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Promoting Smart Cities through Quality Infrastructure Investment in Rapidly Urbanizing APEC Region

APEC Committee on Trade and Investment

December 2021

Asia-Pacific
Economic Cooperation

Promoting Smart Cities through Quality Infrastructure Investment in Rapidly Urbanizing APEC Region

Virtual Conference | September 2021

APEC Committee on Trade and Investment

December 2021

APEC Project: CTI 10 2019T

Produced by
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Annex E: Collection of New technology/Solution Providers for the APEC Economies

I. Executive Summary

On 15 September 2021, **APEC Tokyo Conference on Promoting Smart Cities through Quality Infrastructure Investment in Rapidly Urbanizing APEC Region**, initiated by Japan was held online as a virtual conference.

The meeting was attended by 118 people including government officials from ministries and agencies in charge of infrastructure from 16 economies, and representatives of international organizations, research institutes, Japanese municipalities and the private sector from Japan and Singapore. The overall of the event is included in **Annex A**.

The conference comprised of four parts; 1) Session 1, Opening Remarks and Keynote Speech, 2) Session 2, Presentation and Discussion, 3) Public Private Dialogue, and 4) Closing. The agenda of the event is included in **Annex B**.

The main objectives of the project are as follows;

- Sharing information of projects such as planning, procurement, implementation and operation of QII in each economy, which is of great importance for promoting smart cities
- Sharing and analyzing good practices of smart city projects through QII and considering effective monitoring, stocktaking and evaluation
- Conducting capacity building for smart city projects in terms of planning, procurement, implementation and operation for public officials in charge of smart cities and related development

II. Background

At the APEC Economic Leaders' Meeting (AELM) held in Beijing on 10-11 November 2014, Leaders endorsed the "APEC Connectivity Blueprint for 2015-2025" based on the commitment at AELM in 2013 in Bali, Indonesia. The Blueprint stipulates that under physical connectivity, with regards to cross-sectoral issues, the Leaders will focus on, in addition to improvement of the investment climate and enhancement of infrastructure financing through a public-private partnership, 1) adopting comprehensive assessment methods that consider key quality elements in the evaluation of infrastructure project proposals, and 2) enhancing the application of good practices and people-centered investment for planning and implementing infrastructure projects.

Under the project "Capacity Building for Quality Infrastructure Investment in Rapidly Urbanizing APEC Region" implemented in 2018, the participants of "APEC High Level Meeting on Quality Infrastructure" confirmed the importance of quality infrastructure (QI) for sustainable economic growth, shared good practices of QII, and discussed challenges and elements that are conducive to QII.

In 2019, "APEC Tokyo Conference on Quality Infrastructure" was held to deepen the discussions on QI and contribute to the capacity building of officials in charge of infrastructure development. With the increasing demand for sustainable urban development in the APEC region, the conference also focused on the topic of smart city development for the first time.

As a follow-up of the past two events, the project was proposed to continue discussions on smart city development through QII and to provide participants with a better understanding of project planning, utilization of new technologies and solutions in suitable projects. Cooperation with multilateral development banks (MDBs), related international organizations and the private sector are also to be sought based on the suggestions of the last conference in 2019.

III. Program

The conference was co-chaired by **Mr Ishida Masaru, Vice-Minister for Land, Infrastructure and Hokkaido Development, Ministry of Land, Infrastructure, Transport and Tourism, Japan and Mr Seth Tan, Executive Director, Infrastructure Asia, Singapore**.

In the first session of the four-part conference, opening remarks by Japan and three keynote speeches were delivered. In Session 2, presentations of four economies on the topic of the concept of smart cities were given, and then six economies made presentations on the good practice of smart cities through QII, each followed by Q&A sessions. In Session 3, Public Private Dialogue was conducted, and the co-chairs made closing remarks at the end of the conference. Details of the discussion can be found in **Annex C**: Meeting Minutes.

1. Session 1: Opening Remarks & Keynote Speech

To begin the conference, **Mr Ishida** and **Mr Tan** each welcomed the participants and expressed their appreciation for attendance. In his opening remarks, **Dr Izumi Hiroto, Special Advisor to the Prime Minister of Japan** showed his gratitude for the participation of representatives of the APEC economies, ambassadors and officials of embassies, and international organizations.

He pointed out three focuses that the APEC economies are encouraged to note when developing smart cities: the diversification of each city by adapting to the various conditions and needs, the involvement of various types of participants, and openness and high transparency. He also mentioned that Japan is willing to support the APEC economies in the promotion of smart cities taking advantage of experiences and technologies which Japan has accumulated both domestically and abroad. Finally, he expressed his hope that the discussions at the conference would be fruitful and contribute to AELM to be held in New Zealand this autumn.

Three speakers, **Dr Eng. Deguchi Atsushi, Dean, Graduate School of Frontier Sciences and Professor, Department of Socio-Cultural Environmental Studies, the University of Tokyo, Japan, Mr Tan and Mr Yamamuro Yoshitaka, Head, the World Economic Forum Centre for the Fourth Industrial Revolution Japan** gave keynote speeches in Session 1.

Dr Deguchi gave a keynote speech divided into three parts; 1) The history of smart city development, 2) the successful showcase of smart cities in Japan and 3) the phase-to-phase development of smart cities.

Mr Tan highlighted the importance of the greater adoption of digital tools and involvement of private sector investment to develop smarter, more resilient cities.

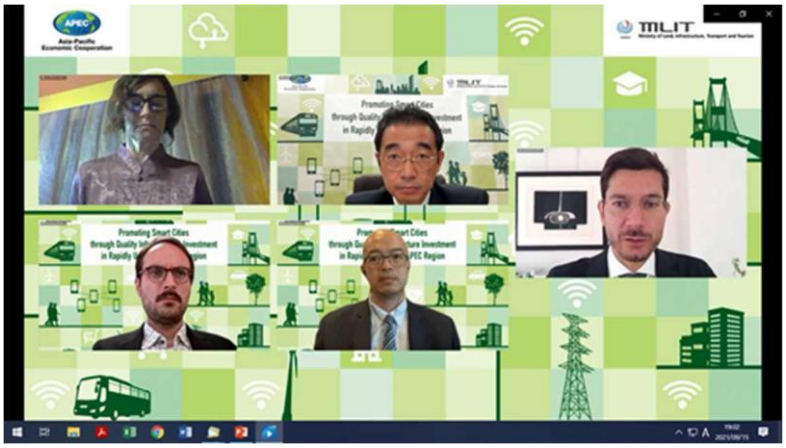
Mr Yamamuro gave an introduction to G20 Global Smart Cities Alliance (GSCA), which was established in 2019 as the global platform to promote responsible data governance in smart cities.

2. Session 2-1: Presentation & Discussion <Part 1>
Sharing the concept of Smart Cities through QII in each economy

In Session 2-1, representatives of four economies gave presentations each and shared the concept of smart cities through QII. The session was moderated by **Mr Victor Mulas, Senior Urban Specialist and the Team Lead for the Tokyo Development Learning Center of the World Bank**.

The presenters are as follows:

1) **Ms Helen Santiago Fink, Program Manager, the U.S.-ASEAN Smart Cities Partnership**
2) **Mr Yokota Masafumi, Deputy Minister for International Projects, Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan**
3) **Mr Javier Garduño Arredondo, Head, Planning and Institutional Development, Ministry of Agrarian, Land and Urban, Development (SEDATU), Mexico**
4) **Dr Supakorn Siddhichai, Executive Vice President, Digital Economy Promotion Agency (DEPA), Thailand**



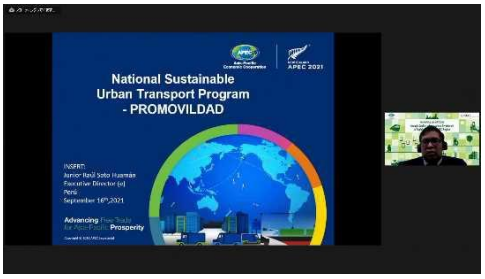
3. Session 2-2: Presentation & Discussion <Part 2>

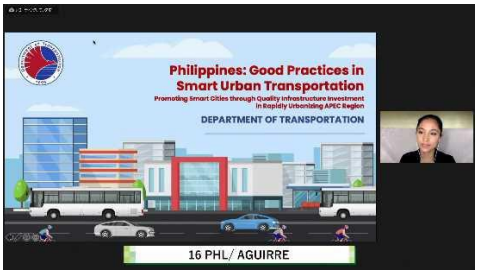
Sharing the progress of Good Practice on Smart Cities through QII in each economy

Dr KE Seetha Ram, Senior Consulting Specialist, the Asian Development Bank Institute (ADBI) moderated Session 2-2. Presentations by six APEC economies were given on the topic of sharing good examples of smart city development.

The presenters are as follows;

1) **Mr Dennis Wan, Principal Assistant Secretary (Project Capability and Strategy), Project Strategy and Governance Office, Development Bureau, Hong Kong, China**
2) **Mr Ridwansyah Yusuf Achmad, Executive Board, West Java Development Acceleration Team, Indonesia**
3) **Mr Junior Raul Soto Huaman, Executive Director, National Sustainable Urban Transport Program- PROMOVILIDAD, Ministry of Transport and Communications (MTC), Peru**
4) **Ms Joyce Muriel Aguirre, Project Evaluation Officer IV, Department of Transportation, Mandaluyong City, the Philippines**
5) **Mr Andrei Kiselev, First Deputy CEO, VTB Infrastructure Holding, Russia**
6) **Mr Jason Hill, Senior Regional Manager-Western Hemisphere, Department of Transport, the United States**





4. Session 3: Public Private Dialogue

Sharing the knowledge and experience of the Cities, technologies and experience of private companies on Smart Cities through QII

In Session 3, two municipalities of Japan, one private company from Singapore and four from Japan made presentations to offer their experience and solutions on smart city development. The session was moderated by **Mr Nagumo Takehiko, Executive Director, Smart City Institute Japan**

The presenters were as follows;

1) **Mr Mori Yusuke, Director General, Policy Innovation Department/ Vice CIO, City of Tsukuba**
2) **Mr Hashimoto Toru, Director General, International Affairs Bureau, City of Yokohama**

3) Mr Gareth Wong Chief Executive Officer of Mitbana Pte Ltd, Surbana Jurong, Singapore
4) Mr Maki Yosuke, Operating Officer, M&A and Business Development, New Business Development Division, Broadleaf Co, Ltd
5) Mr Yoshihara Toshihiro, Vice President of Smart City, Strategic Business Development Division, Nippon Telegraph and Telephone Corporation
6) Mr Ogata Yoshinori, Executive General Manager, International Business Headquarters, Tokyu Corporation
7) Ms Matsunaga Shoko, Russia & CIS Sales Chief, Energy & Sustainability Business Headquarter/Renewable, Power & Water Business Center, Yokogawa Electric Corporation

5. Closing Remarks

Mr Tan, Co-Chair thanked the floor and the organizers for their insightful discussions and summarized the conference. Acknowledging the differences of needs in each economy and a rapidly changing social environment, he emphasized the importance of collaboration between the public and private sectors, and peer sharing between different economies and cities. He also encouraged continuous conversations among APEC economies and international organizations.

Mr Ishida expressed his appreciation for the significant contributions of the economies, adding that the conference was a great opportunity to learn the good practices and challenges. He concluded the conference by stating that he hoped to collaborate with APEC economies to consider the next steps of Smart Cities through QI

IV. Conclusions

The participants discussed the concept and key points of successful smart cities and shared good practices and challenges of smart city development through QII. The conference was able to contribute to the capacity building among officials in charge of infrastructure and urban development. The participants successfully brushed up the discussion based on the outcomes of the past two events.

Public Private Dialogue provided a great opportunity to learn lessons from advanced models and to raise awareness of smart solutions that the private sector can offer. Based on the information collected in advance from the participating economies, Good Practice Book of Smart Cities and Quality Infrastructure Investment and Collection of New technology/Solution Providers for the APEC Economies as seen in **Annex D** and **Annex E** were delivered as the outcomes of the conference. It was encouraged that the APEC economies will continue the discussion to deepen understanding and nurture cooperation with each other on smart city development through QII.

APEC Conference on Promoting Smart Cities through Quality Infrastructure Investment in Rapidly Urbanizing APEC Region

2021.9.15

Greeting from Japan and Singapore

Mr ISHIDA Masaru

Vice-Minister for Land, Infrastructure and Hokkaido Development, Ministry of Land, Infrastructure, Transport and Tourism, Japan

Mr Seth Tan

Executive Director, Infrastructure Asia, Singapore

Opening Remarks

Dr IZUMI Hiroto

Special Advisor to the Prime Minister of Japan

Keynote Speeches

Dr Eng. DEGUCHI Atsushi

Dean, Graduate School of Frontier Sciences Professor, Department of Socio-Cultural Environmental Studies, The University of Tokyo

Mr Seth Tan

Executive Director, Infrastructure Asia, Singapore

Mr YAMAMURO Yoshitaka

Head, World Economic Forum Centre for the Fourth Industrial Revolution Japan

Summary

Conference style	virtual conference (English only)
Organizer	MLIT of Japan, & Infrastructure Asia, Singapore
Co-Chairs	Ministry of Land, Infrastructure, Transport and Tourism, Japan Infrastructure Asia, Singapore
Participants	Officials (ministries in charge of infrastructure, etc.) of APEC economies, embassies, international organizations (World Bank, Asian Development Bank Institute, World Economic Forum, etc.), University of Tokyo, Smart City Institute, city governments, private sectors
Funded by APEC	Trade and Investment Liberalization and Facilitation Special Account (TLIF)

Programs

JST 8:00	Greeting from Japan and Singapore Opening Remark from Government of Japan Keynote Speeches
JST 9:05	Sharing the concept of Smart Cities through QII in each economy
JST 10:00	Sharing the progress of Good Practice on Smart Cities through QII in each economy
JST 11:25	Sharing the knowledge and experience of the Cities, technologies and experience of private companies on Smart Cities through QII
JST 12:55	Wrap-Up Session

We extend our warmest welcome to your participation. Please check our website and register form below.

https://client.eventhub.jp/ticket/8o-QbD1_-

APEC Asia-Pacific Economic Cooperation

MLIT Ministry of Land, Infrastructure, Transport and Tourism

Sharing the concept of Smart Cities through QII in each economy

Moderator

Mr Victor MULAS

Senior Urban Specialist & TDLC Team Lead, Urban, Disaster Risk Management, Resilience and Land Global Practice, World Bank

Speakers

Ms Helen Santiago FINK

Program Manager, Department of State, The United States

Mr YOKOTA Masafumi

Deputy Minister for International Projects, Ministry of Land, Infrastructure, Transport and Tourism, Japan

Mr GARDUÑO ARREDONDO Oscar Javier

Head, Unit for planning and institutional development, Ministry for Agrarian, Land and Urban Development, Mexico

Dr Supakorn SIDDHICHAI

Executive Vice President (SEVP), Digital Economy Promotion Agency (depa), Thailand

Sharing the progress of Good Practice on Smart Cities through QII in each economy

Moderator

Mr K.E. SEETHARAM

Senior Consulting Specialist for Capacity Building and Training Projects, Asia Development Bank Institute

Speakers

Mr Dennis WAN

Principal Assistant Secretary (Project Capability and Strategy), Project Strategy and Governance Office, Development Bureau, Hong Kong, China

Mr Ridwansyah Yusuf ACHMAD

Executive Board, West Java Development Acceleration Team, Indonesia

Mr Junior Raúl SOTO HUAMAN

Executive Director, National Sustainable Urban Transport Program- PROMOVILIDAD, Peru

Ms Joyce Muriel S. AGUIRRE

Project Evaluation Officer IV, Office of the Assistant Secretary for Road Transport and Infrastructure, Department of Transportation, The Philippines

Mr Andrey KISELEV

Deputy CEO, VTB Infrastructure Holding, Russia

Mr Jason HILL

Senior Regional Manager-Western Hemisphere, Department of Transport, The United States

Sharing the knowledge and experience of the Cities, technologies and experience of private companies on Smart Cities through QII

Moderator

Mr NAGUMO Takehiko

Executive Director
Smart City Institute Japan

Speakers

Mr MORI Yusuke

Director General, Policy Innovation Department / Vice CIO, City of Tsukuba

Mr HASHIMOTO Toru

Director General, International Affairs Bureau, City of Yokohama

Mr MAKI Yosuke

Operating Officer, New Business Development Division, Broadleaf Co., Ltd.

Mr YOSHIHARA Toshihiro

Vice President of Smart City, Strategic Business Development Division, Nippon Telegraph and Telephone Corporation

Mr Gareth WONG

CEO of Mitbana, Surbana Jurong

Mr OGATA Yoshinori

Executive General Manager, International Business Headquarters, Tokyu Corporation

Ms MATSUNAGA Shoko

Russia & CIF Sales Chief, Energy & Sustainability Business Headquarter / Renewable, Power & Water Business Center, Yokogawa Electric Corporation

Annex B

Asia-Pacific Economic Cooperation

Ministry of Land, Infrastructure, Transport and Tourism

APEC Conference

on "Promoting Smart Cities

through Quality Infrastructure Investment

in Rapidly Urbanizing APEC Region"

Date: 15 September, 2021 (Wednesday), 8:00-13:00 Japan Standard Time (JST)
Venue: Online, Virtual Conference

Time	Item
7:30 ~ 7:55	**Pre-connection time to the virtual conference system**
7:55 ~ 8:00 (5mins)	**House Keeping announcement**

OFFICIAL PROGRAM

Session 1 : Opening Remarks & Keynote Speeches
Co-Chair: Mr ISHIDA Masaru
Vice-Minister for Land, Infrastructure and Hokkaido Development, Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan
Mr Seth Tan
Executive Director, Infrastructure Asia, Singapore

Time	Item	Facilitator / Presenter
08:00-08:15	Greetings from Co-Chair	**Mr ISHIDA Masaru** **Mr Seth Tan**
	Opening Remarks	**Dr IZUMI Hiroto** Special Advisor to the Prime Minister of Japan
08:15-09:00	Keynote Speech (1): Next Generation Smart City aiming "Society 5.0" -Japan's Initiatives -	**Dr Eng. DEGUCHI Atsushi** Dean, Graduate School of Frontier Sciences Professor, Department of Socio-Cultural Environmental Studies, The University of Tokyo, Japan
	Keynote Speech (2): The Financing and Development of Smart and Sustainable Cities	**Mr Seth Tan** Executive Director, Infrastructure Asia, Singapore
	Keynote Speech (3): G20 Global Smart Cities Alliance	**Mr YAMAMURO Yoshitaka** Head, the World Economic Forum Centre for the Fourth Industrial Revolution Japan
09:00-09:05	Break	All

Session 2-1: Presentation & Discussion Session〈Part 1〉 Sharing the concept of Smart Cities through QII in each economy **Moderator: Mr Victor Mulas** **Senior Urban Specialist and the Team Lead for the Tokyo Development Learning Center (TDLC) of the World Bank** Presentations from participating Economies		
09:05-09:55	Presentation from **THE UNITED STATES** U.S.-ASEAN SMART CITIES PARTNERSHIP	**Ms Helen Santiago Fink** Program Manager, the U.S.-ASEAN Smart Cities Partnership , The United States
	Presentation from **JAPAN** Quality Infrastructure Investment & Smart City Development by Japan	**Mr YOKOTA Masafumi** Deputy Minister for International Projects, Minsitry of Land Infrastructure, Transport and Tourism (MLIT), Japan
	Presentation from **MEXICO** Initiatives for Smart Cities Ministry of Agrarian, Land and Urban Development SEDATU	**Mr JAVIER GARDUÑO ARREDONDO** Head, Planning and Institutional Development, Ministry of Agrarian, Land and Urban Development (SEDATU), Mexico
	Presentation from **THAILAND** Smart City Thailand：Concepts and Visions	**Dr Supakorn Siddhichai** Executive Vice President, Digital Economy Promotion Agency (DEPA), Thailand
	Q&A	All
09:55-10:00	Break	All
Session 2-2: Presentation & Discussion Session〈Part 2〉 Sharing the progress of Good Practice on Smart Cities through QII in each economy **Moderator: Dr KE Seetha Ram** **Senior Consulting Specialist, the Asian Development Bank Institute (ADBI)** Presentations from participating Economies		
10:00-11:20	Presentation from **Hong Kong, China** Digital Project Delivery for Infrastructure in Hong Kong, China	**Mr Dennis WAN** Principal Assistant Secretary (Project Capability and Strategy), Project Strategy and Governance Office, Development Bureau, Hong Kong, China
	Presentation from **INDONESIA** DIGITAL TRANSFORMATION ON URBAN PLANNING, POLICY, AND DEVELOPMENT IN WEST JAVA	**Mr Ridwansyah Yusuf Achmad** Executive Board, West Java Development Acceleration Team, Indonesia
	Presentation from **PERU** National Sustainable Urban Transport Program –PROMOVILIDAD	**Mr Junior Raul Soto Huaman** Executive Director, National Sustainable Urban Transport Program- PROMOVILIDAD, Ministry of Transport and Communications (MTC), Peru
	Q&A	All
	Presentation from **The Philippines** Philippines: Good Practices in Smart Urban Transportation	**Ms Joyce Muriel AGUIRRE** Project Evaluation Officer IV, Department of Transportation, Mandaluyong City, The Philippines
	Presentation from **RUSSIA** PPP QUALITY INFRASTRUCTURE PROJECTS IN ST. PETERSBURG	**Mr Andrei Kiselev** First Deputy CEO, VTB Infrastructure Holding, Russia
	Presentation from **THE UNITED STATES** U.S. Experiences in Advancing the Transportation Elements of Smart Cities	**Mr Jason Hill** Senior Regional Manager–Western Hemisphere, Department of Transport, The United States
	Q&A	All
11:20-11:25	Break	All

Session 3: Public Private Dialogue **Sharing the knowledge and experience of the Cities, technologies and experience of private companies on Smart Cities through QII** **Moderator: Mr NAGUMO Takehiko** **Executive Director, Smart City Institute Japan** Presentations from Cites and Private Sectors		
11:25-12:55	Presentation from **City of Tsukuba** Tsukuba Science City	**Mr MORI Yusuke** Director General, Policy Innovation Department/ Vice CIO, City of Tsukuba
	Presentation from **City of Yokohama** Invitation to the CMaaS concept, Sharing Yokohama's experience and expertise	**Mr HASHIMOTO Toru** Director General International Affairs Bureau City of Yokohamas
	Presentation from **Broadleaf Co., Ltd** Implementing Mobility-as-a-Service (MaaS) for Modern Road Transportation, Case Study in the Republic of the Philippines	**Mr MAKI Yosuke** Operating Officer, M&A and Business Development, New Business Development Division, Broadleaf Co., Ltd.
	Presentation from **Nippon Telegraph and Telephone Corporation (NTT)** NTT Smart City Initiatives.	**Mr YOSHIHARA Toshihiro** Vice President of Smart City, Strategic Business Development Division, Nippon Telegraph and Telephone Corporation
	Presentation from **Surbana Jurong** Quality Infrastructure Investment for Smart Cities Singapore's Latest Urban Transformations	**Mr Gareth Wong** Chief Executive Officer of Mitbana Pte. Ltd., Surbana Jurong
	Presentation from **Tokyu Corporation** Sustainable Urban Development in Binh Duong, Viet Nam	**Mr OGATA Yoshinori** Executive General Manager, International Business Headquarters, Tokyu Corporation
	Presentation from **Yokogawa Electric Corporation** Smart city solution Yokogawa Community Energy Management System	**Ms MATSUNAGA Shoko** Russia & CIS Sales Chief, Energy & Sustainability Business Headquarter / Renewable, Power & Water Business Center, Yokogawa Electric Corporation
	Q&A	All
Closing Remarks **Co-Chair: Mr ISHIDA Masaru** **Vice-Minister for Land, Infrastructure and Hokkaido Development, Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan** **Mr Seth Tan** **Executive Director, Infrastructure Asia, Singapore**		
12:55-13:00	Closing Remarks from Co-Chair	**Mr Seth Tan** **Mr ISHIDA Masaru**

End of the Program

Annex C

Promoting Smart Cities through Quality Infrastructure Investment in Rapidly Urbanizing APEC Region (CTI 10 2019T)

Meeting Minutes

15 September 2021

APEC Committee on Trade and Investment

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1 Overview

APEC Conference on “Promoting Smart Cities through Quality Infrastructure Investment (QII) in Rapidly Urbanizing APEC Region” took place online on 15 September 2021 as a virtual conference.

The conference was attended by 118 people including:

1) Representatives from 16 APEC economies
2) Officials from Ministry of Land, Infrastructure, Transport and Tourism (MLIT) of Japan
3) Representatives from Cabinet of Japan, Ministry of Foreign Affairs of Japan, and Ministry of Economy, Trade and Industry of Japan
4) Representatives from organizations; World Bank Group, the University of Tokyo, WEF Centre for the Fourth Industrial Revolution Japan, Asian Development Bank Institute, Smart City Institute Japan etc.
5) Representatives from municipalities of Japan and the private sector from Japan and Singapore

The conference was co-chaired by Mr Ishida Masaru, Vice-Minister for Land, Infrastructure and Hokkaido Development, MLIT, Japan and Mr Seth Tan, Executive Director, Infrastructure Asia, Singapore. It comprised of four parts; 1) Session 1, Opening Remarks and Keynote Speech, 2) Session 2, Presentation and Discussion, 3) Public Private Dialogue, and 4) Closing Remarks.

2 Session1: Opening Remarks & Keynote Speeches (8:00-9:00)

2.1 Greetings from Co-Chair

Mr Ishida and Mr Tan each welcomed the participants and expressed their appreciation for attendance.

2.2 Opening Remarks by Dr Izumi Hiroto, Special Advisor to the Prime Minister of Japan

Dr Izumi showed his gratitude for the participation of representatives of the APEC economies, ambassadors and officials of embassies, and international organizations. He pointed out three focuses that the

APEC economies are encouraged to note when developing smart cities: the diversification of each city by adapting to the various conditions and needs, the involvement of various types of participants, and openness and high transparency. He also mentioned that Japan is willing to support the APEC economies in the promotion of smart cities taking advantage of experiences and technologies which Japan has accumulated both domestic and abroad. Finally, he expressed his hope that the discussions at the conference would be fruitful and contribute to APEC Economic Leaders' Meeting to be held in New Zealand this autumn.

2.3 Keynote Speech by Dr Eng. Deguchi Atsushi, Dean, Graduate School of Frontier Sciences and Professor, Department of Socio-Cultural Environmental Studies, the University of Tokyo, Japan

Dr Deguchi gave a keynote speech on Japan's initiatives for the next generation smart city development aiming at Society 5.0. His speech was divided into three parts: 1) The brief history of smart city development, 2) the successful showcase of smart cities in Japan and 3) the phase-to-phase development of smart cities. Referencing the global trend, he explained that Japan has turned its focus from the energy-conscious smart cities to the problem solution-oriented type. As the idea of Society 5.0 is included in the government's strategy which aims to create a human-centered society by harnessing state-of-the-art technologies, smart cities are expected to become a tool to solve social issues such as the aging population and climate change.

Second, Dr Deguchi introduced the case of Kashiwanoha Smart City, a suburban town of Tokyo, as a good model of the collaborative work by the public, private and academia. After explaining the approaches taken by the town management consortium, he summarized the lessons learned through the project. He listed the four key elements that are indispensable for sustainable smart city management, namely

the human resource, the open platform, the public-private-academia partnership and governance, and the executive plan.

Finally, Dr Deguchi explained the three phases to realize smart cities in the framework of Society 5.0. To achieve the most developed phase three, he suggested the quality of data would be very important when building infrastructure and the system. It is based on the concept of “Data Free Flow with Trust” announced in the joint statement of the G20 Osaka Summit in 2019. He concluded that Japan should be able to take the initiative in developing smart cities in other economies by providing the package of technologies accumulated through the experience of the successful models of Japanese-style smart cities.

2.4 Keynote Speech by Mr Seth Tan, Executive Director, Infrastructure Asia, Singapore

In his keynote speech titled “the Financing and Development of Smart and Sustainable Cities”, Mr Tan highlighted the importance of QII as a drive for social and economic development in Southeast Asia in particular. He also pointed that despite the growing demand, projects are likely financially constrained in the era of pandemic and that the public agencies may have to consider financing options.

Two approaches to invite private financing were proposed: One is increasing the availability of solutions and digital tools to optimize infrastructure performance and reduce cost, and the other is increasing the availability of private sector investments into climate mitigation and adaptation initiatives. He then showed good examples in Singapore of the private sector involvement in the field of waste-to-energy projects.

Regarding smart city development, Mr Tan shared the economy’s policy framework stipulating how the smart technologies are to be introduced in the town development. To showcase the initiatives, the ongoing residential project “Tengah New Town,” the first car-free public housing town center was introduced in slides and a short video. Various smart technologies have been used in the process from the

development to the management; Computer simulation and data analytics tools are used to refine the planning and design and it is aimed to create Smart Energy Town by delivering new software for optimizing energy usage with a help of artificial intelligence.

To conclude the speech, Mr Tan again stated that the greater adoption of digital tools and involvement of private sector investment are significant to scale up smarter, more resilient cities

2.5 Keynote Speech by Mr Yamamuro Yoshitaka, Head, the World Economic Forum Centre for the Fourth Industrial Revolution Japan

Mr Yamamuro gave an overview of G20 Global Smart Cities Alliance (GSCA), which was established in 2019 as the global platform to promote responsible data governance in smart cities. As developing successful projects requires comprehensive approaches, he stated that GSCA would become a mechanism to unite various international communities.

He then presented the five pillars which GSCA considers essential for technology implementation; security, privacy, interoperability, inclusion and sustainability. GSCA believes that high-quality smart cities should have these principles to be built upon so that the cities, instead of tech companies, can take the lead in development.
With help from pioneer cities all around the world that agree with the five pillars, GSCA is currently developing model policies that provide a practical basis for cities aiming to become smart cities. GSCA also published a report based on the results of the survey in the pioneer cities, which explores differences between cities quickly adopting the five pillars and those that are not.

In Japan, according to Mr Yamamuro, the five pillars were positioned as basic concepts in the Smart City Guidebook published by the Cabinet Office. He also showed some advanced cases in which the five pillars have already been incorporated. Toward the end of his speech,

Mr Yamamuro revealed the plan of GSCA expanding globally and invited the audience to work with them.

3 Session2-1: Presentation & Discussion <Part 1> (9:05-9:55)

Sharing the concept of Smart Cities through QII in each economy

Moderator: Mr Victor Mulas, Senior Urban Specialist and the Team Lead for the Tokyo Development Learning Center (TDLC) of the World Bank

Mr Mulas moderated Session 2-1. Representatives of four economies gave presentations each and shared the concept of smart cities through QII.

3.1 Presentation by the United States

Ms Helen Santiago Fink, Program Manager, the U.S.-ASEAN Smart Cities Partnership, shared her view on the definition of smart cities in the first part of the presentation, identifying them as connected, green, equitable, and resilient cities. She then provided several factors that enable us to move toward sustainable smart cities such as integrated master planning and partnership.

To tackle climate-related issues facing the APEC region, Ms Santiago Fink proposed several tools cities can adopt including nature-based solutions which can help bring about the green economic recovery. After introducing the activities of the U.S.-ASEAN Smart Cities Partnership, she emphasized key takeaways of her presentation. Some of them are creating sustainable smart cities in an inclusive and integrated manner, the partnership with the private sector, the people-based solutions and the long-term political commitment.

3.2 Presentation by Japan

After touching on discussions and efforts toward QII done by APEC, Mr Yokota Masafumi, Deputy Minister for International Projects, MLIT, Japan introduced Japanese policies on QII and explained how Japan can cooperate with APEC economies by making use of its advantages such as low life-cycle costs, and technology transfer. Moving on to the topic of smart cities, he identified the significance of developing smart

cities as improving the quality of social services by digital solutions developed under the multisectoral partnership.

Mr Yokota then spelled out the three basic concepts of smart cities in Japan. First of all, cities should pay attention to diversified characteristics and challenges they have and optimize solutions in accordance with them. Second, it is necessary to involve various players and promote collaborative service and projects. Third, transparency and governance in data gathering and utilization are crucial for building trust.

3.3 Presentation by Mexico

Mr Javier Garduño Arredondo, Head, Planning and Institutional Development, Ministry of Agrarian, Land and Urban, Development (SEDATU), Mexico delivered a three-part presentation on the ministry's initiatives on smart cities. He first introduced the Territorial and Urban Information System (SITU), the mapping platform of various data and documents for urban planning which was created to promote equalities across the economy. In the next part, he explained that the plan to develop the National and State Platforms for Mobility and Road Safety is underway to reduce traffic incidents and promote sustainability and resilience in cities.

In conclusion, Mr Garduño Arredondo outlined the challenges facing the private sector for developing smart cities. To ensure access to infrastructure, public services, and technologies for all people, creating smart cities should require inclusive strategies.

3.4 Presentation by Thailand

Dr Supakorn Siddhichai, Executive Vice President, Digital Economy Promotion Agency (DEPA), Thailand presented the concept and visions of smart cities in Thailand. He described how the smart city development is being implemented from the local municipalities to the central level agency. Three essential concepts of smart cities, citizen-centric technology, innovative business model and data agility

were also shared.

Next, Dr Siddhichai offered good practices in two cities: the pilot project to build a tourist mobility app is being undertaken in collaboration with Japanese MLIT, and the traffic safety system for emergency vehicles is being developed with the assistance of Korea. He introduced Smart City Handbook which provides an overview and examples of smart cities at the end of his presentation.

3.5 Q&A

(Moderator)
As the world has undergone the COVID-19 pandemic, smart city development seems essential for economic recovery. How would smart cities look like five years from now?

(Japan)
The pandemic has revealed the risk of urban resilience. We should take this opportunity to build back more resilient. Smart cities will play an important part in the recovery effort. Technologies would enhance the quality of public services. The post-pandemic recovery will further accelerate the development of smart cities.

(Mexico)
If we can overcome one of our main challenges that is to consolidate the decision-making process from the planning to execution and evaluation of the project, we will be able to reduce inequalities and promote the well-being of the population.

(Thailand)
There is no single perfect smart city vision, but the best smart city possible is one that is resilient and where the citizens have access to basic city services such as education, healthcare, housing and public transport. Our smart city is defined by three keywords; citizen-centric, innovative and data-driven.

4 Session 2-2: Presentation & Discussion <Part 2> (10:00-11:20)

Sharing the progress of Good Practice on Smart Cities through QII in each economy

Moderator: Dr KE Seetha Ram, Senior Consulting Specialist, the Asian Development Bank Institute (ADBI)

Dr Seetha Ram moderated Session 2-2. Presentations by six APEC economies were made on the topic of sharing good examples of smart city development.

4.1 Presentation by Hong Kong, China

Mr Dennis Wan, Principal Assistant Secretary (Project Capability and Strategy), Project Strategy and Governance Office, Development Bureau, Hong Kong, China, first touched on the policies on QI in the economy. He recognized the digitalization of project delivery to be a key to promote QI in smart cities and to overcome challenges in the construction industry such as the high cost and the labor shortage.

Details of the digitalization process were introduced. Digital Works Supervision System and Project Surveillance System have been used in the construction phase. The centralized data platform called iCWP has been introduced to consolidate the information of different systems throughout the process of the projects. Continuous performance monitoring and analysis can contribute to efficient management and improved cost-effectiveness. Mr Wan concluded that high-quality infrastructure will be a great support for the development of smart cities.

4.2 Presentation by Indonesia

Mr Ridwansyah Yusuf Achmad, Executive Board, West Java Development Acceleration Team, Indonesia made a presentation on digital transformation initiatives in his municipality. He described the province as one of the most advanced regions in the economy in terms of smart city technologies. Jabar Command Center plays an important

role in providing data-driven public services, which proved effective at the time of pandemic A website and a smartphone app were also launched quickly and have served as the real-time case monitoring center and the public information hub.

Digitalization has opened up new opportunities in villages as well. Mr Ridwansyah explained how technologies can help in such areas as agriculture, fishery, e-commerce and education. He also presented the digital communication tool between the citizens and the province, the integrated geospatial information platform and the open data policy.

4.3 Presentation by Peru

Mr Junior Raul Soto Huaman, Executive Director, National Sustainable Urban Transport Program- PROMOVILIDAD, Ministry of Transport and Communications (MTC), Peru described the current state of smart mobilities in the economy and pointed out the issues such as limited resources and insufficient management. To address them, National Sustainable Urban Transport Program, PROMOVILIDAD was laid out to support the development of high-quality urban transport systems in major cities.

As a prototype of the program, Mr Soto Huaman shared the centralized traffic control system being implemented in the city of Cusco. The system can monitor the traffic and detect violations through the images accumulated at the control center. In conclusion, he showed the timeline of the plan toward smart cities; the smart city master plan will be announced in 2023, and the pilot projects are scheduled to commence in 2024.

4.4 Q&A

(Moderator)

How were your plans affected by the pandemic and what are the lessons learned?

(Hong Kong, China)

We managed to build 350 quarantine units to respond to the infections in the first two months since the pandemic started, which demonstrated the importance of the digitalization of the project delivery. We applied smart technologies including the tracking system to monitor the logistics.

(Indonesia)
Digital infrastructure is very important especially in this time of COVID-19 in the fields such as education. The main concerns are 1) connectivity, 2) affordability and 3) equity. In areas where the connection is complete, some people still cannot afford to access the infrastructure.

(Peru)
In the transport sector, we have been trying to continue the planning and the development and to conduct the program.

4.5 Presentation by the Philippines

Ms Joyce Muriel Aguirre, Project Evaluation Officer IV, Department of Transportation, Mandaluyong City, the Philippines explained the economy's initiatives to achieve smart transportation. Central Public Utility Vehicle Modernization Program is being undertaken to upgrade the public transport to a safer, more inclusive and more e environment-friendly service. She also presented the cashless public transport and the bus systems planned in Cebu and Davao which showcase multiple intelligent technologies.

Because of the pandemic, the Philippines have been actively developing systems and applications to help commuters to ride bikes comfortably. the cycling route map and the bike share stations were introduced. To conclude her presentation, Ms Aquirre summarized the economy's approaches as bottom-up and top-down combined. She added that a continuous test and learn process is ongoing and that

multilateral efforts are being made by different sectors.

4.6 Presentation by Russia

Mr Andrei Kiselev, First Deputy CEO, VTB Infrastructure Holding, Russia, detailed how the new highway construction can contribute to the smart city development in St. Petersburg, the economy's second-largest city. The 46-kilometer-long Western High Speed Diameter is one of the first high-profile PPP projects in Russia, featuring the electronic toll collection system, the mobile traffic information app, the automated traffic control system, the artificial intelligence pricing system and so on.

One of the greatest achievements of the project is the improvement of traffic congestion and the reduced travel time within the city. This has made a positive impact on the environment, reducing fuel consumption and CO2 emission. Mr Kiselev also pointed out other social impacts such as the growing demand for real estate in the neighboring area and increased employment during the construction and the operation.

4.7 Presentation by the United States

Mr Jason Hill, Senior Regional Manager–Western Hemisphere, Department of Transport, the United States, highlighted two keys in policy and planning for smart city development. One is the interconnection of three factors, policy, planning and technology working together. The other is the integration of the planning by the public sector and emerging technologies of the private sector. The survey was conducted to explore key principles for adaptation of transportation apps, identifying them as open data, the role of policies, etc.

In the last part of his presentation, Mr Hill shared a successful case in Dallas, Texas in which the seamless multimodal transit system is being developed through integration of public transportation and private ride-sharing services. Mr Hill then showed the Dallas project fulfilled the twelve key principles mentioned earlier.

4.8 Q&A

(Moderator to the Philippines)
What are the environmental impacts of the solutions you introduced?

(The Philippines)
We are working toward carbon neutrality in transportation. One of the first steps taken is to modernize public vehicles. We are also developing mass transit systems that can encourage the modal shift to active transport. During the pandemic, people have started riding bicycles more often than seen before.

(Moderator to Russia)
What kind of spillover effects did you consider when you design the project?

(Russia)
Through creating many jobs, we certainly had an increase in tax revenue. It is also estimated that we have created a demand for new businesses along the route. Because of the improved accessibility from the city center, real estate developers are constructing new apartment buildings and shopping centers and people started moving to the previously underdeveloped areas. We could say that it has clearly created direct and indirect impacts on the public revenue.

(Moderator to the US)
From your experience, how did you facilitate the interaction between the public and the private transport service providers?

(The US)
The biggest challenge is to find the common language between the private app developers with emerging technologies and the legacy public transport operators. For example, while the ride-sharing companies are very sensitive about sharing data, cities are trying to require them to provide all of their data. It is necessary to help them

better understand each other. I will give an example in the city of Los Angeles in which the city established NGO with several tech companies to help bridge the divide among them. It facilitates the relationship to overcome the challenges.

5 Session 3: Public Private Dialogue (11:25-12:55)

Sharing the knowledge and experience of the Cities, technologies and experience of private companies on Smart Cities through QII

Moderator: Mr Nagumo Takehiko, Executive Director, Smart City Institute Japan

Moderated by Mr Nagumo, the session consists of presentations by two municipalities of Japan, one company from Singapore and four from Japan offering their solutions and technologies on smart city development.

5.1 Presentation by City of Tsukuba

Mr Mori Yusuke, Director General, Policy Innovation Department/ Vice CIO, City of Tsukuba introduced the city's initiatives on smart technologies including smart mobility, the online voting system and the health management app for school children. Tsukuba City aims to become "Super Science City," which showcases cutting-edge technologies to solve social issues in an inclusive, diversified manner. The four ethical principles for the Tsukuba smart city development, 1) Respect for autonomy, 2) Nonmaleficence, 3) Beneficence and 4) Justice were also shared. Mr Mori described the city's approaches as collaborative works with universities and research institutes accumulated in the area.

5.2 Presentation by City of Yokohama

Mr Hashimoto Toru, Director General International Affairs Bureau, City of Yokohama shared history of urban development in the city, followed by the details of Minato Mirai 21 District, one of the high-profile public-private efforts of urban development in Japan. He introduced some of the smart initiatives being conducted in the district such as

anti-disaster measures and the energy management system. The city is promoting City Management as a Service, or CMaaS, a package of urban development initiatives in which the city is involved throughout the project from the concept making to the management. Yokohama is working with the private sector in the export of their knowledge and experience.

5.3 Presentation by Surbana Jurong

Mr Gareth Wong Chief Executive Officer of Mitbana Pte Ltd, Surbana Jurong, Singapore laid out the examples of urban transformations in Singapore that the company has been involved in. The parking lot was redeveloped into an indoor garden which has become the popular tourist attraction in the airport, and the rural villages were transformed into the Eco-Town and the innovative business district. Mr Wong also explained the estate management system called 24k Integrated Platform that his company has developed. The integrated platform of multiple applications enables real-time monitoring, data-driven decision making and the continuous improvement of town management.

5.4 Presentation by Broadleaf Co, Ltd

Mr Maki Yosuke, Operating Officer, M&A and Business Development, New Business Development Division, Broadleaf Co, Ltd presented the company’s new mobility service, the electric tricycle which can be an alternative transport in heavily congested cities. The case study in Metro Manila, the Philippines was introduced in a short video. He showed how the company’s MaaS platform can contribute to the digital transformation of mobility through cashless payment, operation management and data analysis. The new public-private collaborative project to help single-parent families through smart mobility in the Philippines was introduced in the last part of his presentation.

5.5 Presentation by Nippon Telegraph and Telephone Corporation

Mr Yoshihara Toshihiro, Vice President of Smart City, Strategic Business Development Division, Nippon Telegraph and Telephone

Corporation identified two keys in creating smart cities, namely redesigning the society from a user's standpoint and making data public goods. some solutions regarding the key points such as the data linkage platform were then mentioned. He gave two examples of smart city projects that NTT has been involved in partnering with local authorities, one of which is the people-flow analysis in Sapporo, Japan. Mr Yoshihara shared the company's vision for smart cities that is to connect people and communities in the virtual society through digital twin computing.

5.6 Presentation by Tokyu Corporation

Mr Ogata Yoshinori, Executive General Manager, International Business Headquarters, Tokyu Corporation detailed the smart city project in Binh Duong, Viet Nam. The company has followed the principles of its three core businesses, transportation, real estate and life-service as done in Japan and offered its expertise accumulated through businesses in the past. He stated that the company aims to address issues in transport by offering the modal shift to shuttle buses. Transit-oriented development, TOD has been promoted with Japanese-style safety standards and hospitality. The company is currently developing an all-in-one mobile app to offer Mobility as a Service, in which users can use different public mobilities.

5.7 Presentation by Yokogawa Electric Corporation

Ms Matsunaga Shoko, Russia & CIS Sales Chief, Energy & Sustainability Business Headquarter/Renewable, Power & Water Business Center, Yokogawa Electric Corporation introduced Community EMS, the real-time energy management tool to realize smart cities. Connecting energy suppliers and consumers, CEMS can help stabilize renewable power supply by offering the demand forecast, optimizing electricity generation and providing the best energy mix. Ms Matsunaga offered two examples of CEMS in operation. At a waste-to-energy plant in Tokyo, CEMS is being used under three concepts, controlling and monitoring, efficient energy use and analysis. She explained that CEMS contributes realization of local production

and local consumption of energy.

5.8 Q&A

(Moderator)
Smart cities are by nature extremely complex exercises. What are the key factors in your cities?

(City of Tsukuba)
One of the keys is good communication between the citizens and the city. A project should not be done without a deep dialogue among stakeholders. The city should always listen to voices of the citizens. We have succeeded in building a great relationship with the communities.

(City of Yokohama)
In addition to good communication, the key would be to create a level playing field for both the private sector and the citizens so that everyone can trust each other. Ensuring equity and facilitation are what the local municipalities should focus on.

(Moderator)
To be sustainable in business requires competitive business models. What is the competitive edge of your project?

(Broadleaf)
There are four kinds of stakeholders in smart mobilities, 1) citizens, 2) transport providers, 3) drivers, and 4) local governments. MaaS can improve convenience and efficiency, and save money and time. Because we cannot succeed on our own, we are trying to establish the ecosystem and share the profits produced by the project with all the stakeholders.

(NTT)
Monetizing is a crucial factor for a sustainable business. Smart cities are still in the start-up phase. I believe that it requires some more time to be successful financially. Even if the initial implementation of ICT is

supported by public funding, it is still necessary for the private sector to secure a sustainable revenue source to maintain the smart cities. As a utility service provider, keeping healthy local communities is the core of our business. The smart city development has a positive impact indirectly on our business.

6 Closing Remarks (12:55-13:00)

Mr Tan, Co-Chair thanked the floor and the organizers for their insightful discussions and summarized the conference. Acknowledging the differences of needs in each economy and a rapidly changing social environment, he emphasized the importance of collaboration between the public and private sectors, and peer sharing between different economies and cities. He also encouraged continuous conversations among APEC economies and international organizations.

Mr Ishida expressed his appreciation for the significant contributions of the economies, adding that the conference was a great opportunity to learn the good practices and challenges. He concluded the conference by stating that he hoped to collaborate with APEC economies to consider the next steps of Smart Cities through QI.

Annex D

Asia-Pacific
Economic Cooperation

Good Practice Book of Smart Cities and Quality Infrastructure Investment

APEC Tokyo Conference
on Promoting Smart Cities through Quality Infrastructure Investment in Rapidly Urbanizing APEC Region

15 September 2021

*Please provide below information to Project Overseer Team by email not later than August 13th, 2021.

Date: Sept. 2021

Good Practice_Smart City through QII

Collected cases will be distributed for participants and it will be one of the deliverables of the conference.

Good Practice	**Economy**	Hong Kong, China			**City Name**	Hong Kong, China			
	Major Challenges	Significant Future Construction Volumes	High Construction Cost	Declining Productivity in Construction Industry	Lack of Creativity and Innovation in Construction Industry				
	Project Name	**Digital Project Delivery for Infrastructure**							
	Project Summary	The construction industry in Hong Kong,China has played a key role on the economic growth and will also be crucial to the post-pandemic economic revival. However, in recent years, the industry has experienced increasing pressures and public scrutiny as a result of higher costs and declining productivity levels. In this respect, the Hong Kong,China Government is leading the construction industry to make change by implementing "Construction 2.0" advocating "Innovation", "Professionalisation" and "Revitalisation" to uplift the capacity and sustainability of the local construction industry, increase productivity, enhance regulation and quality assurance, improve site safety and reduce environmental impact.							
	Project Detail	The Hong Kong,China Government is promoting digitalization in the project management by investing in the following initiatives:- 1. Introduction of Digital Works Supervision Systems (DWSS) for improving performenace in site supervision of infrastructure works; 2. Establihsment of Project Surveillance System (PSS) for effective project management and monitoring of project cashflow with an early warning mechanism; and 3. Development of Integrated Capital Works Programme (iCWP) for enhancing performance monitoring and predictive analysis by consolidating project data from DWSSs and other project management systems throughout the project delivery cycle.							
Remarks	Nil								

Submitted by	Hong Kong, China
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***Please provide below information to Project Overseer Team by email not later than August 13th, 2021.**

Date:9th Sept. 2021

Good Practice_Smart City through QII

Collected cases will be distributed for participants and it will be one of the deliverables of the conference.

<table>
<tr><td rowspan="5">Good Practice</td><td>Economy</td><td colspan="3">Japan</td><td>City Name</td><td colspan="4">City of Tsukuba</td></tr>
<tr><td>Major Challenges</td><td>Urban Planning and Development</td><td>Infrastructure, maintenance and management</td><td>Mobility</td><td>Energy</td><td>Enviroment</td><td>Disaster Prevention</td><td>Tourism and regional revitalization</td><td>Health and Medical Care</td></tr>
<tr><td>Project Name</td><td colspan="8">Implementation of Next-Generation Mobility</td></tr>
<tr><td>Project Summary</td><td colspan="8">Autonomous Electric Wheelchair
-Tested autonomous electric wheelchair on public streets for the first time in Japan
Face Recognition Technology with Bus
-Promoting the utilization of face recognition technology linked to bus boarding/exit and payment
Disinfection Robots
-Introduced disinfection robots in the City Hall and the public library</td></tr>
<tr><td>Project Detail</td><td colspan="8">Autonomous Electric Wheelchair
-First time in Japan, with permission of Japan's National Police Agency.
-Collaboration with National Institute of Advanced Industrial Science and Technology (AIST).
-This electric wheelchair run automatically along a path in which the wheelchair has memorized, and avoid collision by monitoring surrounding environment with its sensor.
-Planning connection of traffic signal information with the autonomous electric wheelchair.

Face Recognition Technology with Bus
-Promoting experiments of the payment of bus fees using face recognition technology under the support by Japan’s Ministry of Land, Infrastructure, Transport and Tourism (MLIT).
-Scanning passenger's face by a smartphone located at boarding gates and verifying the scanned data with registered photo data.
-Planning "Medical MaaS" where using personal information obtained from face recognition to check-in hospital/clinic.

Doog Inc. "Thouzer"
Disinfection Robots
-In cooperation with two leading startups baced in City of Tsukuba

CYBERDYNE Inc. "CL02"
-Robots run automatically and disinfect buildings during closing hours by spraying disinfectant or exposing ultraviolet light to furniture and floors.</td></tr>
<tr><td>Remarks</td><td colspan="8"></td></tr>
</table>

Submitted by	City of Tsukuba Smart City Strategy Office
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*Please provide below information to Project Overseer Team by email not later than August 13th, 2021.

Date: 31st Aug. 2021

Good Practice_Smart City through QII

Collected cases will be distributed for participants and it will be one of the deliverables of the conference.

Good Practice	**Economy**	Japan			**City Name**	Yokohama			
	Major Challenges	Urban Planning and Development	Infrastructure, maintenance and management	Energy	Enviroment	Solid Waste Management			
	Project Name	Y-PORT Program (Yokohama Partnership of Resources and Technologies)							
	Project Summary	Disseminating experiences and know-how of city of Yokohama in urban development to emerging cities in mainly Asia, together with Yokohama-based private companies							
	Project Detail	Due to the rapid concentration of the population as a result of significant economic growth and urbanization, emerging countries such as those in Asia are facing various urban issues. The City of Yokohama was also faced with similar issues due to high economic growth during the post-war period. By overcoming numerous issues, such as delayed infrastructure development and the pollution caused by the rapid increase in the population, together with its citizens and companies, Yokohama was able to develop a sustainable and environmentally friendly city. Since January 2011, the City of Yokohama has been implementing the Yokohama Partnership of Resources and Technologies (Y-PORT) Program in order to utilize its experiences in urban development and technologies and know-how of private sector to help cities in emerging economies to solve their urban issues and also Yokohama companies to expand their businesses overseas.							
Remarks	https://yport.city.yokohama.lg.jp/								

Submitted by	International Affairs Bureau, City of Yokohama
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Email	ki-yport@city.yokohama.jp

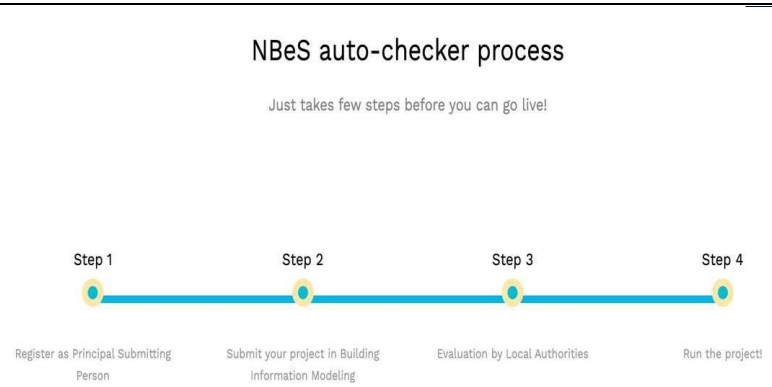
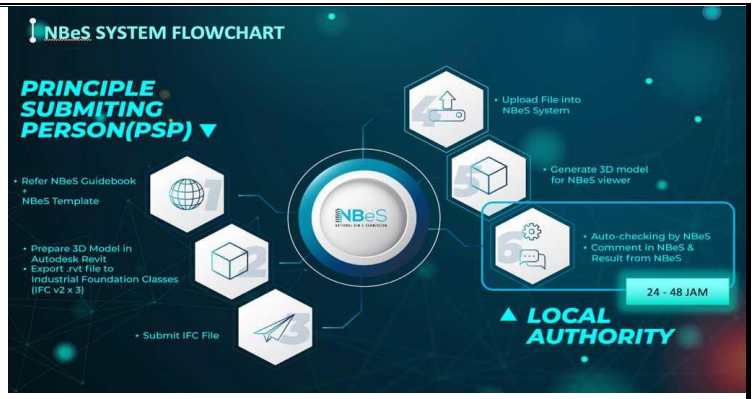
*Please provide below information to Project Overseer Team by email not later than August 13th, 2021.

Date: Sept. 2021

Good Practice_Smart City through QII

Collected cases will be distributed for participants and it will be one of the deliverables of the conference.

Good Practice	**Economy**	Malaysia			**City Name**	Kuala Lumpur			
	Major Challenges	Urban Planning and Development	Infrastructure, maintenance and management	Mobility	Energy	Enviroment	Disaster Prevention	Tourism and regional revitalization	Health and Medical Care
	Project Name	National Building Information Modelling Electronic Submission (NBeS)							
	Project Summary	NBeS is an AutoChecker system for the review and approval of Building Plan at the Local Authority (PBT) which involves the digital submission of Building Plan. Unlike conventional methods that use 2D drawing plans which are commonly submitted by Principal Submitting Person (PSP) to local authorities, the 3D Building Information Modelling (BIM) in digital form will be used for compliance checks of Uniform Building By-Law (UBBL) and other related regulations. The implementation of NBeS can have a positive impact in the development of the Malaysian construction industry in line with the Industrial Revolution 4.0 (IR 4.0) initiative. Among the benefits of implementing these NBes are as follows: a) To facilitate the process of submitting the Building Plan by the Principal Submitting Person (PSP) via online; b) To facilitate the process of reviewing building plans at local authorities; c) Optimise building plan approval period up to 70% (from 50 days to 15 days); d) Reduce operation costs at local authorities; e) Reduce the use of space for document storage; f) To enhance compliance with design laws and regulations by consultants/ developers; g) Promote the use of BIM as a transformation for the Malaysian construction industry; and h) To support the implementation of Construction 4.0 in promoting digital adoption of the Malaysian construction industry.							

	Project Detail	 Improving BIM technology skills is very critical at this time so that the Malaysian government's intention to adopt the use of BIM processes in construction projects can be realized to help increase the productivity of the construction industry. Recently, the spread of the Covid-19 epidemic has triggered the practice of new norms, socially and economically. The Construction Industry is the most affected area and needs serious attention to address this critical scenario. In addition, the Malaysian construction industry is often plagued with problems such as low productivity and quality, unsatisfactory compliance with laws and regulations at construction sites, high accident rates at construction sites and also unsatisfactory site management. The use of the latest application systems and technologies can improve construction site management to address related issues. The system uses OpenBIM technology and every process is online. Several types of engines have been developed in this system to produce reports, 3D rendering for 3D display and ruleset management (UBBL, MS, UUK) for local government use. The uploaded 3D model can be displayed directly from the web browser along with the review results on the 3D model.
		 NBES Infographic Overview of NBES Architecture
Remarks	https://www.nbes.gov.my/index.html	

Submitted by	Dr. Gerald Sundaraj
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Email	gerald@cidb.gov.my

Date:20th Aug. 2021

Good Practice_Smart City through QII

Collected cases will be distributed for participants and it will be one of the deliverables of the conference.

Good Pratice	**Economy**	Chile			**City Name**	Santiago de Chile			
	Major Challenges	Urban Planning and Development	Infrastructure, maintenance and management	**Mobility**	Energy	Enviroment	Disaster Prevention	Tourism and regional revitalization	Health and Medical Care
	Project Name	Proof of concept of CCTV cameras for traffic monitoring with 5G wireless connectivity and real-time video analytics for automatic detection of incidents and counting of traffic variables.							
	Project Summary	Carrying out proofs of concept of cameras for traffic monitoring based on fifth generation communication systems (5G) in order to evaluate the potential of the use of this wireless network technology, as well as to measure the capacity of video analytics. in real time for the automatic detection of traffic incidents and counting of traffic variables.							
	Project Detail	The trafic Control management center of the Metropolitan Region raised the need for an intelligent system that is capable of adapting to CCTV systems taking advantage of the existing hardware infrastructure, and that is also capable of being integrated in such a way that it does not affect the current monitoring system of the transport networks of the Metropolitan Region. A focal point associated with the exploration of the solution has to do with one of the UOCT's greatest concerns related to vehicular congestion, urban mobility planning and means of transport, without having to measure through objective evidence the number of vehicles that circulate in the city. Within this scope, what is sought is to test and evaluate the 5G network connectivity associated with ITS devices in the field, as well as to test Machine Learning algorithms to obtain strategic data for mobility planning. Among the results achieved, the following emerge: Have a report delivery service in different formats (XLS, CSV, PDF, JPG, among others) based on the information obtained by the analytics algorithm. Have a platform that allows to visualize the different changes in mobility (graphically), in the different existing modes. Creation of alerts as a long queue forms to take the necessary mitigation measures.							
Remarks									

Submitted by	Richard Mora Ortega
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Date:20th Aug. 2021

Good Practice_Smart City through QII

Collected cases will be distributed for participants and it will be one of the deliverables of the conference.

Good Practice	**Economy**	Chile			**City Name**	Santiago de Chile			
	Major Challenges	Urban Planning and Development	Infrastructure, maintenance and management	**Mobility**	Energy	Enviroment	Disaster Prevention	Tourism and regional revitalization	Health and Medical Care
	Project Name	Pedestrian action by camera at traffic lights in the Metropolitan Region							
	Project Summary	Avoid the agglomeration of people who are in the waiting areas at signalized pedestrian crossings, in order to reduce contact and seek physical distancing in public spaces and thus reduce the risk of contagion of SARS-CoV-2 or COVID- 19. Contribute to the development of cities, strengthening the planning of solutions for the different modes of transport.Principles: Equity and Security.							
	Project Detail	The trafic Control management center of the Metropolitan Region raised the need for an intelligent system that is capable of adapting new technologies and taking advantage of the existing hardware infrastructure. Avoid the agglomeration of people who are in the waiting areas at signalized pedestrian crossings, by installing cameras in the pedestrian crossings of: - Alameda Bernardo O'Higgins with Ahumada / Arturo Prat (Santiago commune), J046281 and J046282. - Av. Providencia and Nueva Tajamar at the exit of the Tobalaba Metro (Providencia commune) J001341 and J001342. - Ismael Valdés Vergara with Paseo Puente (Santiago commune), J017311. - Pedestrian crossing of Av. La Florida with Av. El Parque (commune of La Florida), J082211 and J082212. Video detection camera: Hikvision company camera which has video detection, which allows us to count people in a certain area and to be able to fire a trigger depending on the count. This option required no development and was immediately applicable. The calibration of the number of pedestrians must be done directly on the camera's operating interface, in the field, since it is this device that has the logic for the counting function. If the crossing does not have a pedestrian phase, it is not a problem, everything is solved with configuration. In practice, the camera uses image pattern recognition that counts the number of people who are within a pedestrian waiting area to be defined, in real time. When the camera detects (video detection) that the number of people waiting for the green light to cross reaches the maximum congestion threshold defined in the area and, complies with the configured residence time, a request is sent to the traffic light controller that triggers the extension of pedestrian green and frees the waiting area, thus avoiding the crowding of people.							
Remarks									

Submitted by	Richard Mora Ortega
Contact Person	Innovation and digital transformation Project Manager for ministry of transportation of Chile
Email	rmora@mtt.g ob.cl

*Please provide below information to Project Overseer Team by email not later than August 13th, 2021.

Date: 16th, Aug. 2021

Good Practice_Smart City through QII

Collected cases will be distributed for participants and it will be one of the deliverables of the conference.

Good Practice	**Economy**	Perú			**City Name**	cities with more of 100,000 inhabitants or capital of department.			
	Major Challenges	Urban Planning and Development	Infrastructure, maintenance and management	Mobility	Energy	Enviroment			
	Project Name	National Sustainable Urban Transport Program							
	Project Summary	The National Sustainable Urban Transport Program (PROMOVILIDAD). Its general objective is the promotion of integrated transport systems. Its purpose is to reduce travel times, increase road safety and improve the health and access of the population to areas of employmente and services.							
	Project Detail	The Ministry of Transport and Communications (MTC), as the governing body in transport, is leading a sectorial strategy to develop urban transport modes with an integrated and multimodal approach, which contributes to strengthening the governance of local authorities. Strategy that is developed within the framework of the implementation of the National Urban Transport Policy, approved by Supreme Decree No. 012-2019-MTC / 01, with a focus on Sustainable Urban Mobility, which prioritizes the displacement of people in conditions of safety, shorter travel times and reduction of environmental pollution. Likewise, the aforementioned National Policy contains a set of prioritized objectives, guidelines and urban transport services with a focus on sustainable urban mobility whose general objective is "To provide cities with safe, reliable, inclusive, accessible transport systems, with high standards. of quality, institutionally coordinated, financially, economically and environmentally sustainable (….) ". As mentioned, within the framework of the aforementioned National Policy, with Supreme Decree No. 027-2019-MTC, published on 07/28/2019, the National Sustainable Urban Transport Program - PROMOVILIDAD was created, dependent on the Vice-Ministerial Office of MTC Transports; whose general objective is to promote Integrated Transportation Systems in the cities within its scope of intervention, which are those cities with more than 100,000 (one hundred thousand) inhabitants and / or department capitals, with a focus on sustainable urban mobility and gender.							
Remarks	For more information, you can check the following links: https://busquedas.elperuano.pe/normaslegales/decreto-supremo-que-crea-el-programa-nacional-de-transporte-decreto-supremo-n-027-2019-mtc-1792885- 4/ https://www.gob.pe/institucion/mtc/normas-legales/357019-1073-2019-mtc-01 https://www.gob.pe/institucion/mtc/normas-legales/272373-012-2019								

Submitted by	Daniel Lacca
Contact Person	Daniel Lacca
Email	dlaccav@gmail.com; dlacca@mtc.gob.pe

Date: 10th Sept. 2021

Good Practice_Smart City through QII

Collected cases will be distributed for participants and it will be one of the deliverables of the conference.

Good Practice	**Economy**	Singapore			**City Name**	Singapore			
	Major Challenges	Urban Planning and Development	Infrastructure, maintenance and management	Mobility	Energy	Enviroment	Disaster Prevention		
	Project Name	24k Integrated Platform							
	Project Summary	24k Integrated Platform is an integrated asset monitoring and incident management platform developed by Surbana Jurong. The platform helps building and facilities owners keep track of asset operations, performance, and maintenance, performing City Management as a Service (CMaaS).							
	Project Details (Targets & Outcomes)	Features and benefits include: - Mobile support: access information on the go for the ground team, resulting in greater productivity - Common data environment: secure data storage with machine learning capabilities - Data analytics: extend asset operating lifespan through preventive maintenance - Workflow support: automatic trigger of service calls, resulting in faster response time and reduced operational downtime - Consolidated dashboard: centralised view of connected devices and systems - Modular and scalable from a single building to an entire city: add device and systems when needed - Real time monitoring: get alerted the moment an incident occurs - Open and brand agnostic: single platform to manage multi-brand environment							
Remarks	About Surbana Jurong's smart city solutions: https://surbanajurong.com/service/smart-city-solutions. Video on Smart Township: https://www.youtube.com/watch?v=xYDlugo3sUY.								

Submitted by	Surbana Jurong
Contact Person	Eugene Seah
Email	eugene.seah@surbanajurong.com

Date: 10th Sept. 2021

Good Practice_Smart City through QII

Collected cases will be distributed for participants and it will be one of the deliverables of the conference.

Good Practice	**Economy**	Singapore			**City Name**	Singapore			
	Major Challenges	Urban Planning and Development	Infrastructure, maintenance and management	Mobility	Energy	Enviroment	Disaster Prevention		
	Project Name	24k Integrated Platform							
	Project Summary	24k Integrated Platform is an integrated asset monitoring and incident management platform developed by Surbana Jurong. The platform helps building and facilities owners keep track of asset operations, performance, and maintenance, performing City Management as a Service (CMaaS).							
	Project Details (Targets & Outcomes)	Features and benefits include: - Mobile support: access information on the go for the ground team, resulting in greater productivity - Common data environment: secure data storage with machine learning capabilities - Data analytics: extend asset operating lifespan through preventive maintenance - Workflow support: automatic trigger of service calls, resulting in faster response time and reduced operational downtime - Consolidated dashboard: centralised view of connected devices and systems - Modular and scalable from a single building to an entire city: add device and systems when needed - Real time monitoring: get alerted the moment an incident occurs - Open and brand agnostic: single platform to manage multi-brand environment							
Remarks	About Surbana Jurong's smart city solutions: https://surbanajurong.com/service/smart-city-solutions. Video on Smart Township: https://www.youtube.com/watch?v=xYDlugo3sUY.								

Submitted by	Surbana Jurong
Contact Person	Eugene Seah
Email	eugene.seah@surbanajurong.com

Annex E

Asia-Pacific
Economic Cooperation

Promoting Smart Cities through Quality Infrastructure Investment in Rapidly Urbanizing APEC Region (CTI 10 2019T)

Collection of New Technologies, Solution Providers for APEC Economies

15 September 2021

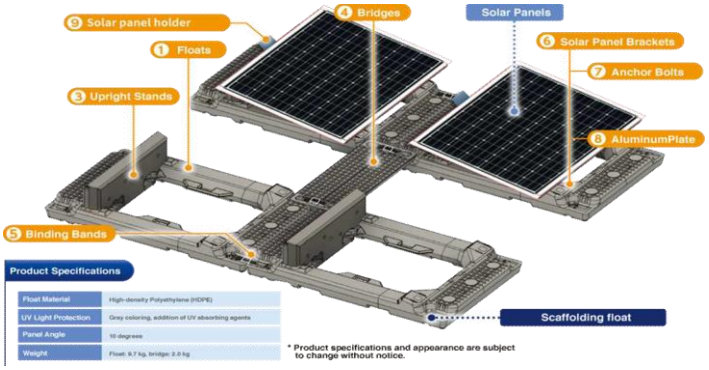
APEC Committee on Trade and Investment

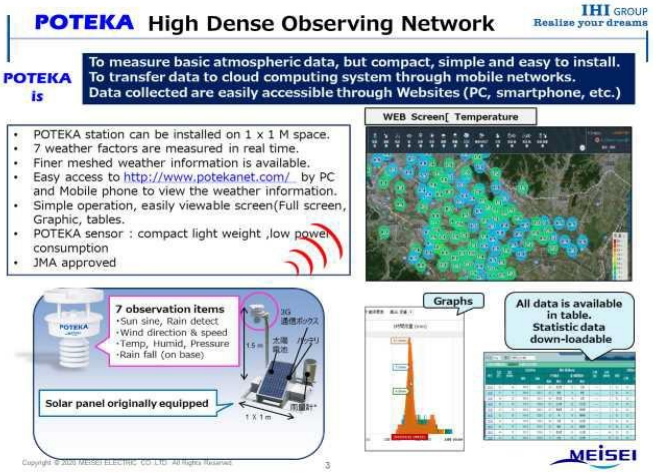
Date: September, 2021

Collection of New Technology/Solution providers for APEC economies

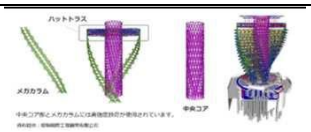
Collected information will be distributed for participants and it will be one of the deliverables of the conference.

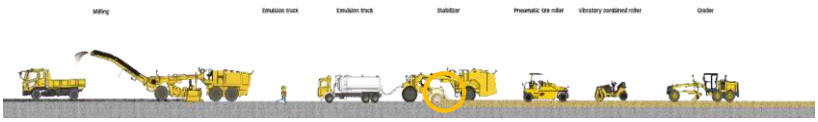
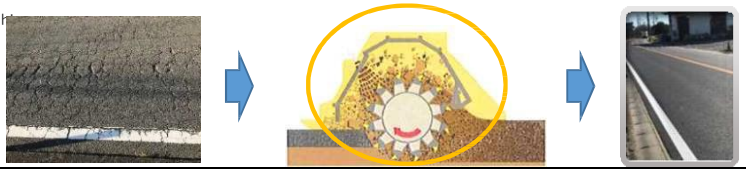
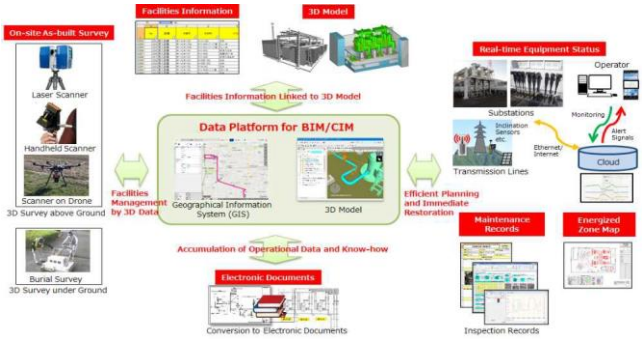
1	Company /Organization Information	Name of Company/ Organization	NEC Corporation	Type of Business	Manufacturing, Sytem Integration
		Website	https://www.nec.com/		
	New Technology/ Solution	New Technology/Solution Classification	Automatic Fare Collection System (AFCS) / Central Clearing House System (CCHS)		
		New Technology/Solution Overview	Our AFCS realizes accurate and reliable fare collection by contactless smart card to bus, railway, and public transport operators. AFCS supports cashless fare collection which reduces the cash handlings, results in the total cost decrease in the fare collection. Moreover, collected data aggregated per station/route brings deeper understanding of passenger flow, which leads to data-driven route/schedule optimization. Furthermore, deployment of AFCS will benefit passengers by going cashless and freeing from purchasing tickets. Introduction of CCHS in addition to AFCS makes the smart card interoperable, where the same card can be used at other transport systems.		
		Track Records	AFC System for BRT & City Bus Project in Surat: NEC has implemented AFCS at total 700 fleet and 200 BRT stations, having brought Surat City in India the cashless fare collection for city bus and BRT. Contactless NCMC bank cards can be used to make a fare payment by integrating with the bank system, as well as mobile QR ticket purchased on the mobile app, by tapping or scanning at an automatic gate or an on-board validator. 		
		Project website	https://www.nec.com/en/press/201803/global_20180330_05.html		
2	Company /Organization Information	Name of Company/ Organization	NIPPON TELEGRAPH AND TELEPHONE CORPORATION	Type of Business	Telecommunications Carrier, System Integration
		Website	https://group.ntt/en/		
	Technology/ Solution	New Technology/Solution Classification	Digital Twin Computing		
		New Technology/Solution Overview	Going forward, advances to digital twins of various real-world objects will lead to higher demands for large-scale simulations entailing the interaction and combination of different types of digital twins across various industries. For example, entire supply chains including production lines or entire factories and logistics could be reproduced starting with individual production machines, or entire cities could be reproduced by combining buildings, roads, cars and citizens. However, since current digital twins are created and used for specific purposes, it is difficult to combine various digital twins and get them to interact.		
		Track Records	Realization of smart city by driving and chaining data: By conducting demonstration experiments in existing districts in which the NTT Group is involved and in newly developed districts, we aim to provide new value that will appeal to people living, gathering, and working in the districts. Commercial / office, etc. to create new value such as optimization of various fields in district management, store tenants, office tenants, realization of zero food loss, optimization of use of MaaS in and around the district, construction of personal services, etc. Realized in the actual district.		
		Project website	https://www.ntt.co.jp/news2021/2102/210202a.html		

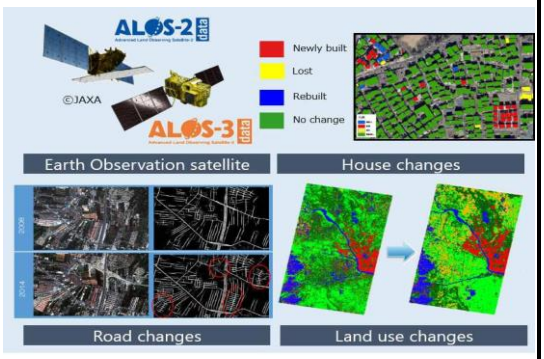
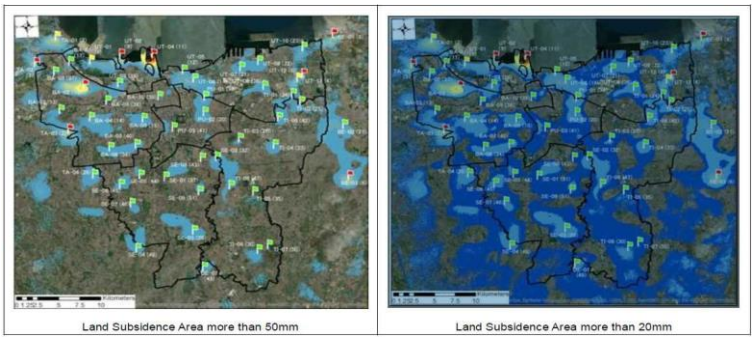
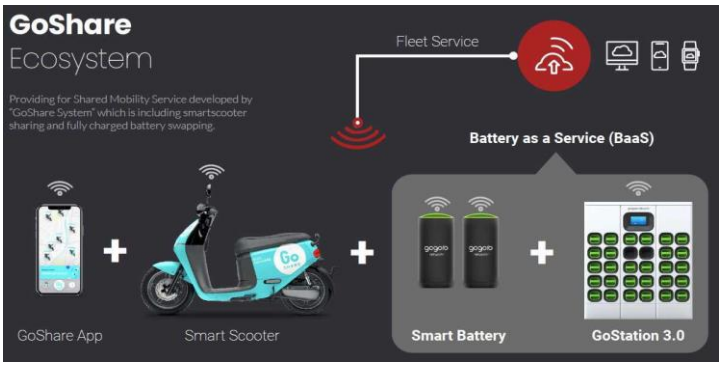
3	Company /Organization Information	Name of Company/ Organization	Sumitomo Mitsui Construction Co., Ltd.	Type of Business	Construction, Genral Contractor
		Web Site	https://www.smcon.co.jp/en/		
	Technology/ Solution	New Technology/Solution Classification	Float System for Solar Power Generation （PuKaTTo), Photovoltaic on the water, Float		
		New Technology/Solution Overview	Solar power generation on water is expected to improve power generation efficiency due to the cooling effect, inhibit algae growth and improve water quality by blocking sunlight from entering the water, and reduce evaporation of irrigation water by blocking the water surface. We can partially or comprehensively undertake any steps from manufacturing and sales of the float system for the installation of PV modules on water, planning of the mooring method and installation of such float system. The float system can be installed on various kinds of freshwater surfaces, and we are currently developing the next model to expand the types of installation locations and solar modules that can be installed.  		
		Track Records	Sakaide City, Kagawa Pref., Japan Hasuike Water Solar Power Plant Facility name: Hasuike Water Solar Power Plant Location: 5808 Nishimata, Kawatsu-cho, Sakaide-shi, Kagawa Prefecture Hasuike (reservoir for agriculture) Business operator: Sumitomo Mitsui Construction Co., Ltd. Power generation output: 1,957kw (panel output) Business period: April 2021 to March 2041 (20 years)		
		Project website	https://pv-float.com/english/		

4	Company /Organization Information	Name of Company/ Organization	HORIBA, Ltd.	Type of Business	Manufacturing, Sytem Integration
		Web Site	https://www.horiba.com/en_en/		
	Technology/ Solution	New Technology/Solution Classification	Air Quality Monitoring System for monitoring air pollution.		
		New Technology/Solution Overview	The Air Quality Monitoring System (AQMS) is a system that continuously measures concentrations of air pollutants (SO2, NOx, CO, O3, THC, etc.), particulate matter, wind speed, wind direction and other meteorological parameters throughout the year. It can be designed to meet the customer's requirements and meet various needs for monitoring air pollution. Real-time monitoring of air pollution status can help reduce health effects and remote monitoring can help reduce labor costs. We have two types of AQMS: fixed and mobile. The analyzers are mounted in shelter or in a container at the rear of the truck together with meteorological instruments. 		
		Track Records	We have over 40 years of experience and a proven track record in serving government ministries, local governments, research institutes, etc. around the world. We have shipped approximately 10,000 analyzers in the past 10 years.		
		Project website	https://www.horiba.com/jp/process-environmental/products-jp/ambient/		
5	Company /Organization Information	Name of Company/ Organization	MEISEI ELECTRIC CO., LTD	Type of Business	Manufacturing, Sytem Integration
		Web Site	http://www.meisei.co.jp		
	Technology/	New Technology/Solution Classification	High Dense Weather Observing Network POTEKA		
		New Technology/Solution Overview	"POTEKA" consists of compact weather sensor to be be installed various points and network to connect them. Pin point and accurate weather data will be available when the sensor installs in high dense. The data will be available through web anywhere and anytime. Optionally 3L water level sensor of Ministry of Land, Infrastructure, Transport and Tourism can be connected to POTEKA network. It can be used for disaster prevention and mitigation. 		

		Track Records	Introduction of High Dense Weather Observing Network POTEKA, Local Government, Japan. Current system with Telemetry was degraded and renovation has been considered. Citizens have been interested in information for Precipitation, water level due to Typhoon. The system was renovated to Meisei High Dense Weather Observing station POTEKA. 		
		Project website	N/A		
6	Company /Organization Information	Name of Company/ Organization	Furukawa Electric Co., Ltd.	Type of Business	Manufacturing, Sytem Integration
		Web Site	https://www.furukawa.co.jp/		
	Technology/ Solution	New Technology/Solution Classification	Maintenance/inspection support solution for any roadside equipment (road sign, street lighting, bulletin board, safety mirror, etc.)		
		New Technology/Solution Overview	1) Roadside equipment inspection chart preparing service "Michi-Ten Snap" will indentify the type and position of equipment form dash cam videos using original robotic process automation (RPA) system to create formal inspection charts as the equipment digital database. 2) Roadside equipment patrol support system "Michi-Ten Cruise" will prepare a compact video databese from the dash cam videos taken by a patrol vehicle. It will suggest an efficient preventive maintenance by the degradation records, and also screen equipment in good condition. 3) Roadside equipment inspection support system "Michi-Ten Assist" is as support tool for efficient on-site inspection work with just a tablet device. It also simplifies editing of inspection charts by automatic sorting of captured images. 		
		Track Records	N/A		
		Project website	N/A		

7	Company /Organization Information	Name of Company/ Organization	KUMAGAI GUMI CO., LTD.	Type of Business	Construction, Genral Contractor
		Web Site	https://www.kumagaigumi.co.jp/en/index.html		
	Technology/ Solution	New Technology/Solution Classification	High-rise artistic housing with consideration for the prevention of global warming		
		New Technology/Solution Overview	・Torsional structure consisting of a central core, a megacolumn at the tip of the wing, and a hat truss on the top fl oor. ・High vibration isolation using sliding pendulum type seismic isolation system (FPS: Friction Pendulum System) ・Reuse of organic waste ・Building-integrated photovoltaic power generation ・Rainwater recycling ・Double glazing with LOW-E energy savings ・To absorb 130 tons of CO2 annually by planting Many tourists visit because of its unique appearance. Many plants are planted around the building and absorb a CO2 of 130 It is equipped with building integrated solar photovoltaic power generation facility and rainwater recycling facility to reduce environmental load. It has obtained LEED certification, which is an index for evaluating environmental performance of buildings in the United		
		Track Records	 The commercial center of Taipei City with a view of Taipei 101 (constructed by Photo during construction  Technology for realizing a torisional structure		
		Project website	N/A		

8	Company /Organization Information	Name of Company/ Organization	SAKAI HEAVY INDUSTRIES,LTD.	Type of Business	Manufacturing, Sytem Integration
		Website	www.sakainet.co.jp		
	New Technology/ Solution	New Technology/Solution Classification	Operation technology of our road maintenance machine stabilizer		
		New Technology/Solution Overview	Road maintenance method of using stabilizer machine. Road has damaged always, Road stabilizer method which is recover stength of sub-grade of road with mixturing aditives not only reconditioned surface of road. Stabilizer method contribute to save carbom directions. In case of compared with conventional recondition or replacement method, it will be expect to save total site cost 40% and short construction terms 35%. Road stabilizer method needs to machine train as below.  Road stabilizer methid is recover sub-grade of the road by mixing with original material and additives by stabilizer mac h 		
		Track Records	The Republic of the Philippines Mindanao island Improvement of road / sub-grade Granurar → Strengthen sub-grade and pavement 		
		Project website	N/A		
9	Company /Organization Information	Name of Company/ Organization	Tokyo Electric Power Service Co., Ltd	Type of Business	Design/Consulting
		Website	https://www.tepsco.co.jp/		
	New Technology/ Solution	New Technology/Solution Classification	Digital Twin and 3D Technology for Asset Management of Electric Power Facilities		
		New Technology/Solution Overview	We define digital power generation and substation facility as 3D technology build digital-twin (creating a “twin” in cyberspace identical to a physical object). This proposal is to contribute to efficient work in project cycle (planning, construction designing, operation and maintenance) for power plants and substations through digital-twin. This technology can be applied to transmission and distribution facilities as well, but the generation facilities and substations are likely to benefit first as these facilities are about management of a cluster of equipment. To be more exact, we aim to improve efficiency in all stages of operation, by visually managing the entire process. This is made possible by making a 3D model (point groups, 3D-CAD (BIM)) of the structure of equipment in generation and substation facilities. We will then link information of all equipment (such as manufacturer specification, local condition, equipment monitoring data) to 3D model data for each equipment unit. 		
		Track Records	N/A		
		Project website	N/A		

10	Company /Organization Information	Name of Company/ Organization	PASCO CORPORATION	Type of Business	Other
		Website	http://www.pasco.co.jp/eng		
	New Technology/ Solution	New Technology/Solution Classification	Smart city monitoring platform with Japanese earth observation satellite data and AI analysis algorithm		
		New Technology/Solution Overview	Support decision making, responding to the rapid changes, with sustainably updated ready-to-use geospatial information. Satellite imageries enables to periodically monitor the wide territory. 【Feature】 (1) You can use satellite images to monitor the entire city on a regular basis. (2) With AI technology, change information of the target feature is generated as GIS data each time a satellite image is acquired. 【Use case】 ・ Illegal house sprawl phenomenon, house movement ・ New construction and opening of roads ・ Land subsidence ・ Distribution and increase of Paddy fi elds ・ Monitoring of open burning 		
		Track Records			
		Project website	https://www.jica.go.jp/project/indonesia/019/materials/ku57pq00003t6ior-att/brief_note_en.pdf		
11	Company /Organization Information	Name of Company/ Organization	Asian Gatewey Corporation	Type of Business	Design/Consulting
		Web Site	https://www.asiangateway.co.jp/		
	Technology/ Solution	New Technology/Solution Classification	Provision of eco-mobility systems using battery swapping stations and electric smart scooters connected to data server.		
		New Technology/Solution Overview	Based on partnership with Gogoro Inc., we will provide a decarbonized eco-mobility system by introducing electric smart scooters and battery swapping stations connected to data server. GoShare, developed by Gogoro Inc., is a mobility service platform that provides the sharing service of electric smart scooters connected to data server and that also provides the swapping of portable batteries. This platform is daily used by many people in Taiwan. Especially, for business vehicles, using this platform is not only expected to reduce the cost of installation, fuel, and repairs, but also to enable the fleet management based on acquired data and promote the digital transformation by big data. In addition, these electric smart scooters directly contribute to decarbonization and achievement of ESG management. 		

		Track Records	Cambodia, Siem Reap The demonstration experiment of mobility service through rental service with connected electric smart scooters Prior to the business partnership with Gogoro Inc., the rental service of connected electric smart scooters "nori nori" was implemented for international tourists. This project was led by a major Japanese company and officially approved by the Siem Reap government. The verification items were as following; ・Verifi cation of the efficiency in sharing electric smart scooters that were always connected to the data server. ・Verifi cation of arrival time by geo-fence function using GPS to capture information about current location in real time. ・Verifi cation of the distance that could be traveled by using the charge/discharge history of the portable smart batteries that were managed in the cloud.
		Project website	https://www.norinori.asia/

Date: Sept. 2021

Collection of New Technology/Solution providers for APEC economies

Collected information will be distributed for participants and it will be one of the deliverables of the conference.

1	Company /Organization Information	Name of Company/ Organization	Qualcomm	Type of Business	Smart Cities and Connected Spaces
		Web Site	https://www.qualcomm.com/support/qan/smart-city-accelerator-program		
	New Technology/ Solution	New Technology/Solution Classification	Qualcomm Smart Cities Accelerator Program		
		New Technology/Solution Overview	The Qualcomm Smart Cities Accelerator Program is designed to connect cities, municipalities, government agencies and enterprises with an ecosystem of providers to help deliver greater efficiencies, cost savings, safety and sustainability. By connecting members looking for smart solutions, the Qualcomm Smart Cities Accelerator program aims to enrich lives through the accelerated transformation of critical infrastructure and services. Ecosystem members represent a breadth of hardware and software providers, cloud solution providers, system integrators, design and manufacturing companies, as well as companies offering end-to-end solutions for smart cities and spaces.		
		Track Records	Since the April 2019 launch of the Qualcomm Smart Cities Accelerator Program, the ecosystem has brought together over 400 members.		
	Contact	Name	Sanjeet Pandit	E-mail address	spandit@qti.qualcomm.com
2	Company /Organization Information	Name of Company/ Organization	Qualcomm	Type of Business	Smart Cities and Connected Spaces
		Web Site	https://www.qualcomm.com/products/smart-cities		
	Technology/ Solution	New Technology/Solution Classification	Qualcomm IoT Services Suite		
		New Technology/Solution Overview	To directly address the fragmented nature of the IoT industry, Qualcomm created the Qualcomm Smart Cities Accelerator Program and Qualcomm IoT Services Suite to bridge the gap for IoT service providers and entities looking to quickly deploy smart solutions. To address the complexities and challenges around developing secure, smart, connected spaces across industries worldwide, the Qualcomm IoT Services Suite is engineered to deliver comprehensive, end-to-end solutions for plug-and-play deployment, from silicon to modules to devices to software and platform integration. When companies and municipalities utilize the Qualcomm IoT Services Suite and other solutions offered by members of the Qualcomm Smart Cities Accelerator Program, they can bypass common fragmentation – making it easier, quicker and more cost-effective to manage and deploy smart connected spaces. This platform seamlessly integrates Qualcomm Technologies' chipset-enabled subsystems to support middleware, data operations, cloud services, enhanced security, user experience, analytics, collective intelligence and artificial intelligence (AI). Commercial device enablement is then achieved through pre-integration and pre-certification on the platform.		
		Track Records	Qualcomm has developed up to 30 smart verticals as part of the Qualcomm IoT Services Suite.		
	Contact	Name	Sanjeet Pandit	E-mail address	spandit@qti.qualcomm.com

Submitted by	Winnie Bekmanis
Contact Person	
Email	wbekmani@qti.qualcomm.com

Date: Sept. 2021

Collection of New Technology/Solution providers for APEC economies

Collected information will be distributed for participants and it will be one of the deliverables of the conference.

1	Company /Organization Information	Name of Company/ Organization	Marketplace.city	Type of Business	ICT solutions provider for cities
		Web Site	https://marketplace.city/		
	New Technology/ Solution	New Technology/Solution Classification	Cybersecurity, Data Management, Emergency Management, Planning Software		
		New Technology/Solution Overview	**Marketplace.city's helps governments source, evaluate and procure technology** **Delivered in a compliant process with tools that integrate into your process.**		
		Track Records	Aurora, IL Adams County, IL Evanston, IL Corinth, TX Los Angeles, CA Indianapolis, IN Rochester, NY		
	Contact	Name	Chris Foreman	E-mail address	chris@marketplace.city
2	Company /Organization Information	Name of Company/ Organization	Verve Industrial	Type of Business	Cybersecurity solutions provider for cities
		Web Site	https://verveindustrial.com/		
	Technology/ Solution	New Technology/Solution Classification	Critical Infrastructure Cybersecurity		
		New Technology/Solution Overview	Verve provides software and services for cyber security and resilience of industrial control systems. Verve's software platform - the Verve Security Center - provides comprehensive security suite to industrial customers to address both compliance as well as broader threat vectors. Verve also provides integrated services, leveraging our 30 years' experience designing industrial controls systems, to help clients develop and maintain security programs to protect their most critical assets from cyber threat.		
		Track Records			
	Contact	Name	John Livingston	E-mail address	jlivingston@verveindustrial.com
3	Company /Organization Information	Name of Company/ Organization	Ubicquia	Type of Business	5G integration and IoT platform provider
		Web Site	https://www.ubicquia.com/		
	Technology/ Solution	New Technology/Solution Classification	5G, IoT, Utilities		
		New Technology/Solution Overview	At Ubicquia, we create innovative technology that leverages existing infrastructure to make cities smarter, safer and more connected. Ubicquia offers municipalities, utilities and mobile operators a cost-effective and expandable platform for deploying smart city, small cell and smart grid services. The Ubi suite of product lines include UbiCell, UbiHub and UbiMetro which are NEMA socket-compliant and compatible with more than 360 million streetlights globally, as well as UbiGrid, which provides advanced utility monitoring and grid stability for a large class of utility devices from the substation to the meter.		
		Track Records			
	Contact	Name	Javier Camacho	E-mail address	jcamacho@ubicquia.com

Submitted by	
Contact Person	
Email	

Date: Sept. 2021

Collection of New Technology/Solution providers for APEC economies

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1	Company /Organization Information	Name of Company/ Organization	Nozomi Networks	Type of Business	Cybersecurity solutions provider for IoT and OT
		Web Site	https://www.nozominetworks.com/		
	New Technology/ Solution	New Technology/Solution Classification	Cybersecurity, IoT & OT		
		New Technology/Solution Overview	Nozomi Networks is the leader in OT and IoT security and visibility. We accelerate digital transformation by unifying cybersecurity visibility for the largest critical infrastructure, energy, manufacturing, mining, transportation, building automation and other OT sites around the world.		
		Track Records	https://www.nozominetworks.com/resources/case-studies/		
	Contact	Name	Edgard Capdevielle	E-mail address	edgard.capdevielle@nozominetworks.com
2	Company /Organization Information	HPE	HPE Aruba	Technology	Enterprise Networking and Security Solutions
		https://www.arubanetworks.com/	Aruba has repeatedly been recognized by third party analysts as a leader in Wi-Fi 6, switching, SD-Branch, and a visionary in Data Center networking. The world's largest companies rely on us to provide a secure, AI-powered edge services platform that spans across campus, branch, data center, and remote working environments.		
	New Technology/ Solution	New Technology/Solution Classification	Wifi 6 (802.11ax), SD WAN		
		New Technology/Solution Overview	The demand for wireless access is dramatically increasing, and the iS number and variety of devices and applications continues to grow. Wi-Fi 6 helps accommodate the growing number of mobile and IoT devices by increasing network efficiency and speed to better meet IT and business requirements. Similarly the demand for the SD WAN business is growing, in fact it is expected that the biggest growth in FY22 will come for this solution especially with the Next Normal. Aruba, especially with the acquisition of Silver Peak, now have a complete SD WAN solution and has a complete network solution for the network and security requirements, from wired, wireless and SD WAN. https://www.arubanetworks.com/faq/what-is-wi-fi-6/ https://www.arubanetworks.com/assets/so/SO_80211ax.pdf https://www.youtube.com/watch?v=LVIALuvHTeI&ab_channel=Aruba%2CaHewlettPackardEnterprisecompany		
		Track Records (local customer reference published)	www.globe.com.ph/about-us/newsroom/business/globe-aruba-drive-transformation-managed-network-solutions.html#gref		
	Contact	Name	Gigi T. Lariosa	gigi.lariosa@hpe.com	Please provide contact person email address
3	Company /Organization Information	Name of Company/ Organization	Ciena	Type of Business	Supplier for networking systems, services and software
		Web Site	www.ciena.com		
	New Technology/ Solution	New Technology/Solution Classification	Networking hardware, software and management systems for high capacity terrestrial and submarine fibre optic communications		
		New Technology/Solution Overview	Ciena is a networking systems, services and software company. We provide solutions that help our customers create the Adaptive Network™ in response to the constantly changing demands of their end-users. By delivering best-in-class networking technology through high-touch consultative relationships, we build the world's most agile networks with automation, openness and scale. Company milestones include the first: • Coherent systems: 40G, 100G, 400G, and 800G • Optical Switch platforms with OTN control plane • Carrier IP/Ethernet aggregation switch supporting a virtualized switching architecture • Converged Packet Optical products • Software portfolio purpose-built for service lifecycle automation • Carrier SDN platform • Multi-domain orchestrator that integrates data center, NFV, and the WAN		
		Track Records	Supplier to majority of the Asia Pacific's top tier Service Providers and Global Content Networks. Additional public customer references and industry awards available at the following URLs: www.ciena.com/about/newsroom/ ww.ciena.com/about/awards/		
	Contact	Name	Jamie Moody	E-mail address	pr@ciena.com

Submitted by	
Contact Person	
Email	

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1	Company /Organization Information	Name of Company/ Organization	Dell Technologies/ Digital Cities	Type of Business	Information Technology (w/ BU that specializes in Smart Cities, Smart Campus, Smart Nation, Public Sector Digital Transformation)
		website:	URL: https://www.delltechnologies.com/en-sg/industry/digital-cities/index.htm		
	New Technology/ Solution	New Technology/Solution Classification	**Integred Operations / Command & Control Center for City Operations**		
		New Technology/Solution Overview	Smart City Integrated Operations Center (IOC) to incorporate safety, security and resiliency in the design and implementation of the IOC for the smart city operations. Including an integration backbone designed to incorporate disparate systems into a single unified operations center – Framework, Infrastructure, and central nervous system for City data. Central nervous system of systems framework to integrate disparate city/department systems into unified framework. > VMS/VA > IOT System > E-government : Citizen Services, Citizen Health, Education, etc. > IOC > Intelligent Transportation > Digital Twin > Smart Utilities / Grid		
		Track Records	> NEOM, KSA > Wysak, IN > Bangalore, IN > AEC/SEC, KSA Toyota Woven City, JP > Dubai, UAE > Singapore, SG > Mexico City, Airport > Las Vegas, NV USA > San Jose, CA USA > Raleigh, NC USA > Broward County, FL USA		
	Contact	Name	John Lockhart	E-mail address	john_lockhart@dell.com
2	Company /Organization Information	Name of Company/ Organization	Dell Technologies/ Digital Cities	Type of Business	Information Technology (w/ BU that specializes in Smart Cities, Smart Campus, Smart Nation, Public Sector Digital Transformation)
		Web Site	URL: https://www.delltechnologies.com/en-sg/industry/digital-cities/index.htm		
	Technology/ Solution	New Technology/Solution Classification	**Integrated Data Management & Governance Platform**		
		New Technology/Solution Overview	The platform provides seamless connectivity to existing control systems and MIS systems. This will leverage the existing IT infrastructure in customer's data centers and achieve integration and visualization of disparate systems and environments. • Cost-eff ective integration of a wide variety of systems, equipment and protocols: BACnet, OPC, MQTT, SQL, REST, AMQP, Modbus, SNMP • Integrates with and visualize data from MIS systems such as Finance, Budgeting, Asset Management and Utilities. The IOC platform integrates with various sources including IoT Device and provide a bridge to OT and IT data in concert with the 3rd party applications acting as an IoT gateway connecting to multiple devices and data sources and integrates and interoperates securely with existing IT security requirements.		
		Track Records	> NEOM, KSA > Wysak, IN > Bangalore, IN > AEC/SEC, KSA Toyota Woven City, JP > Dubai, UAE > Singapore, SG > Mexico City, Airport > Las Vegas, NV USA > San Jose, CA USA > Raleigh, NC USA > Broward County, FL USA		
	Contact	Name	John Lockhart	E-mail address	john_lockhart@dell.com
3	Company /Organization Information	Name of Company/ Organization	Dell Technologies/ Digital Cities	Type of Business	Information Technology (w/ BU that specializes in Smart Cities, Smart Campus, Smart Nation, Public Sector Digital Transformation)
		Web Site	URL: https://www.delltechnologies.com/en-sg/industry/digital-cities/index.htm		
	Technology/ Solution	New Technology/Solution Classification	**Green Energy & Sustainability, Safe City Solutions, Urban Mobility, E-Government, and Epidemic Response Center**		
		New Technology/Solution Overview	> IOC: vertical system integration > Environment: Air Quality, Solid Waste Management, Floor/Disaster Management, Carbon Footprint, etc. > Safe City: Integrated CCTV, Video Analytics, Video Management Systems, Access Control Systems, integration with BMS and FMS systems, edge analytics, etc. > Citizen Services: Citizen Call Center, Citizen Grievnance Perfomance Monitoring, Sentiment Analysis, Epidemic Response Center, etc. > Urban Mobility: intelligent taffic flow optimzation, Traffic Digital Twin simulation, EMR efficiency, Smart/integrated Street Lights, Intelligent Traffic Signal, etc.		
		Track Records	> NEOM, KSA > Wysak, IN > Bangalore, IN > AEC/SEC, KSA Toyota Woven City, JP > Dubai, UAE > Singapore, SG > Mexico City, Airport > Las Vegas, NV USA > San Jose, CA USA > Raleigh, NC USA > Broward County, FL USA		
	Contact	Name	John Lockhart	E-mail address	john_lockhart@dell.com

Submitted by	Jeremias Navarro
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Email	carlo_subido@dell.com

End of the documents