

Introduction

- In order to help Osaka become a super city and to strongly promote public-private partnerships, as a local government the overall plan aims to implement regulatory reforms and offer cutting-edge services in designated areas*. This plan summarizes those points mentioned.

*In April 2020, Osaka City was designated as a Super City National Strategic Special Zone

Why Osaka Aims to Become a Super City

- Osaka, one of the world's largest cities, will utilize the super city system, which strongly promotes the provision of cutting-edge services accompanied by regulatory reform, quick implementation of cutting-edge services in greenfield sites, and cooperation with Osaka Regional Data Exchange Network (ORDEN). By building the infrastructure of ORDEN, we will realize the greater expansion of Osaka Prefecture and City areas, as well as lead the digitalization of cities nationwide.

1 A Leading City

Osaka is one of the world's leading global cities that is reputable for its substantial population concentration, in which the aim is to become a one-of-a-kind super city that represents Japan.

2 Quick implementation of cutting-edge services in greenfield sites

Promptly take the initiative to implement cutting-edge services in greenfield sites, work on realizing the super city concept, and create a path to nationwide implementation of cutting-edge services.

3 Leading the Digitalization of Cities Nationwide

Leading the digitalization of cities nationwide by building the Osaka Regional Data Exchange Network (ORDEN).

Overview of Osaka's Super City Initiative

- With the theme of the Super City Initiative, "Expanding health and life with data," we will develop three projects in two greenfield sites and spread them throughout Osaka.

Expanding "Health and Life" with data

FY2023 ~
Yumeshima Island Construction

Promoting three facilitation schemes

- Transportation inside and outside the construction site
- Construction work and material transport
- Safety and **health management** of construction workers



FY2025
Osaka-Kansai Expo

Theme:
Designing Future Society for Our Lives



Visual Concept (provided by Japan Association for the 2025 World Exposition)

FY2024 ~
Umekita Phase 2

Core function theme: **Life Design Innovation**



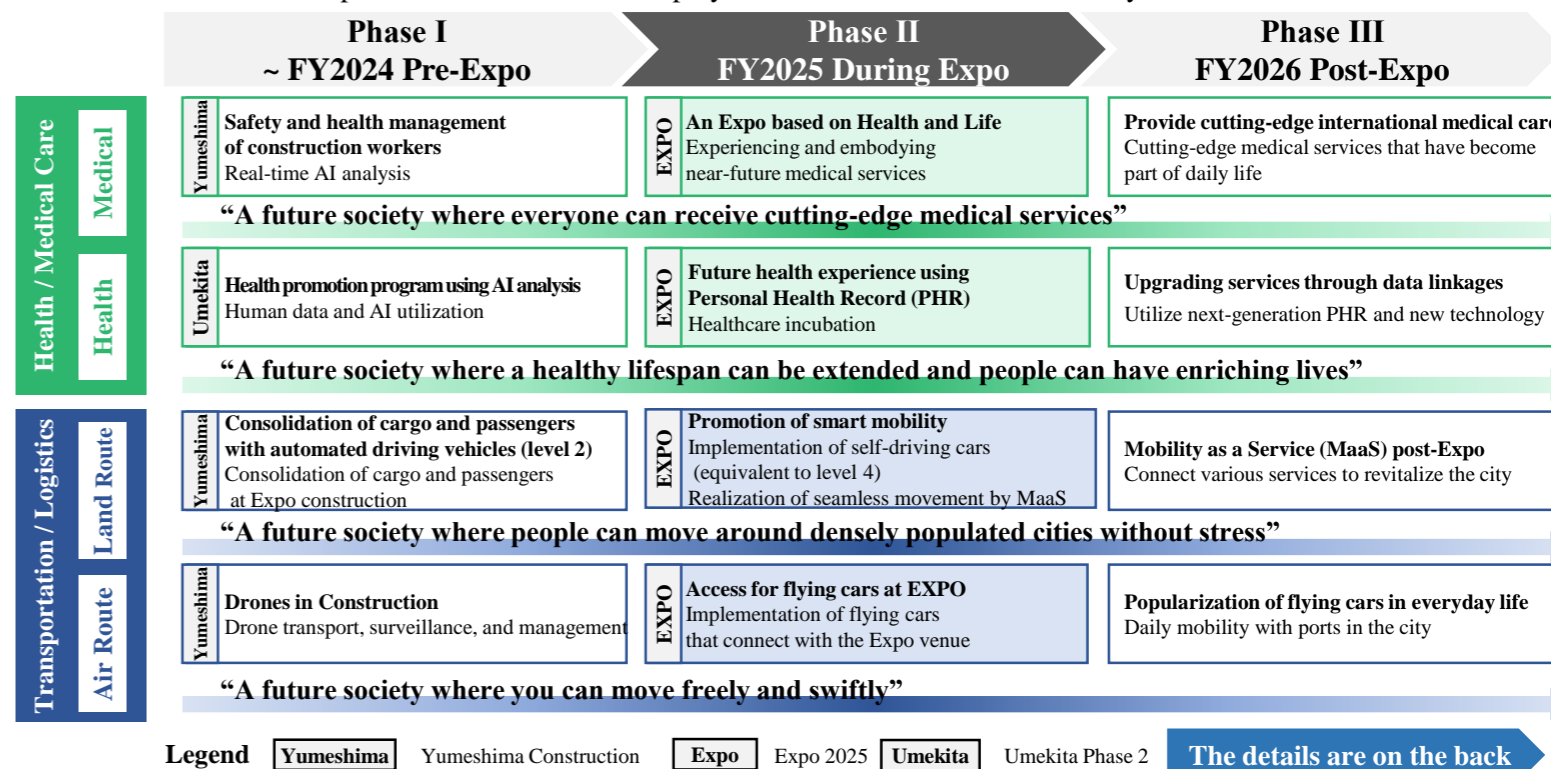
Visual Concept (provided by Umekita Phase 2 developer)

2 Greenfield Sites

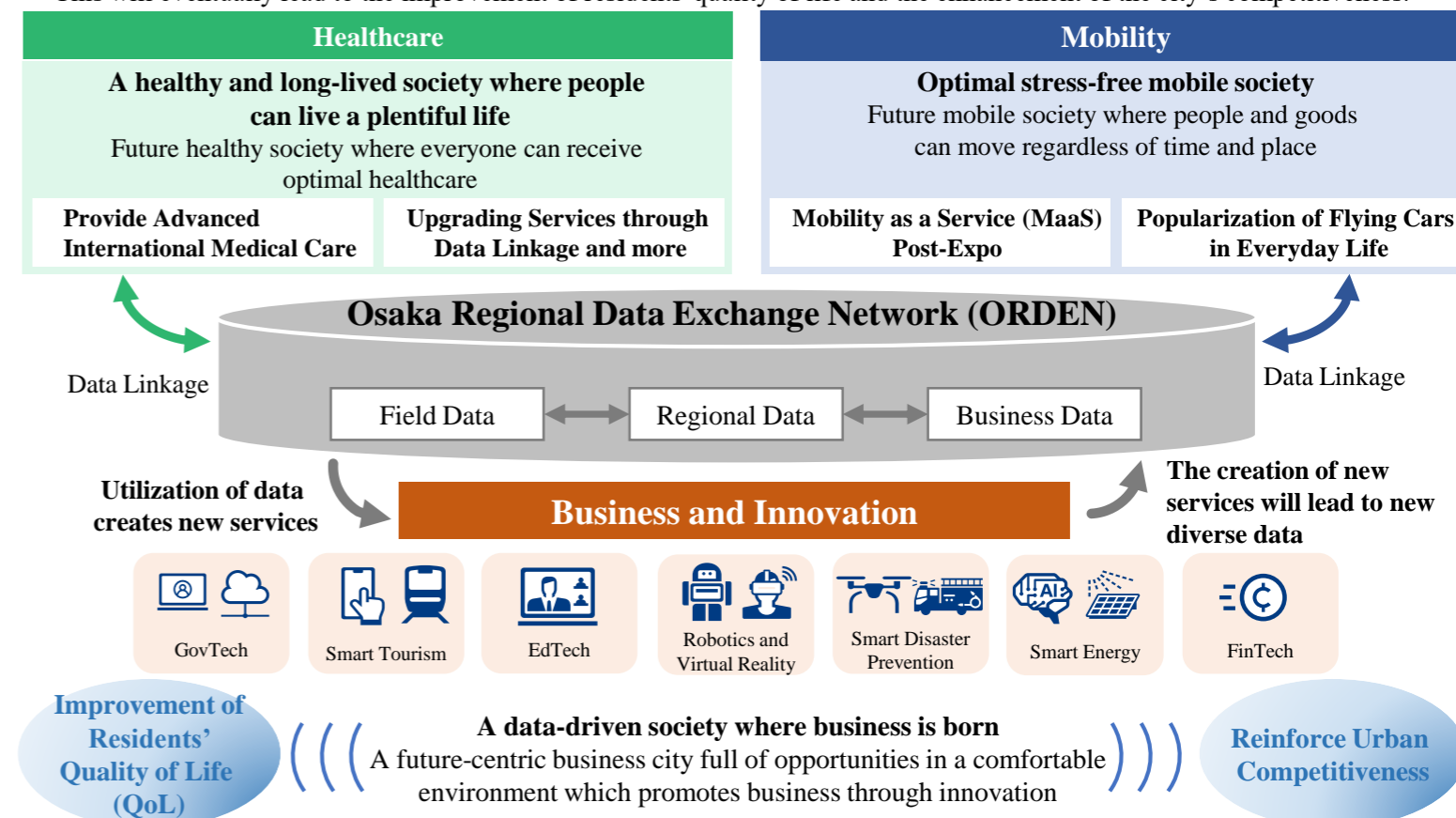
- Yumeshima Island
- Umekita Phase 2 Area

Challenges to Realize the Concept

- Taking the opportunity of the Osaka-Kansai Expo, each initiative of the Super City Concept will further promote technological innovation and social implementation, and will be deployed in the Osaka Prefecture and City areas.



- By promoting the demonstration and implementation of cutting-edge services in the two greenfield sites and through promotion of various data linkages using (ORDEN), we will realize a data-driven society where businesses are born one after another. This will eventually lead to the improvement of residents' quality of life and the enhancement of the city's competitiveness.









Promotion System

- The creation and promotion of the overall plan are discussed among members of the Osaka Super City Council. By obtaining guidance and advice from architects, we are working together through the industry-government-academia collaboration to ensure that the relevant business entities are able to effectively implement cutting-edge services.

Overview of advanced services of the three projects

The underlined articles include regulatory reforms required for the realization of advanced services.

| | Classification | Outline | Advanced Services |
|------------------------|--|---|--|
| Yumeshima Construction | Facilitation of movement inside and outside the construction site | By reserving the entry/exit times for construction vehicles in advance and automatically confirming reserved vehicles through image recognition using cameras at the entry/exit gates, this grants smoother access to the construction site. | <ul style="list-style-type: none"> ① Guidance for peak shifts can be predicted using data based on traffic volume ② Vehicle management using location information and AI cameras ③ Entry/exit management using cameras for vehicle recognition ④ Operation management of shuttle buses and demand responsive buses from stations and shared parking lots ⑤ Introduction of personal mobility vehicles at construction sites and throughout Yumeshima Island |
| | Facilitation of construction work and material transportation | Automatically acquires material stock information for each work zone at the construction site, and when there is a shortage of materials, sets the optimal material transportation route to the collection and delivery center based on the geographic information of the work zone, and uses drones to transport materials to ensure smooth construction. It also contributes to reducing workloads on construction workers. | <ul style="list-style-type: none"> ⑥ Increase efficiency of construction work using BIM/CIM, etc. ⑦ <u>Local weather prediction by data and sensing</u> ⑧ <u>Surveying and construction management using drones</u> ⑨ <u>Monitoring construction sites with drones</u> ⑩ <u>Use of drones for transportation of materials and delivery of materials to high places situated within working site</u> ⑪ <u>Transportation of materials using shuttle buses (combined cargo and passenger loading)</u> ⑫ Transportation of goods using remote-controlled autonomous driving robots |
| | Facilitation of safety and health management for construction workers | When individuals opt-in, factors like construction workers' age and medical history are pre-registered. This means real-time location information and vital data from smartwatches and attributes can be acquired. Moreover, it is possible to respond immediately in the event of an abnormality which will contribute to overall safety and health management. | <ul style="list-style-type: none"> ⑬ Entry/exit management of construction workers through face recognition using AI ⑭ Real-time health and safety management using vital information and location information ⑮ Construction site safety management using location information of construction materials, equipment, and live feed from cameras |
| Osaka-Kansai Expo 2025 | Experience futuristic medical and health services | Under the theme REBORN, the Osaka Healthcare Pavilion will be established by Osaka Prefecture and City of Osaka. The pavilion will showcase services where visitors can experience futuristic medical check-ups, healthcare, and medicine. | <ul style="list-style-type: none"> ① Healthcare App ② Scanning Machines in town ③ Mobility for travel around the city ④ <u>Experience futuristic food</u> ⑤ Experience futuristic health care ⑥ Futuristic medical treatment   <p>Source: Basic Plan for 2025 Japan World Exposition Osaka Pavilion (March 2022)</p> |
| | Self-driving cars | Increase Expo access and movement within the venue through autonomous cars. | <ul style="list-style-type: none"> ⑦ <u>Autonomous driving of electric vehicles such as buses (equivalent to level 4) will be implemented on public roads to offer partial access to the Expo venue.</u> ⑧ Autonomous driving of electric vehicles such as buses (equivalent to level 4) equipped with new technology such as having a power supply while driving will be implemented for partial movements within the Expo venue.  <p>⑧ Autonomous Driving of Electric Buses (equivalent to level 4) Provided by: Kansai Electric Power Co., Inc., Osaka; Municipal Rapid Electric Tramway Co., Ltd.</p> |
| | Flying cars | We will create a "tour flight" centered around the venue and a "point-to-point transportation" that connects the venue with the airport and Osaka City. | <ul style="list-style-type: none"> ⑨ <u>Realization of access that connects Osaka City, major airports in Kansai, and local sightseeing spots through implementation of flying cars in society.</u>  <p>⑨ Social Implementation of Flying Cars Source: Ministry of Economy, Trade and Industry's Website</p> |
| | Smoother mobility through MaaS | Realize seamless movement such as route search, reservations, payment through MaaS and provision of venue congestion information. | <ul style="list-style-type: none"> ⑩ <u>OSAKA FASTPASS (tentative name)</u> ⑪ Provision of MaaS by Kansai MaaS Council |
| | Provide a platform that contributes to the utilization of human data | By acquiring human data (psychological, physiological, cerebral, behavioral, etc.) of visitors to the Umekita Phase 2 area with their consent, we strive to build an environment in which service providers who aim to develop advanced services and products can utilize the relevant data. | <ul style="list-style-type: none"> ① Creating an Evidence-Based Health Promotion Program through application of human data and AI analysis, etc. |
| Umekita Phase 2 | Sharing service through personal mobility vehicles | By improving the usability environment for personal mobility vehicles (e.g. shared bicycles, e-scooters, low-speed personal mobility vehicles, autonomous vehicles, etc.), we will strive to facilitate the movement of users inside and outside the park. | <ul style="list-style-type: none"> ② Improving the comfort of moving around the area and the "last mile" in logistics through the use of personal mobility vehicles. |
| | Facility management in parks and buildings using advanced technology, upgrading delivery management | With the labor shortage becoming more serious, we aim to reduce the number of workers and automate maintenance, management and operation of buildings and parks by utilizing technologies such as image analysis, robots, and drones. | <ul style="list-style-type: none"> ③ Facility management using image analysis (AI cameras, beacons, sensors, etc.) ④ "Green" management through ICT (utilization of robots and other ICT technologies)  <p>(Rendered Image of Health Promotion Facility) ① Health Promotion Program Using AI Analysis</p> |
| | Promotion of Digital Transformation (DX) to realize urban spaces that fuse real and digital (Umekita Parkness) | Construction of a new value-creating space that integrates real and digital worlds. By enabling a myriad of experiences and demonstration experiments, this can lead to major developments like building a large-capacity communication network (such as local 5G). The aim is to provide cutting-edge services that will improve the level of convenience for visitors to the city. | <ul style="list-style-type: none"> ⑤ Creation of a space to share sensibility using digital signage, LED vision, etc. ⑥ By building a mirror world that superimposes reality with MR technology, events can be planned where visitors can experience a world filled with themes, such as scenic views, healing, horror, and other unique variations. ⑦ Issuing points that can be used for services provided by the park to members who have engaged in social good activities. ⑧ Provision of congestion status and other timely updates to visitors. ⑨ Online administrative procedures such as permission to act and permission to occupy city parks. ⑩ <u>Development of large-capacity communication networks (local 5G, etc.) that support real-time online services.</u> ⑪ <u>Provide citizens and visitors with "various experience values" through cutting-edge technology and pioneering services, and develop an environment that improves citizens' QoL and realizes life design innovation.</u>  <p>(Rendered Image of Digital World Event) ⑥ Events where you can experience a digital world in a wide variety of themes</p> |
| | Building a convenient healthcare environment in the city using stations | In addition to promoting behavioral changes using smart gates, we will create an environment where health conditions can be easily measured by installing health measurement spots equipped with sensors and devices. This will further promote healthy practices. | <ul style="list-style-type: none"> ⑫ Station Health Care |