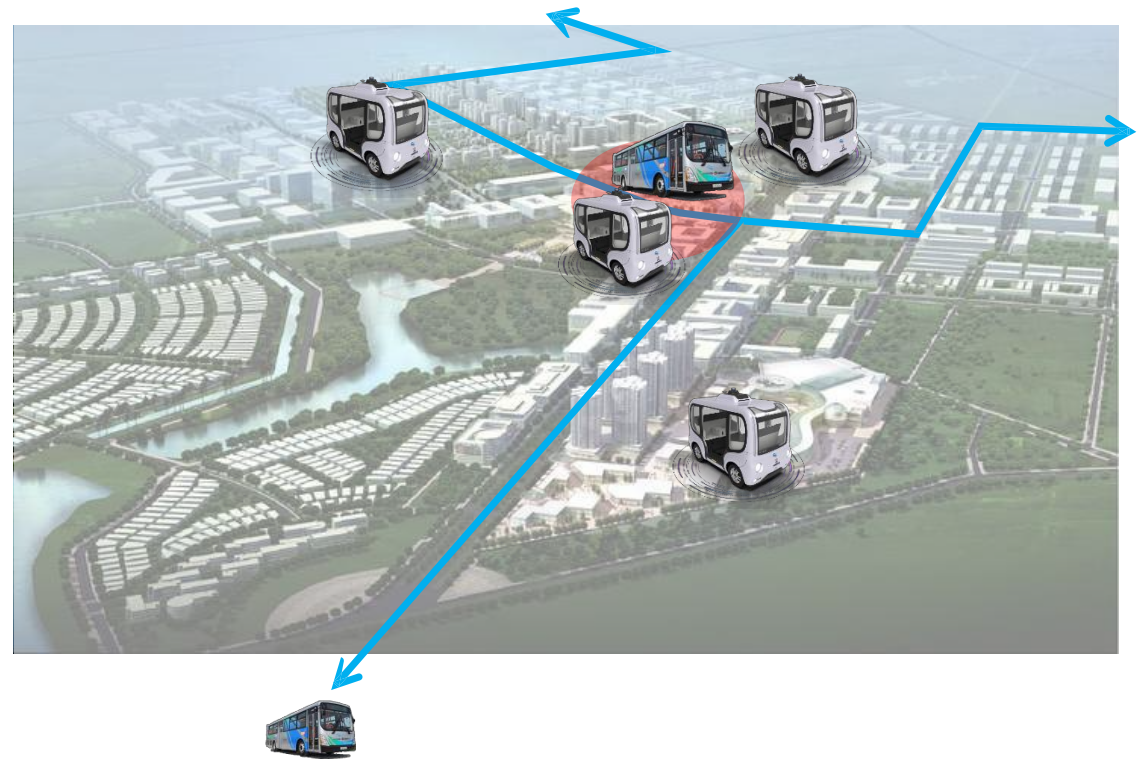
Urban planning using 3D model and VR

Smart City Planning in Binh Duong New City, Vietnam

BD TOD & Smart Mobility Vision (2030)



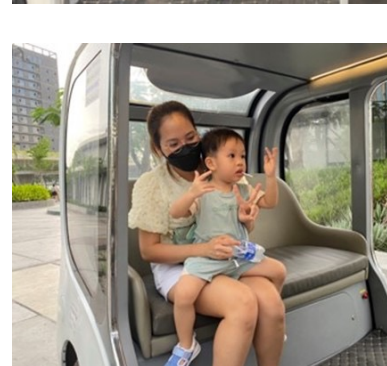
Inter-city Transportation & TOD



Transportation in Binh Duong New City



October 2022: Autonomous Test running in Binh Duong New City





3. Digital Twin Technology: Project Plateau



Urban Planning Basic Map

2D map data of buildings, roads, blocks, etc.

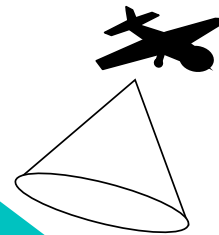


3D City Models



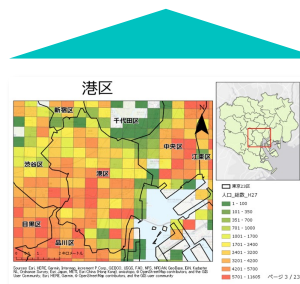
Aerial survey result

3D data of building heights, shapes, etc.



Geometry(shape)

Semantics(attribute)



Urban Planning Basic Survey data, etc.
Current status of buildings and land, etc.

Definition of LOD (Level of Desolution) based on the PLATEAU standard (version 3.0)

Building

LOD0



LOD1



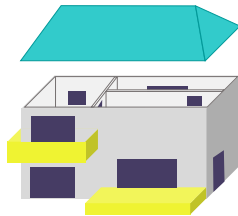
LOD2



LOD3



LOD4



Transportation(Road)



Conjunction with BIM

Vegetation



Major Use Cases

Urban Planning



Public participation / XR Technology

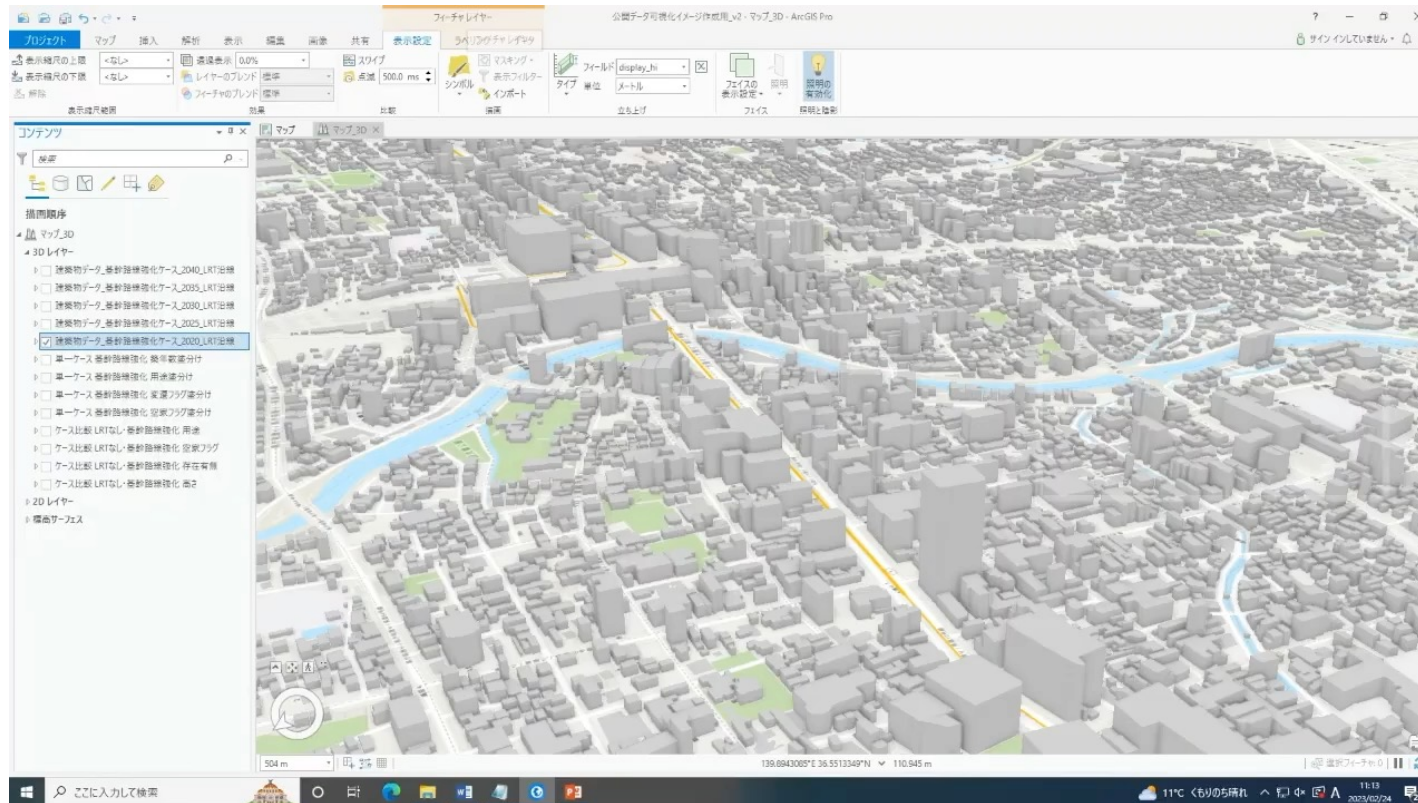


Example of Current Projects



Gifu City: Planning of Walkable Street

Urban Structure Simulation : Visual representation of the future vision of cities.

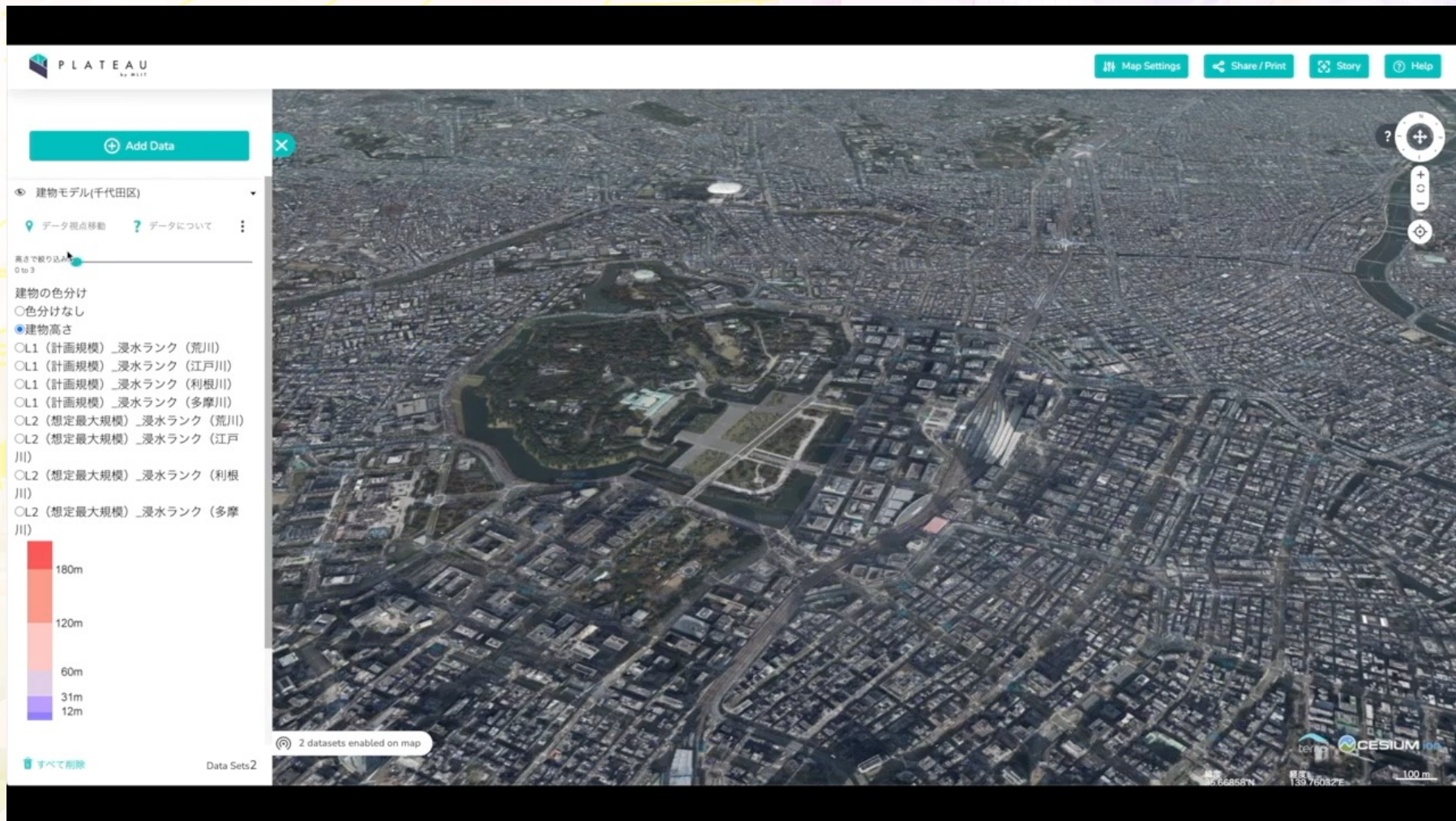


Agency: The Institute of Behavioral Science,
Kokusai Kogyo Co. Ltd.
Location: Utsunomiya City, Tochigi
Prefecture



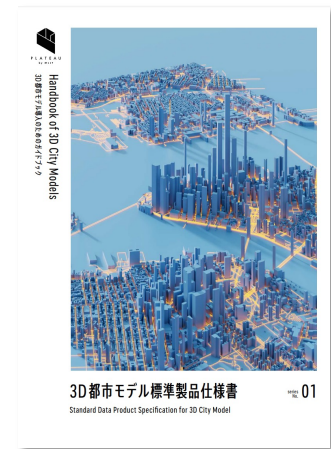
<https://www.mlit.go.jp/plateau/use-case/uc22-020/>

New: PLATEAU VIEW2.0 is launched!



Standardization of 3D city model data products in Japan

- The Standard Data Product Specification for 3D City Model developed in March 2021 updated by version 2.0 in March 2022.
- Unifying the specifications, standards, and quality of 3D city models in Japan.



Compatible with international standards



- The PLATEAU standard data specification based on CityGML 2.0; open format developed by OGC (Open Geospatial Consortium, Inc: an international standards organization). localized standard unique to Japan that adds attribute information and LOD definitions.



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