

Demonstration of “Collective Intelligence Generation” for Future Urban Development

▪ Demonstration Purpose

In urban development, “realizing a city that is created together = realizing urban development that is created and nurtured together by gathering the opinions of local residents and visitors” has been and will continue to be a universally important theme in the future. If we apply this to the Expo site, it can be thought of as equivalent to “realizing a city that is created together = co-creating a sustainable future based on the collective intelligence (art and summaries) generated from collecting visitors' ideas.” NTT Urban Solutions, which promotes urban development within the NTT Group, worked as part of “Future Society Showcase” to demonstrate “Collective Intelligence Generation” by treating the Expo site as a city through the provision of the “EXPO2025 Personal Agent” service.

▪ Demonstration Details

Through the provision of “Idea Submission for Future Society in 2050”, one of the services of the “EXPO2025 Personal Agent”, we conducted a demonstration to experiment whether it is possible to collect ideas from Expo visitors and generate collective intelligence.

* <Reference Material: Appendix> “Idea Submission for Future Society in 2050” Service Overview

<“Collective Intelligence” Demonstration Details>

1. Interest in co-creating the future through idea submissions → How many submissions can be obtained for generating collective intelligence of future society?
2. Feasibility study of generating collective intelligence using generative AI → Is it technically possible to generate collective intelligence from a large number of described ideas in free text format?

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▪ Demonstration Result

1. Below is the number of posts of idea submissions and views of the published collective intelligence on the "EXPO2025 Personal Agent" app during the Expo 2025 Osaka, Kansai, Japan.

[Number of Posts] Approx. 64,000

→ Confirmed that there is a certain level of interest and need for sharing one's ideas and opinions and co-creating the future.

[Number of Views] Approx. 270,000 times

→ Confirmed that there was people who were interested in the collective intelligence even though they didn't post.

2. Regarding technical feasibility, we have made progress in establishing technology to generate collective intelligence by utilizing generative AI for from a large number of described ideas in free text format.

* <Reference Material: Appendix> Examples of Collective Intelligence Generated for Each Theme

▪ Towards Future Urban Development

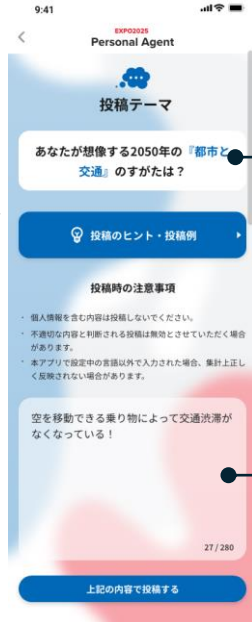
To promote the “Future Urban Development” unique to each town, NTT Urban Solutions will utilize the collective intelligence generation technology cultivated at the Expo 2025 Osaka, Kansai, Japan to collect and analyze the opinions of the people who live, work, and gather in the town, and work to create unique and vibrant urban development that reflects the opinions of local residents and visitors.

<Appendix> “Idea Submission for Future Society in 2050” Service Overview

Based on visitors' (EXPO2025 Personal Agent app users') ideas for the future society, “Everyone’s Imagined Future Society” were published on the App as the collective intelligence of all visitors.
Embody “A space where 8 billion people from around the world will not only view exhibits but will co-create our future society.”

Visitors Submit Ideas

Visitors submit ideas on “What do you think society will be like in the future?”



Theme Example:
What do you think ‘cities and transportation’ the year 2050 will look like?

Post Example:
New air vehicles that can travel through the air have eliminated traffic congestion!

Future Society Images Published on the App

Ideas submitted by visitors are aggregated and analyzed by utilizing AI and generated future society images (art and summaries) are published.



For each theme, the collective intelligence of all participants and each age group* were published. (6 times in total)

* All ages / Age 24 and under / Ages 25 to 64 / Age 65 and over

Collective Intelligence Art

Collective Intelligence Summaries

<Appendix> Examples of Collective Intelligence Generated for Each Theme



<Entertainment in 2050 / Ages 25 to 64>

In 2050, entertainment will change radically with the evolution of AI technology. Spatial audio and participatory experiences using AR/VR will be more common. This will make experiences that transcend time and space possible, allowing people to venture away from their daily lives and step into a new world. Technology such as this will also allow people to enjoy live music performances and other events regardless of their location, such as at home or on the move, rather than at a physical venue.



<Food, Clothing, and Housing in 2050 / Ages 25 to 64>

In 2050, people around the world will be eating a complete nutritional diet. This will ensure the security of food supplies. Automatic cooking functions will also have evolved by then, and the machines take care of everything from meal preparation to tidying up, thus greatly reducing the human aspect of the workload. Additionally, AI technology will allow for customization according to individual preferences and health conditions, creating a more personalized dining experience for us.



<School and Education in 2050 / Age 24 and under>

By 2050, AI and robots will have transformed education. Individualized learning plans will be tailored to each student, creating a customized educational environment. AI teachers can provide a more effective learning experience by adapting lessons to each student's level of understanding and progress. Additionally, AI analyzes learning patterns from vast amounts of data to support the efficient acquisition of knowledge. The convergence of these technologies will enable a more personalized means of education, ushering in a future where every student can continue learning at their own pace.



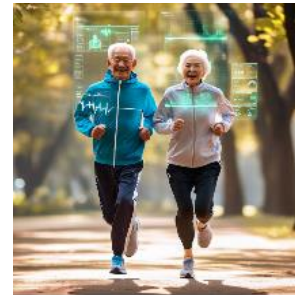
<Nature and Environment in 2050 / All ages>

By 2050, we will be living a life mindful of nature and the environment. Sustainable urban design will be realized, and renewable energy will drive the formation of a clean energy society. This will also solve the problem of global warming, allowing people to live with peace of mind. In a future such as this, sustainable economic activities and business models will also become mainstream, leading to the revitalization of local communities.



<Cities and Transportation in 2050 / Age 65 and over>

In 2050, cities and transportation will look vastly different. As teleportation technology evolves and allows individuals to travel anywhere in the world, people will have access to a safe and comfortable means of transportation as part of daily life. A well-developed public transportation system with no waiting times makes it hassle-free for everyone to enjoy traveling around the world. In addition, by achieving safe modes of transportation, this will greatly reduce individual anxiety and stress.



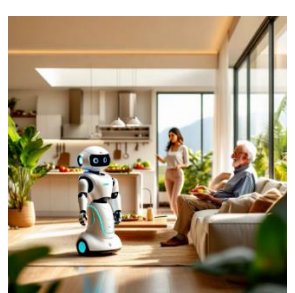
<Health and Medical Care in 2050/ Age 65 and over>

In 2050, people's health and medical care will have evolved significantly. Personalized smart health management will become available, and the level of physical activity will be managed automatically. This facilitates the early detection of diseases. Also, testing is becoming more efficient and accurate, and advances in medical technology are making it possible to provide the best treatment for each individual patient. Furthermore, as medical care evolves, patients will be able to better understand their own medical conditions and receive the appropriate care.



<Relationship and Diversity in 2050 / Ages 25 to 64>

By 2050, we will see significant changes in human relationships and diversity. By developing a deeper understanding of language and of different countries and ethnicities, people should be able to interact across national borders and gain mutual understanding. More people than ever before will be communicating with those from different cultures and backgrounds, so to do so, we must first respect and learn each other's languages and cultures. Above all, what matters most is the willingness to try and understand the perspective and feelings of others.



<Society we seek to create / Age 65 and over>

The society we aim to achieve by 2050 is one where widespread adoption of robotics and automation technologies, together with advances in medicine and life sciences, will help save more lives and extend healthy life expectancy, which will allow people to live longer and healthier lives. This in turn will improve the quality of life and boost productivity. Furthermore, AI-driven services and products are newly emerging, and these are expected to compensate for shortages in the human workforce. Additionally, as measures to address environmental issues, the increased use of renewable energy and improving the efficiency of waste disposal are called for, which will also contribute to realizing a sustainable society.