

# Putting Human Connection At the Heart of Smart Cities

by Yaeko Hodaka



As cities grapple with challenges driven by rapid urbanization, governments are looking to smart cities capabilities that streamline fragmented infrastructure and services for better quality and efficiency. When implemented effectively, smart cities have the power to improve existing problems and meet future demands leveraging connectivity, big data and smart management systems.

The development of smart cities requires significant investment and a collaborative approach across the public and private sectors. Effective collaboration requires partnership to ensure appropriate expertise, funding and governance exists. As barriers to entry are lowered, businesses are able to engage in smart city initiatives and build new revenue streams through the development, particularly in the area of data access and ownership.

## Key Messages

A comprehensive framework promotes shared accountability and knowledge. Trust is essential in the planning, implementation and efficacy of smart city projects; lines of trust between different stakeholders; government bodies, private entities and the public should be established.

Public and private sector collaboration is also essential to ensuring successful smart cities; projects that bring efficiency to citizens and focus on new value creation to improve quality of safety and quality of life. To ensure that trust and collaboration are embedded in smart city projects, there needs to be clear multi-stakeholder risk-allocation at every stage.

A strong governance framework for the use of technology and data is necessary. Data collection, privacy, management, storage and use are at the nexus of effective smart city collaboration. Regulatory, legal and civic concerns should remain front and center and there must be a clear consensus between stakeholders on roles of responsibility, risk and mitigation strategies.

## Summary of Panel Discussion On Kakogawa city's Smart City project

Yasuhiro Okada: We installed 1,475 cameras between 2017 to 2019. Our main aim was to improve the level of safety for our citizens. We had 12 town meetings for all the junior high school districts. Simultaneously, we took questionnaires not only from the participants, but also by our public relations magazine. As a result, fortunately, about 98% of the answerers were in favor of our plan to install more cameras. So, we were able to proceed with their confidence and trust. In addition, in order to assure the citizens, we enacted a new ordinance that states we can only offer or use the recorded data only when required by the Investigation Agency (based on laws like the Act of Criminal Procedure), or in case of emergency like disasters. This helped to build and maintain strong public trust in securing the privacy of citizens' lives and properties.



## Building trust around smart city technology

Andrew Collinge: Governments have to act as a city data governor the ones building the environment for safe, secure, and fair data exchange — all these things build up to a sense of trust I think there is an increasing awareness among cities that they need to ensure cyber resilience. This is very much a work in progress — there needs to be an understanding of infrastructure and assets, how data is collected, stored, transmitted from them and where within a new definition of 'city limits' vulnerabilities exist. Governments need to be working on data sharing models/adoption of advanced data transformation techniques, data-use markets.



Ryo Kobayashi: Ensuring the safe collection and treatment of the personal data of residents is a key challenge. From a private sector perspective, the openness of the city in operating smart city project is crucial. We believe it is important for the city to be transparent about the purpose of collection of data, which data is stored, how treated and which entity has the responsibility to do so. It would be beneficial if the law or regulation could address the sharing of responsibility clearly to lower the barriers for private companies to be involved in smart cities. Setting the purpose clearly and letting industry players have sufficient information of the target market lowers the barriers for private companies to be involved in smart cities.

## Private-public collaboration in smart city value creation

Ryo Kobayashi: I think the key role of private sector is providing its strength for the main purpose of each project for smart city that enriches the community. For example, Sony Semiconductor Solutions, as a sensor provider, supplies the high-quality sensor to the business partner who is making the camera or other devices serve smart cities. There are multiple players involved; not just those who work directly with cities; suppliers and supply chains are an important part of smart cities. Another form of collaboration or ecosystem consideration is that industry suppliers can work towards providing some solutions for smart cities; this will be good for industries and cities.



Andrew Collinge: I think it is increasingly the job of government to convene relationships around anticipating technology/how to generate value out of IoT/AI systems data and facilitating data sharing. Important features include government-led efforts to use data to understand what city economics or city retail resilience looks like and how this affects the future of cities; AI ethics board to regulate data management; demand-side coordination so that are better able to procure from the private sector.

Yasuhiro Okada: Handling personal information is always an important issue. Therefore, being in close dialogue with residents is indispensable. As for the cameras, we pixelate the images, depending on citizens' requests, through the use of a privacy mask. We were advised, during the planning process, by a private company to add privacy filters and this request was echoed by citizens. This is why we added it to the procurement specifications for our "watching-cameras".

Part of our main aim to improve the well-being of our citizens is through using smart city technology for disaster prevention. This does not only include physical infrastructure like embankment reinforcement and riverbed excavation, but also soft measures like evacuation planning and prompt information transfer, which are quite important. In April 2021, Kakogawa city and Yomiuri Telecasting Corporation announced that we would start an innovative disaster information transmission service by using their terrestrial digital broadcasting signals. This would help us to bridge a "digital divide" with our elderly citizens, so they have the necessary information clearly and quickly.



## Managing smart city technology and data concerns

Ryo Kobayashi: When smart cities technologies become widely adopted, we are concerned about possible data explosion which is resulted in increasing in power consumption. Private sector players want to contribute to alleviating the situation by developing energy saving technologies and data compression or data selecting technologies. At the same time we would like to expect the improvement of infrastructure to support smart cities, namely, "power supply" in line with zero emission concept. This can foster a sustainable expansion of "smart cities". Fortunately "ESG" is attracting increasing attention, and clear policy governing the smart city projects supporting the ESG initiatives would promote innovation in this area.

Andrew Collinge: One idea to manage the huge amount of data is to establish a trust mark for trusted AI; beyond attaching badges to data. This would allow for more knowledge sharing and more trust around how the data is cut or explained; ensuring human supervision; ensuring training data is free of bias. This is something that tech companies contracting to government bodies should look at. It also gives organizations who are developing such technology a sense of assurance against potential misuse of technology.

Some legal definitions around data ownership may help to unlock this idea of data monetization. The way in which data is created can affect how it should be labelled; this is linked to "re-use" and is also linked to trust regarding secondary use. Another perspective to consider is how geopolitics can affect data residency laws and even foreign investment into such technologies.

Ryo Kobayashi: In Japan, there is the Super City initiative. I understand that will help respective services share data smoothly and reinforce city's infrastructure to serve residents better and seamless services.

Each jurisdiction has each regulation on the obtaining, transfer and treatment of data. Of course, the variety of such regulations exists, but at times, these regulations may prevent the expansion of the market created by smart city initiative. The expansion of the market is the chance to deliver appropriate profits. That and I expect that global harmonization of such laws and regulations would be further encouraged, as it would lower the barriers for private companies to be involved in smart cities,

