



INTERNATIONAL WORKSHOP

SMART CITIES FOR ALL: PROMOTING INCLUSIVITY AND SUSTAINABILITY

22 - 23 NOVEMBER 2023 | BANGKOK, THAILAND

DEPARTMENT OF LOCAL ADMINISTRATION (DLA)
DIGITAL ECONOMY PROMOTION AGENCY (DEPA)
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Table of Contents

Executive Summary.....	4
Abbreviations.....	10
Workshop Details	11
Objectives:.....	11
Agenda.....	12
Secretariat	15
Department of Local Administration (DLA).....	15
Digital Economy Promotion Agency (depa).....	15
Japan International Cooperation Agency (JICA).....	15
Session 1 Opening Session	16
Mr. Siriphan Srikongphlee, DLA.....	16
Dr. Passakorn Prathombutr, depa	16
Mr. Kazuya Suzuki, JICA	17
Mr. Tatsushi Nishioka, Embassy of Japan	17
Session 2 “Panel Discussion on Exploring Global Trends, Challenges, and Opportunities in the Context of Thai Smart Cities”	18
JICA on Smart City Development in Thailand.....	18
OECD on Insights on Global Smart City Development Trends.....	19
UN-Habitat on People-Centered Smart Cities.....	19
ASEAN on Smart and Sustainable Urbanization in ASEAN.....	20
depa on Global Trends, Challenges, and Opportunities.....	21
Moderator’s Questions to Panelists	21
Session 3 Panel Discussion on “Integrating Smart Solutions into Local Strategies”	23
Department of Local Administration (DLA).....	23
Digital Economy Promotion Agency (depa)	23
Department of Disaster Prevention and Mitigation (DDPM)	24
Department of Public Works and Town and Country Planning (DPT)	24
Moderator’s Questions to Panelists	25
Additional Comments	26
Session 4 Panel Discussion on “Enhancing ASEAN Cities through Global Partnerships”	28

JICA on Project for Implementation of Smart City Approach to Solve Urban Issues in Siem Reap	28
US Trade and Development Agency on Tools to Support ASEAN Smart Cities	28
Smart City Association Korea	29
UNIDO on Enhancing ASEAN Cities through UNIDO Partnerships	30
Moderator's Questions	30
Session 5 "Pioneering Japanese Smart Cities"	32
J. CLAIR Singapore on "Japan's Local Administration and Smart Cities"	32
Aizuwakamatsu City on "Initiatives and Vision for Smart City Aizuwakamatsu"	33
Fukuoka City on "Public-Private Partnerships on Smart City Initiatives of Fukuoka city"	33
Takamatsu City on "Smart City in Takamatsu - Using Data for Future Urban Development"	34
Questions	35
Session 6 on "Leading Thai Smart Cities"	38
Overview and Updates on Thai Smart Cities by depa	38
Suphan Buri Town Municipality	39
Hatyai City Municipality	39
Nakhon Sawan City Municipality	40
Nikhom Pattana Subdistrict Municipality	41
Wangchan Valley	41
Questions	43
Session 7 "Showcase of Smart Solutions for Thai Cities"	45
MLIT on Japan's Smart Cities Initiatives and Smart JAMP	45
CTI Engineering on Cloud-Based Disaster Prevention Information OS	45
BMA on Area Traffic Control (ATC) System	46
Bueng Yitho Municipality and Thammasat University on SMART & STRONG Project	47
APCD on Diversity/Disability Inclusive Development	48
Session 8 Closing Session	51
Mr. Kazuya Suzuki, JICA	51
Dr. Passakorn Prathombutr, depa	51
Mr. Siriphan Srikongphlee, DLA	51
Registration and Attendance	54
Overview of Registration	54
Overview of Attendance	55

Onsite Attendance.....	55
Online Attendance.....	55
Attendance of Local Administrative Organization.....	56
Organizations of Participants	59
Post Workshop Survey.....	60

Executive Summary

The 'Smart Cities for All: Promoting Inclusivity and Sustainability' International Workshop was held from November 22 to 23, 2023, at the Queen Sirikit National Convention Center in Bangkok, Thailand, concurrently with the Smart City Expo 2023. This collaborative initiative was led by the Department of Local Administration (DLA), Digital Economy Promotion Agency (depa), and Japan International Cooperation Agency (JICA), in conjunction with various governmental bodies and international organizations. Its primary aim was to empower Local Administrative Organizations (LAOs) in aligning their smart city visions with the Sustainable Development Goals (SDGs). As a significant gathering, the workshop united practitioners and stakeholders from Thailand, ASEAN, Japan, and global partners. With a dual focus, the workshop aimed to achieve two key objectives: 1) fostering the exchange of practical experiences and lessons learned during Sessions 5, 6, and 7; and 2) formulating comprehensive smart city policy guidelines, as discussed in Sessions 2, 3, and 4, geared toward leveraging smart cities to enhance the well-being of citizens.

The workshop's opening session featured representatives from DLA, depa, JICA Thailand Office, and the Embassy of Japan. They emphasized collaboration for smart city development, highlighting Thailand's progress, Japan's commitment, and mutual benefits for both nations. They emphasized the significance of citizen-centric approaches, inclusivity, and sustainability in smart city development. Their focus was ensuring that this development extends beyond large cities to smaller towns, addressing prevalent challenges like disparities between urban centers and rural areas, income gaps, and issues stemming from population aging and decline and the amplified impact of natural disasters.

Session 2 of the workshop featured a panel discussion titled 'Global Trends, Challenges, and Opportunities in Thai Smart Cities.' Representatives from JICA, OECD, UN-Habitat, ASEAN, and depa offered their perspectives.

- JICA emphasized key areas for Thai smart city development, focusing on urban development, mobility, environment, energy, building, and disaster management. They highlighted crucial policy focus areas, including budget, capacity development, institutional framework, and peer-to-peer learning. Speaking for the Joint Secretariat comprising DLA, depa, and JICA, the JICA representative presented policy guidelines encompassing primary challenges and opportunities discussed during the panel. Seeking additional insights from both the panel and stakeholders, the Joint Secretariat aims to enrich these guidelines. The plan is to enhance and refine this framework based on collective outcomes from the workshop and other discussions, to be presented for further deliberation in upcoming sessions.
- OECD discussed smart city pillars, challenges, and data governance, aiming for efficiency, social inclusion, enhancing residents' quality of life, economic growth, and environmental sustainability.

- UN-Habitat stressed people-centric smart cities, focusing on mitigating inequalities, promoting urban digital infrastructure for sustainability, and fostering digital literacy for community-oriented smart cities.
- ASEAN centered its discussion on sustainable urbanization, while depa outlined global trends, challenges, and opportunities in smart city development, highlighting funding scarcity as a major challenge.

Session 3 of the workshop showcased a Panel Discussion on Integrating Smart Solutions into Local Strategies, featuring representatives from DLA, depa, DDPM, and DPT. Key insights surfaced as each entity outlined their roles and priorities:

- DLA emphasized the critical aspects of livability, smartness, and sustainability, focusing on infrastructure, public services, and safety.
- depa elaborated on Thailand's smart city status, highlighting economic growth, digital innovation, and skill development. They reiterated the aim of smart city development: enhancing citizens' quality of life, job opportunities, and city sustainability. Stressing an integrated approach among smart city domains, depa highlighted the need to initiate smart city initiatives from cities' challenges and visions.
- DDPM emphasized disaster prevention, aligning it with smart city concepts and emphasizing citizen safety.
- DPT concentrated on urban development, resilience, and climate change, advocating for sustainable city planning. They stressed collaboration with international frameworks like SDGs, UNFCCC, and the New Urban Agenda. Crucially, they highlighted the importance of prioritizing sustainable development, focusing on clear vision, good planning, inclusive participation, effective technology, and addressing future challenges like natural hazards, PM 2.5 and GHG emissions, ageing society, cyber security, and collaboration. They recommended cities apply the concept of Self-sufficient Economy (SEP) to effectively address these challenges.

Overall, the session underscored the necessity of integrating smart solutions into local strategies for fostering inclusive, resilient, sustainable, resilient, and citizen-centric urban development.

Session 4 of the workshop featured a panel discussion on "Enhancing ASEAN Cities through Global Partnerships", including representatives from JICA, USTDA, Korea's Smart City Association, and UNIDO. JICA highlighted its Smart City project in Siem Reap, targeting urban challenges like parking control and waste management, emphasizing planning, pilot projects, and capacity development. USTDA outlined its role in promoting sustainable infrastructure in ASEAN, assisting in smart city projects through grant-based preparations and engagement with U.S. firms. The Smart City Association in Korea focuses on revitalizing smart cities, supporting startups, organizing technical seminars, and developing disaster response technologies. UNIDO showcased its involvement in sustainable development, bio-innovation, and waste management projects in Thailand, specifically in Rayong, emphasizing digital technology for waste collection and empowering women in transport systems.

During Session 5, titled "Pioneering Japanese Smart Cities," Thai partners were enriched with invaluable insights from Japan's innovative smart city models. J. CLAIR Singapore, in close collaboration with the Ministry of Internal Affairs and Communications (MIC), provided an in-depth overview of Japan's local administration and financial systems. They highlighted a diverse range of successful smart city initiatives spearheaded by the Cabinet Office and several Ministries (MIC, MLIT, METI). The session spotlighted case studies from three cities – Aizuwakamatsu, Fukuoka, and Takamatsu – each serving as a unique exemplar of successful smart city endeavors in Japan. Aizuwakamatsu City showcased remarkable achievements through projects focusing on health, welfare, and local economic growth. Despite its smaller scale and distance from major urban centers, it effectively attracted ICT-related companies, underscoring its efficacy. Fukuoka City presented a compelling narrative of its evolution as a secondary and compact city. It emphasized successful developmental trajectories through innovative public-private partnerships, including leveraging LINE for citizen engagement. The city effectively managed challenges related to over-tourism and championed initiatives promoting environmental sustainability. Meanwhile, Takamatsu City's initiatives were comprehensive, addressing disaster prevention, tourism strategies, and employing interdisciplinary approaches to tackle multifaceted urban challenges. Discussions during the session covered Japan's tax allocation systems, effective tourism management practices, strategies to overcome digital technology barriers, and adaptive measures amid the COVID-19 pandemic. These insights are poised to significantly influence and shape forthcoming smart city developments in Thailand.

Session 6 "Leading Thai Smart Cities" highlighted diverse smart city initiatives across various regions in Thailand. depa's overview revealed that out of 144 smart city plans, only around 36 have implemented clear, actionable strategies, citing challenges such as budget constraints and a lack of understanding among officials. Suphan Buri Town Municipality focuses on inclusive services, offering initiatives like the Smart I Pole and One Stop Services for residents. Hatyai City Municipality prioritizes safety with AI-based CCTV systems, healthcare programs for elders, and provisions for tourists and online businesses. Nakhon Sawan City Municipality emphasizes waste management, climate monitoring, smart safety zones, and enhanced healthcare using IoT and AI technologies. Nikhom Pattana Subdistrict Municipality focuses on city management while acknowledging challenges in government systems, underscoring the importance of smart city learning and collaboration. Lastly, Wangchan Valley aims for sustainability, innovation hubs, and educational zones, collaborating with both public and private sectors to promote smart infrastructure and urban development under Thailand 4.0 initiatives.

Session 7 "Showcase of Smart Solutions for Thai Cities" presented a diverse array of smart city solutions that can be applied to Thai cities. MLIT from Japan introduced Japan's urban development history and its current focus on ecocities, transit-oriented development, and resilient cities, along with their Smart JAMP initiative fostering ASEAN collaborations for smart city projects. CTI Engineering showcased their cloud-based Disaster Prevention Information OS, focusing on flood forecasting systems and early warning solutions.

BMA presented Bangkok's Area Traffic Control System, reducing traffic congestion through sensor networks and adaptive traffic control. Bueng Yitho Municipality and Thammasat University discussed the SMART & STRONG project, highlighting elderly care and community support through networking and knowledge-sharing. APCD emphasized diversity and inclusion in smart cities, showcasing initiatives focusing on accessibility and disaster risk reduction for persons with disabilities. These presentations showcased initiatives ranging from flood management, traffic control, elderly care, and inclusive smart city development across various regions in Thailand, emphasizing collaborative efforts and innovative solutions catering to diverse societal needs.

In the workshop's closing, Mr. Suzuki from JICA appreciated participants for sharing diverse city experiences, stressing collaboration to advance smart cities and reduce disparities. Dr. Prathombutr of depa highlighted insights: customizing city solutions, diverse collaboration, inclusive tech, and the dynamic nature of smart projects, looking forward to future progress in 2024. Mr. Srikongphlee of DLA was pleased with the conference's knowledge exchange, encouraging attendees to apply learnings, thanking contributors, and wishing everyone a safe journey home.

Drawing from invaluable contributions, discussions, and insights shared during the workshop, the proposed policy guidelines have undergone a thorough review and refinement. Incorporating suggestions and key takeaways from diverse stakeholders and experts, the following recommendations reflect a comprehensive synthesis of the workshop's discussions. These revisions aim to encapsulate the collective wisdom and expertise shared during the deliberations, ensuring that the policy guidelines align more closely with the nuanced perspectives and innovative ideas discussed among the workshop participants.

1. Holistic Vision and Local Adaptability for SDG Alignment:

- Align smart city initiatives with adaptable holistic visions, ensuring compliance with SDGs.
- Establish local coordination mechanisms for project customization, supported by comprehensive reporting and evaluation systems.

2. Community Engagement and Equitable Development:

- Prioritize community engagement, fostering shared ownership and responsibility.
- Foster diverse stakeholder involvement through local steering committees, aligning projects with local values.

3. Local Issue-Centric Approach and Culturally Relevant Solutions:

- Address immediate, localized challenges by tailoring solutions to specific issues like urban traffic, air quality, or environmental preservation.
- Support Local Administrative Organizations (LAOs) in adopting culturally relevant and effective solutions.

4. *Empowering Local Success with Dedicated Support:*
 - Provide Local Administrative Organizations (LAOs) with dedicated resources and expert support for smart city projects, emphasizing the importance of accountability and performance-based funding.
 - Facilitate knowledge sharing and capacity building for long-term success.
5. *Digital Inclusion and Accessibility for Underserved Communities:*
 - Launch comprehensive digital literacy programs targeting underserved communities, subsidize internet access, and provide affordable devices.
 - Extend digital services like telemedicine and e-commerce to remote areas, fostering online entrepreneurship.
6. *Regional Growth, Local Cultural Preservation, and Economic Stability:*
 - Invest in rural areas, preserving local heritage, craftsmanship, and promoting smart agricultural practices.
 - Support tourism development while preserving natural beauty, reducing regional disparities, and enhancing economic stability.
7. *Climate Resilience and Adaptive Urban Infrastructure:*
 - Prioritize climate-resilient urban planning and infrastructure, implementing measures like flood-resistant designs and efficient water management.
 - Offer financial incentives and expertise for climate-resilient projects.
8. *Intermediate Cities as Inclusive Hubs for Balanced Development:*
 - Develop intermediate cities as pivotal hubs for regional growth and inclusivity, enhancing urban-rural linkages.
 - Provide enhanced services and infrastructure accessibility, particularly focusing on education and community development.
9. *Integrated Governance for Resource Efficiency:*
 - Advocate for integrated governance and cross-sector collaboration for resource efficiency in smart city projects.
 - Establish guidelines for coordinated decision-making, considering various components of urban life.
10. *Enhanced Collaborations and Partnerships for Innovation:*
 - Promote public-private partnerships and international collaborations to mobilize resources and expertise.
 - Encourage global knowledge exchange and participation in smart city innovations, fostering a culture of innovation and excellence.

Collectively, these components form the cornerstone of comprehensive policy guidelines aimed at steering and bolstering the execution of smart city initiatives. These guidelines prioritize inclusive, resilient, sustainable, and citizen-centric urban development. The Joint Secretariat is in the process of arranging an expert group meeting to meticulously refine and finalize the policy guidelines. Following this refinement, the guidelines will be presented to the Thai government ministries, LAOs, and other pertinent institutions.

Abbreviations

APCD	Asia-Pacific Development Center on Disability
ASEAN	Association of Southeast Asian Nations
BMA	Bangkok Metropolitan Administration
DDPM	Department of Disaster Prevention and Mitigation
depa	Digital Economy Promotion Agency
DGA	Digital Government Development Agency
DLA	Department of Local Administration
DPT	Department of Public Works and Town and Country Planning
J. CLAIR	The Japan Council of Local Authorities for International Relations
JICA	Japan International Cooperation Agency
LAO	Local Administration Organization
LG	LG Electronics
METI	Ministry of Economy, Trade, and Industry (Japan)
MIC	Ministry of Internal Affairs and Communications (Japan)
MLIT	Ministry of Land, Infrastructure, Transport and Tourism (Japan)
NECTEC	National Electronics and Computer Technology Center
NUA	New Urban Agenda
OECD	Organisation for Economic Co-operation and Development
PAO	Provincial Administration Organization
SAO	Subdistrict Administration Organization
SDG	Sustainable Development Goals
SEP	Sufficiency Economy Philosophy
SDG	Sustainable Development Goals
TICA	Thailand International Cooperation Agency
TOD	Transit-Oriented Development
UN-Habitat	United Nations Human Settlements Programme
UNIDO	United Nations Industrial Development Organization
USTDA	United States Trade and Development Agency

Workshop Details

Workshop name	International Workshop “Smart Cities for All: Promoting Inclusivity and Sustainability”
Dates	November 22 – 23, 2023
Venue	Queen Sirikit National Convention Center (QSNCC)
Organizers	DLA (Department of Local Administration, Ministry of Interior), depa (Digital Economy Promotion Agency), and JICA (Japan International Cooperation Agency)
Languages	Thai, English, Japanese (simultaneous interpretation)

Objectives:

Building upon the resounding success of the inaugural workshop titled "International Workshop on Smart Cities in Thailand: How to Integrate Smart City Initiatives into Local Development Plan," held on April 26–27, 2023, we are delighted to announce the second workshop, titled "Advancing Sustainable Smart Cities for People's Well-Being." This workshop aims to support Local Administrative Organizations (LAOs) and institutions in effectively implementing their smart city visions and plans while aligning them with the sustainable development goals (SDGs), particularly SDG11 for sustainable cities and communities.

Bringing together esteemed practitioners and stakeholders from Thailand, ASEAN, Japan, and global partners, this workshop will serve as a platform to showcase practical experiences and solutions, address common challenges, and propose new policy standards and guidelines. By actively participating in shaping the future of smart cities, we will have the opportunity to unlock their immense potential for enhancing people's well-being.

Organizers:

- Department of Local Administration (DLA), Ministry of Interior
- Digital Economy Promotion Agency (depa), Ministry of Digital Economy and Society
- Japan International Cooperation Agency (JICA)

In Partnership with:

- Department of Public Works and Town & Country Planning (DPT), Ministry of Interior
- Department of Disaster Prevention and Mitigation (DDPM), Ministry of Interior
- Organization for Economic Cooperation and Development (OECD)
- United Nations Human Settlements Programme (UN-Habitat)
- Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Government of Japan
- Embassy of Japan in Thailand
- The Japan Council of Local Authorities for International Relations (J.CLAIR) Singapore

Venue:

Queen Sirikit National Convention Center, Bangkok, Thailand, as part of Smart City Expo 2023

Agenda

Day 1: November 22, 2023	
13:00–13:45 Seminar Room	Session 1 Workshop Opening Session Welcome and Introductory Remarks ▪ Mr. Siriphan Srikongphlee, Deputy Director-General, DLA ▪ Dr. Passakorn Prathombutr, Senior Executive Vice President, depa ▪ Mr. Kazuya Suzuki, Chief Representative, JICA Thailand Office ▪ Mr. Tatsushi Nishioka, Deputy Chief of Mission, Embassy of Japan in Thailand
13:45–14:00	Break
14:00 – 15:15 Seminar Room	Session 2 Panel Discussion on “Exploring Global Trends, Challenges, and Opportunities in the Context of Thai Smart Cities” (Moderator: Dr. Pechladda Pechpakdee, Assistant Professor, Mahasarakham University) ▪ Ms. Aline Matta, Project Manager, Cities, Urban Policies, and Sustainable Development Division, Centre for Entrepreneurship, SMEs, Regions and Cities, OECD ▪ Mr. Riccardo Maroso, ASEAN Project Team Leader, UN-Habitat Bangkok Programme Office, Regional Office of Asia and the Pacific (ROAP) ▪ Mr. Lim Che Cheen, Director, ASEAN Connectivity Division ASEAN ▪ Mr. Atsushi Koresawa, JICA Senior Expert, Adviser to DLA ▪ Dr. Passakorn Prathombutr, Senior Executive Vice President, depa
15:15–15:30	Break
15:30–16:45 Seminar Room	Session 3 Panel Discussion on “Integrating Smart Solutions into Local Strategies” (Moderator: Dr. Tama Duangnamol, Chiang Mai University) ▪ Mr. Siriphan Srikongphlee, Deputy Director-General, DLA ▪ Dr. Orachat Liengpibul, Division Manager of Smart City Promotion, depa ▪ Ms. Vasinnee Visoottiviseth, Senior Professional architect, DPT ▪ Mr. Rattipat Pangwatcharakorn, Division Manager of Division of Disaster Prevention and Mitigation Policy, DDPM

Day 2: November 23, 2023	
10:00 – 10:50 Seminar Room	Session 4 Panel Discussion on “Enhancing ASEAN Cities through Global Partnerships” (Moderator: Dr. Non Arkaraprasertkul, Senior Expert, depa) ▪ Mr. Shigeki Miyake, Chief Advisor, JICA ▪ Mr. Sithisakdi Apichatthanapath, Deputy Regional Manager, United States Trade and Development Agency (USTDA) ▪ Ms. Ellie Lee, Global Project Team Manager, Smart City Association Korea ▪ Ms. Sooksiri Chamsuk, Regional Program Officer United Nations Industrial Development Organization (UNIDO)
11:00 – 12:30 Seminar Room	Session 5 “Pioneering Japanese Smart Cities” (Moderator: Mr. Atsushi Koresawa, JICA senior Expert, Adviser to DLA) ▪ Overview of Japanese Smart Cities by Mr. Taisuke Sakurai, Executive Director, the Japan Council of Local Authorities for International Relations (J. CLAIR), Singapore ▪ “Initiatives and Vision for Smart City Aizuwakamatsu” by Mr. Shohei Muroi, Mayor, Aizuwakamatsu City, Fukushima Prefecture ▪ “Public-Private Partnerships on smart city initiatives of Fukuoka city” Mr. Kimihiko Anan, Planning and Coordination Department General Affairs and Planning Director, Fukuoka city ▪ “Smart City in Takamatsu – Using Data for Future Urban Development” by Mr. Mitsuhiro Yokoyama, Digital Strategy Section Manager, Takamatsu City
12:30 – 13:00	Lunch
13:00 – 15:00 Center Stage	Smart City Solutions Awards 2023
15:10 – 16:00 Seminar Room	Session 6 “Leading Thai Smart Cities” (Moderator: Dr. Pechladda Pechpakdee, Assistant Professor, Mahasarakham University) ▪ Overview and Updates on Thai Smart Cities by Dr. Orachat Liengpibul, Division Manager of Smart City Promotion, depa ▪ Suphanburi Town Municipality, Suphanburi Province, by Mayor Dr. Ekkapan Injai-oua ▪ Hat Yai City Municipality, Songkhla Province, by Deputy Mayor Dr. Wichai Kanchanasuwon ▪ Nakhon Sawan City Municipality, Nakhon Sawan Province, by Deputy Mayor Jaturawit Nirojthanarat ▪ Nikhom Phatthana Sub-district Municipality, Rayong Province, by Ms. Pinyapat Thaowedsuwan, Chief of General Administration, Division of Planning and Budgeting ▪ Wangchan Valley, Rayong Province, by Ms. Oravarin Panturat, Vice President, Commercial Unit, EECi Project, PTT Public Company Limited

16:10 –17:45 Seminar Room	Session 7 "Showcase of Smart Solutions for Thai Cities" (Moderator: Dr. Tama Duangnamol, Chiang Mai University) ▪ Smart JAMP (Smart City supported by Japan ASEAN Mutual Partnership) by Ms. Shikiko Tatsushima, Deputy Director, International Policy Division Ministry of Land, Infrastructure, Transport and Tourism, Gov. of Japan ▪ Cloud-based Disaster prevention information OS by Mr. Go Ozawa, Manager, CTI Engineering Co., Ltd. ▪ Area Traffic Control System in Bangkok by Mr. Sayan Thasanakosol, Director of Traffic System Design Section, Traffic Engineering Division, Traffic and Transportation Department, Bangkok Metropolitan Administration (BMA) ▪ SMART & STRONG Project to Foster Mutual Development through Networked Local Authorities by Assistant Professor Nattapat Salobol, Thammasat University and MD. Thitinan Nakphu, Bueng Yitho Municipality ▪ Smart Means Inclusive and Accessible: Diversity/Disability Inclusive Development, by Dr. Kenji Kuno, JICA Senior Advisor (Disability & Development and Mr. Watcharapol Chuengcharoen, Asia Pacific Development Center on Disability (APCD)
17:45 – 18:00 Seminar Room	Session 8 Closing Session ▪ Mr. Kazuya Suzuki, Chief Representative, JICA Thailand Office ▪ Dr. Passakorn Prathombutr, Senior Executive Vice President, depa ▪ Mr. Siriphan Srikongphlee, Deputy Director-General, DLA

Secretariat

Department of Local Administration (DLA)

- Mr. Paratanard Vibulsukh, Acting Director of Technical Services and Research Subdivision
- Ms. Patthiya Gitpot, Plan and Policy Analyst, Professional Level
- Ms. Bunyanuch Tumthamai, Plan and Policy Analyst, Professional Level
- Mr. Nattawut Makhumtup, Plan and Policy Analyst, Professional Level
- Mr. Natchayut Iamumphap, Plan and Policy Analyst, Practitioner Level
- Mr. Thatchamin Pakjan, Plan and Policy Analyst, Practitioner Level
- Mr. Mudasseer Salatasoh, Plan and Policy Analyst
- Ms. Panchika Runna, Library Officer
- Ms. Suchada Dararat, Website Operation Officer
- Ms. Wimonnut Khotchawong, Data Recording Officer
- Ms. Thsaneenard Phanpheng, Data Recording Officer

Digital Economy Promotion Agency (depa)

- Dr. Passakon Prathombutr, Senior Executive Vice President
- Dr. Non Arkaraprasertkul, Senior Expert, Smart City Promotion Department
- Mrs. Bussayamas Tongsapjaroen, Senior Officer, Smart City Promotion Department
- Mr. Sorawit Wanitanukul, Team Leader, Smart City Promotion Department

Japan International Cooperation Agency (JICA)

- Mr. Koresawa Atsushi, JICA Senior Expert
- Ms. Phannisa Nirattiwongsakorn, Consultant
- Ms. Nicharat Chairunsilp, Project Assistant
- Mr. Miyoshi Katsuya, Representative, JICA Thailand Office
- Ms. Tanita Niltai, Program Officer, JICA Thailand Office

Session 1 Opening Session

The Workshop commenced with the opening remarks by representatives from Department of Local Administration (DLA), Digital Economy Promotion Agency (depa), JICA Thailand Office, and the Embassy of Japan respectively.

Mr. Siriphan Srikongphlee, DLA

Mr. Siriphan Srikongphlee is Deputy Director-General of Department of Local Administration (DLA), Ministry of Interior.

Greetings to Dr. Passakorn Prathombutr (depa), Mr. Kazuya Suzuki (JICA), Mr. Tatsushi Nishioka (Embassy of Japan), DLA executives, esteemed guests, media, and all participants.

I am glad that this workshop is a great opportunity for LAOs to learn about smart city development. I also would like to thank DLA's partners – DGA, NECTEC, and depa. This Workshop is the second collaboration between DLA and depa, with JICA support to exchange the knowledge of smart city. The workshop should be useful for LAOs to provide public services to its citizens.

DLA is ready to collaborate with partners on creating successful practices that benefit Thailand and our world. Now, I would like to open the International Workshop on Smart Cities and hope for its success. Thank you and goodbye.

Dr. Passakorn Prathombutr, depa

Dr. Passakorn Prathombutr is Senior Executive Vice President of Digital Economy Promotion Agency (depa).

Greetings Mr. Siriphan Srikongphlee, Mr. Kazuya Suzuki (JICA), and Mr. Tatsushi Nishioka (Embassy of Japan), and speakers. Welcome all participants. Smart city in Thailand started in 2018. We have seen the progress of smart city implementation. There are 140 cities participated. Deputy Prime Minister is the National Committee on Smart City.

Smart City in Thailand emphasizes citizen-centric principle, as BMA Governor's approaches "Citizen-Centric" and "Smart Enough City". Smart city development does not limit to big cities, in alignment with ASEAN's Leaving No One Behind. Thus, more cities participated in the initiative. Thus, today we see agencies such as JICA, ASEAN, UN-Habitat, OECD. The keyword ISO-37160 1 citizen centric, 2 data driven, and 3 cocreation. Our workshop today focuses on co-creation, matching cities to solution providers. With support from JICA, we have the 2nd opportunity to learn from Japanese cities, and opportunity to co-create with them. Not only learning from other countries, Thailand can also share experience that might benefit Japanese and ASEAN cities.

Smart Environment is the most important domain. Smart City for All – everyone will be affected by environmental impacts. Thus, sustainability is the keyword of this workshop because it affects everyone. 70% of energy consumption comes from urban areas.

Thanks to speakers, moderators and welcome participants. I hope this workshop is useful for knowledge exchange.

Mr. Kazuya Suzuki, JICA

Mr. Kazuya Suzuki is the Chief Representative of JICA Thailand Office.

Greetings to Mr. Siriphan Srikongphlee (DLA), Dr. Passakorn Prathombutr (depa), Mr. Tatsushi Nishioka (Embassy of Japan). Warm welcome to everyone onsite and online.

On behalf of JICA, I am grateful for this collaboration between DLA – depa – JICA. It is our mission to foster smart city development that benefit everyone. Smart city is not limited to big cities, but smaller towns. We need to enhance quality of life, public services, living spaces. In doing so, we apply King Rama IX's SEP and SDGs to our approach.

Thailand and Japan face similar challenges: disparity between bigger cities and smaller towns, income disparity, aging population, and declining birthrate. I hope smart city can address these issues. According to the previous workshop, we gained insights from 3 Japanese cities – Toyoma (TOD), Kitakyushu (decarbonization and green energy transition), Kakogawa (enhance public trusts using smart city solutions). This time, other 3 Japanese cities joined the Workshop to share their experience – Aizuwakamatsu, Fukuoka, and Takamatsu cities. Please feel free to reach out. Deepest appreciation to Thai partners, speakers, and organizers of the Workshop. Thank you very much.

Mr. Tatsushi Nishioka, Embassy of Japan

Mr. Tatsushi Nishioka is Deputy Chief of Mission, of the Embassy of Thailand in Japan.

On behalf of the Embassy of Japan, thanks to all distinguished guests. The concept of smart city is remarkable around the globe. Thailand is pursuing the concept, in alignment with Thailand 4.0 policy. Meanwhile, the Government of Japan is committed to collaborate with Thailand and ASEAN on smart city, specifically on Smart JAMP project and ASEAN Smart City Network (ASCN). Japan, despite economic growth, faces various challenges such as population concentration in Tokyo, urban – rural disparity, declining birthrate, aging population, and disasters. Since Thailand is successful in economic development, Thailand and Japan are similar. Thus, collaborating will benefit both nations. Japan's knowledge and technology can solve Thailand's issues while Japan can gain insights from experiences of Thailand. Therefore, this Workshop is significant in fostering collaboration and inclusiveness between the two nations.

Session 2 “Panel Discussion on Exploring Global Trends, Challenges, and Opportunities in the Context of Thai Smart Cities”

Sessions 2 of the Workshop is a Panel Discussion on Exploring Global Trends, Challenges, and Opportunities in the Context of Thai Smart Cities by representatives from OECD, UN-Habitat, ASEAN, JICA, and depa on November 22, 2023, 14:00 – 15:15. The session was moderated by Dr. Pechladda Pechpakdee, Assistant Professor, Mahasarakham University. The session was divided into 3 parts – presentations from panelists, questions from the moderator, and open Q&A from participants.

JICA on Smart City Development in Thailand

Mr. Atsushi Koresawa is JICA Senior Expert and Adviser on Smart City Development to DLA.

The first presentation captures insights of Thai smart city development from JICA Expert on smart cities. This project is collaboration between DLA – depa – JICA. The first workshop was organized in April which identified priority areas – budget, capacity development, institutional framework, and peer-to-peer learning.

The post-Workshop survey identified interested areas: urban development and mobility are the top priority, followed by environment, energy, buildings, and disaster management.

DLA in collaboration with depa organized a training workshop for LAOs on smart cities in July. In addition, depa proposed the 2nd International Workshop in Thailand Smart City Expo 2023 which the objectives are to showcase and exchange, and to identify challenges and propose new policy guidelines.

SWOT and gap analyses were conducted to address the status of smart city development in Thailand.

- Strengths – robust policy framework, growing awareness and interest, diverse scope, collaboration and partnership, technological advancement, innovation, ecosystems, and international collaboration.
- Weaknesses – resource limitations, fragmentation and silo, skill gaps, infrastructure gaps, limited adoption in key areas, interoperability challenges, and cybersecurity vulnerability.
- Opportunities – international and regional collaboration, innovation ecosystems, public-private partnerships, inclusivity and accessibility, environmental sustainability, community engagement, economic growth, urbanization opportunities, and quality of life.
- Threats – digital divides, inequality and socio-economic disparities, diverse needs, public trust and public participation, technological risks and technological obsolescence, and environmental impact.

Guiding principles on the implementation of smart cities in Thailand are:

1. Embrace a Holistic Vision of Smart Cities
2. Align with SDGs: Empower Cities for a Sustainable Future
3. Address Real Issues First: Tackle Everyday Challenges
4. Problem-Solving through Innovation and Local Relevance
5. Engage All Stakeholders and Communities: Shared Ownership
6. Equity for All: Equitable Development
7. Digital Inclusion: Bridging the Digital Divide
8. Focus on Intermediate Cities for Balanced Growth
9. Resilience and Adaptation
10. Promote Holistic and Integrated Governance: Breaking Down Silos

OECD on Insights on Global Smart City Development Trends

Ms. Aline Matta is a Project Manager of Cities, Urban Policies, and Sustainable Development Division, Centre for Entrepreneurship, SMEs, Regions, and Cities, OECD.

Perspectives on cities, digitalization, and sustainability, examples from around the world to inspire Thai smart cities. Discussions on digital transformation is crucial to achieve the Agenda 2030. 3 main points – the importance of cities, pillars of smart city development, and data governance.

Cities are drivers for digital and green transition. Examples from New York, Montreal, Sao Paolo, Curitiba, Dijon, Amsterdam, Barcelona, Lisbon, Milan, Tokyo, Seoul, and Singapore. Initiatives help to accelerate SDGs, especially Goal 11. Smart city contributes to addressing urban challenges several ways, reducing energy use, transportation demand, reduce inequality.

The need to address opportunities, challenges, and limitations of smart city development – OECD's 3 main pillars – building policy dialogs among different sectors, thematic analyses to understand opportunities, challenges, and limitation. Challenges are such as lack of funding, infrastructure, capacity, and standardized data. The last pillar is monitoring framework.

Data Governance – Effective data governance to ensure secured use of information and effective implementation. OECD's publication "Smart City Data Governance: Challenges and the Way Forward"

In summary, we must be aware of the crucial roles of cities in achieving digitalization and sustainability. Innovation and collaboration are the ways to achieve more sustainable future.

UN-Habitat on People-Centered Smart Cities

Mr. Riccardo Maroso is ASEAN Project Team Leader of UN-Habitat Bangkok Office.

First, we should quickly highlight why we discuss about smart cities – megatrends on digitalization, climate change, demographic change, and urbanization. Smart city concept come to ensure that digital transformation will benefit the well-being of citizens.

UN-Habitat's work on smart cities is in 4 areas – (1) global advocacy, (2) capacity building for government, (3) advisory services for governments, and (4) financing digital urban innovation.

People-Centered Smart Cities is not only about technology, but a progress toward sustainable urban development which can be considered from different angles such as compactness, connectedness, inclusiveness, vibrance, and resilience. The actions must be made and aligned between different levels – global, regional, and local.

Examples of UN-Habitat's support to cities in Thailand are such as (1) city analysis to encourage evidence-based decision making (SDG Localization in Udon Thani), (2) sectoral analysis (Waste Wise Cities Tool in Chonburi, Samui, Surat Thani, Songkhla and Hatyai), (3) project development (ASUS in Hatyai), and (4) advocacy and research (ASEAN Sustainable Urbanization Report).

Inputs from local governments lead to the draft of the International Guidelines on People-Centered Smart Cities where the member states agreed and approved together. UN-Habitat is mandated to devise global guidelines, acting as a foundational structure for shaping smart city policies, strategies, and regulations at national and local scales.

ASEAN on Smart and Sustainable Urbanization in ASEAN

Mr. Lim Chze Cheen is the Director of ASEAN Connectivity Division, ASEAN Secretariat.

Urbanization in ASEAN is at the fast rate. 51% of population live in urban areas. Thus, ASEAN's approach to smart and sustainable urbanization is guided through 3 structures:

- (1) Master Plan on ASEAN Connectivity (MPAC) 2025 – how urban areas are connected to other sectors to promote competitiveness, equality, and sustainable social.
- (2) ASEAN Sustainable Urbanization Strategy (ASUS) – explaining strategies to collaborate in developing sustainable smart cities.
- (3) ASEAN Smart Cities Network (ASCN) – collaborative platform that aims to (a) facilitate cooperation on smart cities development through sharing of best practices and developing action plans; (b) catalyze viable projects with the private sector and other solution providers, and (c) encourage funding and support from ASEAN's external partners and multilateral organizations.

Since 2018, ASCN has been growing stronger. Number of projects has grown from 53 to 86 projects in different areas. Majority is in civil, infrastructure, and environment. In 2023, there has been ASCN Discussion Series, the commencement of development of ASEAN Smart City Investment Toolkit. Cities' size does not matter to join the network. 3 Thai cities (Chiang Mai, Khon Kaen, and Rayong) joined ASCN, bringing the total membership base to 29 cities.

Collaboration is listed of one key factor of smart city development. Thus, ASCN engages with external partners such as Australia, China, Japan, Norway, Republic of Korea, Russia, the United States, and international organizations on diverse activities such as regional projects, programs, capacity building, memorandum of understanding, statements, conference, high-level meeting, business matchmaking, and etc.

All actions aim to build foundation, to nurture and policies, in order to contribute to quality of life of people.

depa on Global Trends, Challenges, and Opportunities

Dr. Passakorn Prathombutr is Senior Executive Vice President of depa.

Global trends: Rapid urbanization: Two-third of global population will live in urban areas by 2050, leading to the rising importance of sustainability as cities consume 70% of the total energy and produce 70% of the total greenhouse gas. There is a need for citizen-centered approach, standards and quality of services must be aligned to people's needs. Lastly, advanced technologies such as AI, IoT, 5G, and big data can be utilized for smart city development.

Challenges: common challenges in smart city development are (1) lack of funding: especially in developing countries, (2) integration of old and new infrastructure: how to integrate new into existing infrastructure, (3) data security and privacy concerns: a smart city needs volume of diverse data, (4) skill gap and digital divide, (5) maintaining equality and inclusion, and (6) lack of coordination and collaboration among different sectors. Thailand partner with ASEAN Smart City Network. At the local level, any city can apply to become a smart city, receiving benefits such as tax exemption.

Opportunities: smart city development can be a city's opportunities to improve the quality of life for citizens, boost economic growth, and improve resilience to climate change (sustainability).

In conclusion, smart City development has the potential to address many of the challenges facing cities today, such as urbanization, climate change, and resource scarcity. However, there are also challenges that need to be overcome, such as lack of funding, data security concerns, and the digital divide. By working together, governments, businesses, and citizens can create Smart Cities that are more sustainable, livable, and resilient.

Moderator's Questions to Panelists

1. How to address digital literacy gaps among different groups in ASEAN countries?

OECD conducted a study in 6 Asian countries (including Thailand). The study found that the challenge of digital gaps is needed to overcome by not only addressing the issue, but to improve skills through training and education. Collaboration with academia is encouraged. The digital skill gap will impact labor market. The study also found that there are existing initiatives in the region such as a plan on the use of technology in vulnerable groups. Apart from vulnerable groups, smart city needs to address rural areas where specific actions are needed to be taken. It is important to spread actions nationwide, not just Bangkok. The other point to be mentioned is the implementation Thailand 4.0 has positive impact on smaller cities.

In summary, the key points are holistic approach, unified national perspectives, monitoring data, to foster peer-to-peer learning. Improving digital skills in small and intermediate cities are key to inclusive smart city initiatives.

2. Importance of inclusiveness in smart city development in Thailand?

UN-Habitat – important elements – looking broader urban perspectives. A practical example is Hatyai. The city focuses on digital solution for safety and security using CCTV and Command Center. CCTVs are also used not only for safety but also for environmental protection and traffic management. This proves that one smart city solution can benefit more than one area.

Second, people-centric approach, is the way to overcome the digital divide, also to stimulate the co-creation. A practical example is SDG Localization in Udon Thani where we do urban analysis. Different stakeholders are invited to contribute to the analysis. In the case of Hatyai, non-government stakeholders are included in the steering committee such as Prince of Songkhla University. Exchange of capacity, priority, and perspectives. The last point, the importance of exchange of learning, capacity. UN is trying to create platform and space for cities to exchange with other sectors.

3. What are the challenges and opportunities in advancing partnerships in ASEAN countries?

ASEAN countries have diverse needs, stakeholders, and solutions. We should start from our problems by starting small, focusing on the issues, and identifying practical and feasible solutions. There is no right solution, but to take the first step, adapt and reiterate. Process is important, allowing you to learn. Invest in data, typological, disaggregated, easily digested, interoperable, and scalable data. Invest in people who understand the issues and technology. Work with different partners to pool resources such as international organizations and the private sector.

4. What are the gaps and the potentials of Thai smart cities when compared to Japanese smart cities?

Thailand has already shown great successful smart cities. The successes are not only developed by government, but private sector such as One Bangkok. It is also important to address success cases outside of Bangkok such as Khon Kaen which is working on various areas including transportation. In the last workshop, we also have smaller smart cities such as Pang Mu SAO. My recommendation is to enhance knowledge sharing within Thailand. Thailand and Japan are facing similar challenges, especially aging population. More than 30% of population ages older than 60 while the birth rate is 1.2 in Japan. Thailand is catching up very soon. Japan also has solutions on the issues. Smaller towns in Japan also adopt smart city solutions to solve their issues. Thailand can exchange knowledge with Japan, and other countries.

5. What is the roadmap for Thailand's smart cities and the collaboration between global – national – local levels?

According to the National Plan, Thailand must develop 105 smart cities within the next 5 years. We need to create a win-win ecosystem and mechanism. depa is national but smart city development requires collab at local level. depa uses mechanisms such as tax exemption and Smart VISA to create enabling environment for the local level. We also have capacity building such as Smart City Ambassador program.

Session 3 Panel Discussion on “Integrating Smart Solutions into Local Strategies”

Sessions 3 of the Workshop is a Panel Discussion on Integrating Smart Solutions into Local Strategies by representatives from DLA, depa, DPT, and DDPM. on November 22, 2023, 15:30 – 16:45. The session is moderated by Dr. Tama Duangnamol, Chiang Mai University. The session was divided into 3 parts – presentations from panelists, questions from the moderator, and open Q&A from participants.

Department of Local Administration (DLA)

Mr. Siriphan Srikongphlee is the Deputy Director-General of DLA.

From DLA’s perspectives, the keywords for smart city development in Thailand are livability, smart, and sustainability. Meanwhile, the priority should be infrastructure development, followed by public services, and safety.

Regarding JICA Expert’s study, there are at least 10 domains. Thus, smart city development is not limited to only 7 domains defined by depa. National government assigns Provincial Office and District Office as focal points to integrate smart city implementation at the local level. LAOs can choose to implement smart city initiatives under province/district’s lead or by themselves. National agencies such as depa and KPI award smart city initiatives.

Digital Economy Promotion Agency (depa)

Dr. Orachat Liengpibul is the Manager of Smart City Promotion Division of depa.

Current status of Thailand’s smart cities: depa duties are to (1) plan and stimulate economy in accordance to the national policy, (2) encourage new businesses and investment in digital innovation, (3) partner with other stakeholders in digital industry and innovation development, (4) develop digital skills for all sectors, and (5) revising regulations to unlock digital innovation. Apart from the headquarter in Bangkok, depa has 7 branch offices in Chiang Mai, Udon Thani, Khon Kaen, Ubon Ratchathani, Phitsanulok, Chonburi, Songkhla, and Phuket.

Purposes of Smart City Development: The main purpose of smart city development is the better quality of life of citizens such as job and business opportunities, well-being, and sustainability of the city.

Roles of depa: depa’s roles on smart city development is rather a promoter than an implementor by stimulating investment (matching supply-demand, enabling policies and incentives), and connecting stakeholders (creating an active ecosystem, promoting domestic market growth). The main mechanism is the national committee on smart cities which oversee the overall development of smart cities, and suggesting more integrated approaches between smart city domains.

Application Process: To become a smart city, a city can submit a proposal to depa’s Smart City Office for (1) initial screening and consultations by Smart City Office, (2) plan evaluation and recommendations by 7 Smarts Working Groups, (3) proposal evaluation and approval by the Subcommittee, and (4) monitoring and evaluation by the Implementation Committee.

To conduct a plan, a city should start from its challenges and vision. The plan should be concise but clear, so that the plan is efficient to follow while gaining public trust. The second step is to identify the existing digital and physical infrastructure. The third step is to develop City Data Platform which comprises data catalog, data exchange, data governance, and data security. The fourth step is to propose services under 7 Smart domains. The last step is the sustainability of project.

A good smart city can benefit citizens in different ways – greater energy efficiency (Smart Energy), higher average income (Smart Economy), higher digital literacy (Smart People), up-to-standard water, air, and waste management (Smart Environment), higher well-being index (Smart Living), more active public participation (Smart Governance), satisfaction of public transport, and less traffic fatalities (Smart Mobility).

Department of Disaster Prevention and Mitigation (DDPM)

Mr. Rattipat Pangwatcharakorn is Division Manager of Division of Disaster Prevention and Mitigation Policy, DDPM.

Roles of DDPM: DDPM is a national focal point on disaster prevention and mitigation with 3 major components: (1) policies, (2) facilitation, and (3) operation. Operation is mainly responsible by LAOs while DDPM play a support role. In terms of scope, DDPM is responsible for the prevention and mitigation of accidents, road accidents, and disasters (both natural and man-made). In terms of roles, DDPM sets its strategic positions as an enabler, collaborator, regulator, enhancer, resource provider, and mentor.

Relationship between Disaster Prevention and Mitigation and Smart Cities: DDPM highlighted the significance of disaster management and its direct relationship to smart city concepts, emphasizing the importance of citizen safety within the smart city framework. DDPM asserted its primary responsibilities in terms of disaster prevention and mitigation, establishing policies, standards, and coordinating various phases of disaster response from preparedness to recovery. They stressed the need for laws and regulations supporting these functions, notably citing the Disaster Prevention and Mitigation Act of 2007.

DDPM's Support on Smart City Development: DDPM also addressed its role in supporting community safety through the utilization of smart solutions, innovation, technological applications, and data management. They outlined their responsibility as managers, coordinators, and supporters, gathering and providing resources for local disaster management efforts, aligning with smart city objectives to create secure and resilient communities.

Department of Public Works and Town and Country Planning (DPT)

Ms. Vasinnee Visoottiviseth is a Senior Professional Architect at DPT.

Roles and responsibilities of DPT: DPT is responsible for (1) town planning, (2) urban development, (3) buildings, and (4) technicians. DPT has collaborated on smart city development in Thailand since 2016 on setting standards for Smart Living and Smart Environment domains. From DPT's perspectives, not all towns are necessary to become smart cities, but they should focus on sustainable development. Smartness, resilience, and TOD are tools to achieve sustainability, and creating a 3-pillar balance between economy – social – and environment.

Climate impacts on Thailand: Climate change causes cities less livable. Smart city development helps a city to achieve its livability. Climate impacts on Thailand vary by region – (1) North: earthquake, summer storm, forest fire, drought, landslide, and flood, (2) Central: flood, summer storm, drought, and forest fire, (3) Northeastern: summer storm, landslide, forest fire, drought, and flood, and (4) South: flood, sea level rise, and coastal erosion. Tools such as SDG, TOD, smart city, and resilience city are like vaccines for the earth to fight climate change. However, Smart Human is a key to make the perfect vaccine.

DPT and international frameworks: Thailand participates in various global action to mitigate climate change such as UNFCCC, Kyoto Protocol, SDG, Paris Agreement, and the New Urban Agenda (NUA). On SDG, the agency is responsible for SDG 11.3, 11.7, 11.a, and 11.c. On smart city, European Union defines a smart city as a city seeking to address public issues via ICT-based solutions on the basis of multi-stakeholder municipally based partnership.

Foundation to create a smart city: Understand ourselves, create smart organization, create smart plan, and implement. DPT works with different partners such as NESDC, ONEP, DLA, GIZ, and JICA to promote smart cities. Sustainable urban development should focus on (1) clear vision to solve urban challenges, (2) good planning, (3) inclusive participation and sense of ownership, and (4) effective technology that allows monitoring.

Future challenges: Natural hazards from climate change, PM 2.5 and GHG emissions, aging society, cybersecurity, and collaboration. To tackle the future challenges effectively, cities should apply the heart of Self-Sufficient Economy (SEP) “Understand, Communicate, and Develop”.

Moderator’s Questions to Panelists

What is support from your agencies to LAOs in smart city development?

DLA – The key successes of smart city development are knowledge exchange, awareness building, a comprehensive plan that address challenges. Cities should select technologies that can tackle their urban challenges. Using pool resources to save costs and shared data. Monitoring and evaluation is also important to adapt the plan.

depa – Today, in this expo, we can see many smart solutions that cities can apply. In terms of support, depa provides catalog that can help both solution providers and solution searchers. The catalog is approved by Comptroller General’s Department for the government’s procurement as the providers are checked and the average price is tagged. For private smart city developers, selecting a provider from the catalog grants tax incentives provided by BOI.

After being approved as a smart city, it will receive (1) tax incentives from BOI, (2) technical support from experts, (3) opportunities to participate in smart city promotion activities, and (4) opportunities to become a pilot Smart Solutions city. depa also has D-Sure, a new standard for IoT devices to guarantee the quality. We also have Smart City Index to allow cities to track their development progress. Smart City Ambassadors is a capacity development program to have more local smart city experts. Currently, there are 134 ambassadors and 175 captains in 56 provinces.

DDPM – The agency’s roles related to smart city development are enabled by the National Disaster Prevention and Mitigation Plan of 2021 – 2027. DDPM’s approach is Smart DRM – Smart Digital, Smart Resilience, and Smart Man (people).

Smart Digital applies innovation such as database and AI system to improve the efficiency of disaster mitigation and prevention. Smart resilience focuses on disaster risk reduction, new normal lifestyle, and build-back-better principle. Smart People promotes people-centric approach and inclusive participation.

Lastly, DDPM promotes Smart Community/City which focuses on disaster risk mapping and guidelines through risk reduction, local capacity building, alarm system.

DPT – First of all, planning must be aligned between national policies and local contexts. Smart city planning should have active strategies to solve climate change. New Town Planning Act requires all comprehensive plans to include the planning of water and flood prevention, transportation, ICT, and others, under the concept of SDG.

Additional Comments

JICA Expert – Instead of using EU's definition for smart city which only covers ICT components, we should use ASEAN's definition which is more inclusive and context appropriate.



Session 4 Panel Discussion on “Enhancing ASEAN Cities through Global Partnerships”

Sessions 4 of the Workshop is a Panel Discussion on Enhancing ASEAN Cities through Global Partnerships by representatives from JICA, USTDA, Korea’s Smart City Association, and UNIDO on November 23, 2023, 10:00 – 10:50. The session is moderated by Dr. Non Arkaraprasertkul, Senior Expert, depa.

JICA on Project for Implementation of Smart City Approach to Solve Urban Issues in Siem Reap

Mr. Shigeki Miyake is the JICA chief advisor of a three-year project (from May 2022 to 2025) collaborating with the Siem Reap Provincial Administration office. The project involves two Japanese experts staying in Siem Reap and engaging five consultants from various sectors like waste management and traffic data platforms.

Siem Reap, located in the north and west of Cambodia, attracted over 5 million tourists before the 2018 COVID pandemic, making it a prominent tourism city.

The Smart City project in Siem Reap was initiated after the 2018 ASEAN Summit in Singapore, where the ASEAN Smart Cities Network was established. Siem Reap was selected as a target city due to its potential in tourism.

The project timeline includes various stages, starting from the ASEAN Summit in Singapore in 2018 to conducting data collection surveys in 2019 and initiating technical cooperation in May 2022 for a three-year duration.

The project's prioritized issues include urban challenges like illegal parking control using CCTV, waste management study using GPS technology, digitalization of tourism statistics, and intergovernmental document management.

The project focuses on three pillars: planning, pilot projects, and capacity development, aiming to provide solutions to urban issues, conduct pilot projects, and enhance the capabilities of counterparts in Shimiyapp. The aim is for local counterparts to independently solve urban issues after the project concludes.

US Trade and Development Agency on Tools to Support ASEAN Smart Cities

Mr. Sithisakdi Apichatthanapath, Deputy Regional Manager for Southeast Asia and the Pacific at the US Trade and Development Agency (USTDA), discusses USTDA's role in promoting smart city development in the ASEAN region, including Thailand.

USTDA aims to promote sustainable infrastructure development in emerging markets and facilitate connections between U.S. companies offering advanced technologies and solutions with international partners.

They engage in grant-based project preparation activities, providing expertise from the U.S. for feasibility studies, technical assistance, pilots, engineering, and design related to smart city projects. Additionally, USTDA can assist in partnership building activities, such as reverse trade missions, conferences, and workshops.

Digital infrastructure and smart cities have become active areas of engagement for USTDA, reflecting the growing demand for digital infrastructure to promote the digital economy in Thailand and across ASEAN.

Examples USTDA's projects in the ASEAN region include collaborations with Iskandar Regional Development Authority in Malaysia, Ho Chi Minh City Department of Information and Communications in Vietnam, and an upcoming project with Thailand's Digital Economy Promotion Agency (DEPA) and the Phuket Provincial Office. These projects focus on enhancing regional planning, city data aggregation, and advancing smart city data platforms.

USTDA's grant eligibility requirements include grant amounts typically ranging from \$500,000 to \$1.5 million, working with public, private, or state-owned entities, with a U.S. firm leading the project's preparation activities. They primarily cover labor costs associated with project preparation activities and offer a streamlined application process.

USTDA encourages interested parties to reach out for discussions before submitting a concept note, ensuring alignment with funding criteria.

Smart City Association Korea

Ms. Ellie Lee represents the Smart City Association in South Korea, a legally recognized group formed under the Smart City Act of 2018 by the Ministry of Land, Infrastructure, and Transport. The association comprises 379 members from both private and public sectors, including cities.

The primary purposes of the association are to revitalize smart cities, establish smart city foundations, and promote the benefits of smart cities. The organizational structure includes the president, executive director, three departments, and eight teams.

The association's members include prominent companies in South Korea such as LH Land Housing, Keywater (government entities), LG, and other major private firms involved in the city industry.

Their activities include supporting startups and overseas projects, assisting startup businesses to expand globally, managing government-funded smart city challenge projects in 16 cities, conducting technical seminars, capacity-building programs, and offering smart city tour programs for foreign experts.

The association also focuses on supporting businesses and policymaking through networking events, informative briefings, investment seminars, and annual events like the World Smart City Expo. Additionally, they are developing their own solution called the "Safety Network" aimed at prompt disaster response and citizen safety through the use of technology.

UNIDO on Enhancing ASEAN Cities through UNIDO Partnerships

Mr. Sooksiri Chamsuk is the Deputy Representative of the United Nations Industrial Development Organization (UNIDO), a specialized agency within the United Nations. The agency has their presence and operations in numerous countries, including Thailand, with around 167 member countries and nearly 50 offices globally.

UNIDO's focus areas encompass sustainable development through innovation, progress in bio-innovation and clean energy, community empowerment, climate change adaptation, and reducing hunger and scarcity. The speaker specifies UNIDO's engagement in cross-country collaboration within three expertise groups: sustainable supply chain support, renewable energy transformation, and enhancing agricultural business value chains and international trade.

In Thailand, UNIDO has a waste management project in Rayong, Thailand. The project involves smart city solutions addressing waste management, emphasizing the use of digital technology for waste collection fees, waste separation promotion, and municipal waste reduction. The project also has collaboration with electric bus service providers in empowering women for cleaner and more efficient urban transport systems.

Moderator's Questions

If given the opportunity to propose a project in Thailand for 2024, how would your project align with the ongoing discussions about collaboration in advancing cities and smart cities? How would you integrate ideas all panelists together?

UNIDO's proposal focuses on a digital application project in Rayong, Thailand, with plans to expand it to other cities in the upcoming year. The proposal highlights leveraging American technologies to diversify applications and addresses the scalability of the project to tackle waste management challenges in developing and growing urban areas. UNIDO stresses the importance of integrating technology for sustainable waste management in expanding cities. Collaboration with ASEAN and South Korean smart city associations aims to explore waste management practices and smart solutions. Learning from various waste management systems, including the uniformity of waste management fees, the proposal considers adopting smart applications from Korea for effective waste administration.

JICA's proposal involves implementing a traffic management system in Bangkok, Thailand, aiming to alleviate traffic congestion. Previously, there was a recommendation to introduce synchronized traffic signal systems on major streets, but there were challenges in gaining approval from the Bangkok Metropolitan Administration (BMA) and the police department. The suggestion involved an automatic detection and control system to manage traffic jams efficiently. However, due to individualized control by police officers at various intersections, the proposal faced resistance as it was perceived to potentially affect their employment. Despite initial setbacks, JICA expresses interest in revisiting the project to enhance the traffic management system in Bangkok, emphasizing the need for improved traffic control measures.

USTDA aims to enhance the Intelligent Transport System (ITS) in Bangkok, Thailand. The organization plans to assist in developing an integrated ITS center to address challenges faced by multiple transportation agencies that operate their separate ITS centers without data sharing. USTDA proposes designing a unified system that promotes data sharing among these agencies, allowing interoperability of different vendors' equipment. This approach encourages competition and flexibility in technology choices, aiming to meet evolving citizen needs. USTDA emphasizes supporting quality infrastructure that meets the cities' requirements and intends to fund feasibility studies for such projects. The organization's goal is to facilitate the creation of an ITS system adaptable to different technological advancements and recommendations from various sources, including Japanese, Korean, European, or American systems, ensuring relevance and efficiency in Bangkok's transportation infrastructure.

Session 5 “Pioneering Japanese Smart Cities”

Sessions 5 of the Workshop presents good practices from Japanese smart cities by representatives from J. CLAIR, Aizuwakamatsu City, Fukuoka City, and Takamatsu City on November 23, 2023, 11:00 – 12:30. The session is moderated by Mr. Atsushi Koresawa, JICA Senior Expert and Adviser to DLA.

J. CLAIR Singapore on “Japan’s Local Administration and Smart Cities”

Mr. Taisuke Sakurai is an Executive Director of the Japan Council of Local Authorities for International Relations (J. CLAIR) in Singapore.

Local Government Structure: Local administrative system in Japan can be divided into 2 sub-levels – prefectures (47) and cities, towns, and villages (1,718). Cities can be further divided into 5 categories regarding the size of population – designated cities (500,000), major cities (200,000), cities (50,000), towns (5,000 – 8,000), and villages (<5,000 – 8,000). Cities are responsible for various duties, including education, public services, taxation, and infrastructure development.

Financial Allocation and Systems: Details the financial distribution system between the national government and local areas, highlighting the local allocation tax system and how it supports municipalities financially. The proportion of expenditure between the central and local governments is 4:6.

Population and Rural Challenges: Addresses Japan’s population decline, aging population, and the migration from rural areas to urban centers. Discusses the challenges faced by rural areas in terms of labor shortage and maintaining essential services.

Smart City Initiatives: Discusses the growing importance of smart city projects as a means to address regional disparities, mentioning various government offices, corporations, and examples like Toyota Motor Corporation and Panasonic working on experimental smart cities.

Collaboration and Regional Solutions: Highlights collaborative efforts between ministries – the Cabinet Office; Ministry of Internal Affairs and Communications; Ministry of Economy, Trade, and Industry; Ministry of Land, Infrastructure, Transportation, and Tourism. There is collaboration between public and private sectors to address regional issues, citing examples such as drone usage for delivery in Ina City and welfare services in Kakogawa City. Work together to promote smart city development. In addition, the private sector also has initiatives such as Toyota’s Woven City and Panasonic’s Fujiwara Smart City.

In summary, the presentation provides a comprehensive overview of Japan’s local government structure, financial systems, population challenges, and the emergence of smart city initiatives to tackle various regional issues.

Aizuwakamatsu City on “Initiatives and Vision for Smart City Aizuwakamatsu”

Mr. Shohei Muroi is the mayor of Aizuwakamatsu City.

Overview of City: Aizuwakamatsu is a city in Fukushima prefecture of Japan. It has notable landmarks like Tsuruga Castle, Lake Inawashiro, and Mt. Bandai.

Challenges and Initiatives: The city has been facing a population decline of 1,000 per year since 1995 due to low birth rate and emigration. The situation leads to lower revenues from taxes. To counteract this, Aizuwakamatsu has initiated Smart City Aizuwakamatsu (Smart City AiCT) focusing on various aspects of life, including health, welfare, disaster prevention, and regional economy, utilizing IC and environmental technology. Projects under the initiative are such as: AiCT Consortium (2021), a collaboration of local ICT businesses to promote DX in the region. And an E-governance application which provides services.

Efforts to Attract Companies: Aizuwakamatsu is actively attracting ICT-related companies to relocate their head office functions to the city, offering incentives and highlighting the convenience and opportunities available.

Services for Residents: The city emphasizes providing services for residents' comfort and safety. This includes disaster evacuation route displays, online medical consultations, and digitization of records like the Maternal and Child Health Handbook.

Smart City Visualization: Aizuwakamatsu focuses on data visualization for smart city services, including snow removal, public health data utilization, and linking GIS data for better community services while ensuring strict data security and opt-in data utilization.

Community Engagement and Local Economy: The city promotes engagement between citizens, local businesses, and the government. It introduces initiatives like Aizu Coin, a local digital cash system, to circulate within the city and support the local economy.

The benefits of Smart AiCT initiative are 3 ways: citizens (users), local communities, and the private sector. Local economy and industries are revived.

Fukuoka City on “Public-Private Partnerships on Smart City Initiatives of Fukuoka city”

Mr. Kimihiko Anan is the Director of Planning and Coordination Department, General Affairs, and Planning, Fukuoka city.

Overview of City: Fukuoka is the largest city in Fukuoka prefecture and Kyushu region. It has a population of 1.64 million. Fukuoka City is a compact city rich in nature, with a developed transportation network connecting major hubs. It serves as a gateway to Asia and is known for its historical significance, cultural diversity, festivals, and food.

Smart City Initiatives in Fukuoka:

- Collaboration between public and private sectors focusing on urban development.
- Utilization of LINE, a popular communication app, for citizen engagement and services.
- Examples include information dissemination, damage reporting, disaster prevention info, lifestyle support, and garbage separation guidance.

Specific Initiatives and Services Using LINE:

- Online reservation for garbage disposal.
- Reporting city issues (e.g., damaged roads) with photos via LINE.
- Online reservations for public children's hospitals.
- Allergy information on school lunches accessible through LINE.
- Providing real-time information about fire incidents.
- Monitoring congestion and business information at food stalls.

Public-Private Collaborations:

- Collaboration between Fukuoka City and LINE Co., Ltd., to address social issues and provide high-quality services.
- The "Mirai@" counter that accepts proposals from private companies.
- Collaboration with private entities in initiatives like the Smart Share Cycle Demonstration Project for bicycle sharing.

Recognition and Citizen Trust:

- Fukuoka City's success in public-private collaboration has gained recognition, with high ratings for ease of living and international praise.
- Positive citizen feedback and trust in the city government have significantly increased over the years.

Fukuoka Next Initiative: Aimed at positioning Fukuoka City as a leading city in Asia, focused on environmental harmony, urban development, and sustainable energy.

In terms of feedback, 96.5% of the surveyed citizens had easy living in 2021. Fukuoka is listed as a pilot city in Asea for its livability by UN-Habitat and listed one of 52 destinations to visit by the New York Times. The city's reliability of its governance has improved from 41% in 2010 to 87.3% in 2021. Fukuoka NEXT is another initiative to improve livability and environmental friendliness of the city.

Takamatsu City on "Smart City in Takamatsu - Using Data for Future Urban Development"

Mr. Mitsuhiro Yokoyama, is the Director of Takamatsu City Digital Strategy Section Manager.

Overview of City: Takamatsu is a major city of Kagawa prefecture, the smallest prefecture in Japan. The city's area is 375.67 sq.km. and the population size is 411,546. The city is located between Seto Inland Sea and mountains, providing a blend of urban functions and natural beauty. Takamatsu City hosted the G Seven meeting seven years ago, and it's leveraging this history for its smart city initiatives.

Smart City Initiatives Overview:

- Presents an image of the entire smart city system, focusing on an IoT common platform for real-time data collection.
- Geospatial data infrastructure aggregates city planning data, road registers, etc., aiming for citizen accessibility.

Disaster Prevention Efforts:

- Discusses the proximity of the city to the sea and its potential vulnerability to disasters like storm surges.
- Installs sensors at observation points for disaster monitoring and utilizes data from Kagawa Prefecture for disaster response.
- Develops an app named "Takamatsu My Safety Map" for citizens to access disaster prevention information.

Tourism Initiatives:

- Addresses the challenge of collecting tourist movement data using a city-operated bicycle rental business.
- Implements GPS loggers on rental bicycles to gather data on tourists' movements.
- Visualizes tourist stay areas based on the data collected from GPS loggers.

Other Initiatives: Takamatsu City conducts demonstration experiments in welfare for the elderly, traffic safety, and additional tourism initiatives.

Questions

1. Could you please elaborate on Japan's approach to addressing the disparity in financial resources between national and local areas, particularly regarding the allocation of funds? How is Japan innovating or implementing systems to manage this? Additionally, how is Fukuoka City addressing the importance of tourism while managing the challenges of over tourism? What measures are being taken to balance the economic benefits of tourism with potential negative impacts? Lastly, could you discuss the progress and significance of sightseeing initiatives in Fukuoka, and comment on the issue of over tourism in Tokyo?

Disparity in Financial Resources: The speaker notes that there's a notable concentration of financial resources in urban areas, similar to what occurs in private countries. There's a discussion about tax revenue being higher in urban areas compared to local regions, resulting in significant differences in tax revenue, especially concerning consumption tax and corporate tax.

Local Allocation Tax System in Japan: Despite disparities, Japan employs a local allocation tax system aiming to ensure that administrative services can be provided uniformly across the country. This system aims to mitigate the differences between cities, towns, and villages in terms of the amount of money that can be allocated.

Historical Development of the Tax System: After World War II, Japan's tax allocation system underwent various changes and improvements. Initially, there were unpredictable fluctuations in the funds received annually. However, through trial and error, the system has evolved to incorporate objective indicators for calculating and distributing funds to each organization.

2. What are the challenges for your cities?

Aizuwakamatsu – The success of Aizuwakamatsu City in implementing various initiatives stems from navigating past barriers in utilizing digital technology in Japan. As Japan transitions to 5G technology and aims to lead in this realm, national decisions encouraged proactive proposals. This allowed the city to propose initiatives that received full subsidies, leading to incremental implementations each year. The recent reception of the largest grant in Japan, the Digital Garden City Nation Initiative Grant, was a significant achievement. The speaker believes that standardizing efforts among local cities would greatly benefit the country. They express a commitment both as a local city and as part of the country to continue facing challenges. They emphasize the importance of not just individual competition but proposals that contribute to the improvement of all towns.

Fukuoka – Fukuoka City is predominantly driven by its service industry, especially inbound tourism, employing about 90% of its workforce. The city invested in this sector to boost tourism and its economy, introducing an accommodation tax in 2020 collected by individual local governments. Efforts in tourism include installing multilingual signboards for visitors, yet challenges with overtourism arose. To manage this, the city oversees the tertiary industry and addresses related issues. For instance, large tourist buses causing congestion led city officials to swiftly designate vacant lots for efficient bus operations, preventing downtown congestion. Continuously tackling challenges from private companies and the government, overtourism showed signs of decline within about six months amid the COVID-19 pandemic.

Takamatsu – Takamatsu City saw a surge in foreign tourism pre-pandemic, with a high influx of visitors and initiatives to accommodate them, notably in rental bicycle services. However, the COVID-19 outbreak disrupted these efforts, causing a drop in rental services and tourist numbers. Currently, as tourist visits decline with the pandemic's subsiding, the city is developing new facilities and reevaluating strategies for attracting visitors post-pandemic. Furthermore, while actively involved in disaster prevention and tourism, the city acknowledges the necessity of interdisciplinary approaches to tackle complex challenges, understanding the broader implications for regions beyond specific sectors, an approach relevant to future smart city endeavors, including those in Thailand.



Session 6 on “Leading Thai Smart Cities”

Sessions 6 of the Workshop presents good practices from Thai smart cities by representatives from Hatyai City Municipality, Nikhom Phattana Subdistrict Municipality, Wangchan Valley, Suphanburi Town Municipality, and Nakhon Sawan City Municipality on November 23, 2023, 15:10 – 16:00. The session is moderated by Dr. Pechladda Pechpakdee, Assistant Professor, Mahasarakham University.

Overview and Updates on Thai Smart Cities by depa

Dr. Orachat Liengpibul is Division Manager of Smart City Promotion, depa.

depa highlighted several essential points regarding the current status of smart cities in Thailand. There are around 144 smart city plans, but only about 36 have clear and actionable plans that have been implemented for almost two years. They emphasized the need to monitor the progress of each city's projects and their success rates in achieving their goals.

depa acknowledged that while some cities initially showed extensive project plans, when monitored every six months, there wasn't significant progress. Challenges primarily revolved around budget constraints and a lack of understanding among officials about the true essence and responsibilities associated with implementing smart city projects.

The emphasis was on the importance of continuous learning and encouragement for every city to understand and embrace the concept of smart cities progressively. They hinted at providing specific numerical data for further clarification.

depa discussed various challenges encountered in the development of smart cities across Thailand. They revealed that while approximately 500 smart city projects were planned nationwide, only around 33 to 34 percent of these projects had made tangible progress, despite the genuine intentions of cities to embark on smart city initiatives.

The challenges highlighted included budgetary constraints, shortages in skilled personnel, limited understanding of smart city concepts among officials, difficulties in policy adaptation within government agencies, and the occasional misuse or inadequate utilization of technology resources. depa stressed the need for collaborative efforts to overcome these obstacles, especially regarding budgeting, policy amendments, and creating an environment conducive to technological implementation.

Moreover, they emphasized that while some cities were successful in their smart city endeavors, many faced considerable hurdles. The issues ranged from a lack of preparedness in digital infrastructure to difficulties in acquiring private sector investments due to uncertainties regarding profit returns, hindering the progress of planned projects.

Despite these challenges, depa acknowledged the progress made by several cities in achieving success in their smart city endeavors. They encouraged learning from these experiences and adapting successful strategies to facilitate the advancement of other cities' smart city plans.

Overall, the presentation shed light on the complexities and challenges faced by cities in implementing smart city initiatives, aiming to encourage mutual learning and provide inspiration for cities at different stages of their smart city journeys.

Suphan Buri Town Municipality

Dr. Ekkapan Injai-oua is the Mayor of Suphan Buri Town Municipality, Suphan Buri Province.

Municipal Services and Population: The area of Suphan Buri is approximately 9.013 square kilometers. The registered population within the municipal area is only about 25,000, but municipal services cater to around 50,000 people. This highlights the importance of providing services not only to registered residents but also to those from outside the municipal boundaries who use the public amenities.

Smart City Initiatives: Suphan Buri has been involved in smart city projects, particularly in the implementation of (1) CCTV for safety and security and Command Center, in collaboration with police, under Smart Safety Zone 4.0, (2) Smart I Pole – citizens can report electricity issues via QR code, and (3) One Stop Services. This aims to benefit the citizens by providing efficient and technologically-driven public services.

CCTV Surveillance and Public Safety: The installation of CCTV cameras across the municipality has been crucial for enhancing security measures. This initiative has received positive feedback from the community, enabling better monitoring of public spaces, helping the police in their duties, and addressing property-related issues.

Community Engagement and Public Services: The implementation of QR codes on Smart I Pole (around 800 poles) allows citizens to report problems directly to the municipal authorities, aiding in the swift resolution of electrical issues within the city.

Collaboration with Local Authorities and Recognition: Collaborations with provincial authorities, such as the collaboration with the Provincial Administration Organization, have led to successful projects and recognition for initiatives like the Smart Safety Zone 4.0.

Future Plans: Future plans include City Digital Data Platform focusing on healthcare and supporting vulnerable groups within the community. Additionally, there are ongoing efforts to ensure readiness and inclusivity in the municipality, considering the diversity in age and roles among the municipal staff.

Training and Development: Efforts are being made in training and development, collaborating with various entities, including educational institutions and non-profit organizations, to improve local governance and prepare the staff for community needs.

Hatyai City Municipality

Dr. Wichai Kanchanasuwon is the Deputy Mayor of Hatyai City Municipality. The city receives Smart City logo on January 9th, 2023.

City Development Vision: Emphasis on making Hatyai a desirable, tourist-friendly, and investment-attractive city.

Smart Living: Hatyai collaborated with UN-Habitat on improving the city's safety and security by utilizing digital solutions (AI CCTV and Single Command Center). The city also has collaborative health programs with a local university, emphasizing eldercare and preventive health check-ups. To boost tourism and economy, modern facilities for online businesses and tourists, such as free Wi-Fi are provided across the city.

Smart Environment: Initiatives for early flood warning system, and environmental monitoring system that covers the management of solid waste, wastewater management, and air quality. 6 air monitor stations have been installed across the city. On water quality monitoring, the city has water quality sensors and an application for real-time tracking. Waste Riders are an application to trade solid waste and promote recycling. The wastewater treatment uses sustainable methods. These initiatives aim to promote Hatyai as a green city.

Smart People: Budget allocation for smart schools, promotion of e-sports, and fostering educational and youth events.

Smart Mobility: Monorail, EV transportation, EV training, and walkable city.

Smart Energy: Solar rooftop, LED IoT, EV Conversion, EV chargers (25 spots across the city for 600 vehicles), green buildings.

Smart Governance: establishment of convenient tax payment channels, and communications via LINE Official Account.

Gratitude and Acknowledgment: Thankfulness expressed towards supporting organizations and entities aiding the city's development, especially in integrating various systems and tax payments.

Nakhon Sawan City Municipality

Mr. Jaturawit Nirojthanarat is Deputy Mayor of Nakhon Sawan City Municipality, Nakhon Sawan Province.

Vision & Development: Recognized for smart city efforts, they target Smart Environment, Disaster Warning Systems, Healthcare Zones, and Collaborative Energy Projects.

Smart Environment: comprises of (1) Waste Management (Smart Garbage Truck) – Using IoT and AI through sensors in waste bins, they optimize waste collection, conserve energy, and streamline waste management. (2) Climate Monitoring System – Employing weather sensors, especially for PM 2.5, they proactively manage flood risks and emphasize collaboration for effective mitigation.

Smart Living: comprises of (1) Smart Safety Zones – The city employs nearly 600 CCTV cameras for enhanced security, some capable of recognizing faces and license plates, with emergency buttons linked to the police station and implementing smart parking solutions. (2) Smart Healthcare – Emphasizing homebound and bedridden elderly care, they employ sensors and smart cameras that activate during emergencies, aiding immediate assistance.

Smart Governance: Introducing the NSM Smart Application for centralized communication, consolidating complaints and information for improved data management.

Smart Infrastructure: Implementing a "Super Node" project to integrate electronic systems, effectively managing cables, reducing costs, and optimizing the city's infrastructure.

Smart Learning Center: Developing an educational hub for technology-focused learning, emphasizing technological advancements through community events. E-Sport events were organized for youths.

Nikhom Pattana Subdistrict Municipality

Pinyapat Thaowedsuwan is the Chief of General Administration, Division of Planning and Budgeting, Nikhom Phatthana Sub-district Municipality, Rayong Province.

City Structure and Role: Positioned as a secondary city in Rayong province, likened to a red egg yolk in terms of the area's geographical layout. It's seen as a central city supporting both heavy industrial zones and the direct economic special zone. Emphasis on being a city accommodating diverse labor forces from different regions, approximately 20,000 to 30,000 of unregistered population. The city aims to support these workers in creating income opportunities for their families.

Strategic City Management: Strategies focused on effective city management, minimizing problems compared to larger cities. The objective is to protect the city from encountering significant issues.

Challenges in Government Systems: Identified challenges in government systems, citing slow information retrieval, delayed reporting to relevant agencies, and possibly outdated or insufficient data, affecting policy decisions and regional development.

Leadership and Learning: Promoting younger generations to have leadership roles, encouraging them to learn about smart city development through various courses. Building partnerships with Burapha University to support city policies. Recognizing the need for visionary leadership and building a smart city steering group.

Smart City initiatives: Starting from Smart Environment, Smart Governance, and Smart Living. Transitioning toward digitalization, implementing various technological advancements such as advanced CCTV cameras, aiming to streamline and improve city services.

Success Factors: (1) Collaboration and Communication – the importance of efficient teamwork, effective communication both within the organization and externally with private sector entities, (2) Data Utilization and Planning – Focused on leveraging data for policymaking, and (3) Vision for National Impact – Aspiring not only to serve the local community but also to contribute and impact national-level policies.

Goal: The city will be the first secondary city in Rayong province to achieve this status, emphasizing the importance of planning and following through with established strategies.

Wangchan Valley

Ms. Oravarin Panturat is a Vice President of Commercial Unit, EECi Project, PTT Public Company Limited.

Background: Wangchan Valley, established in 2018 by PTT Group and NSTDA under Thailand 4.0's smart city development policy, comprises three zones: Community, Education (housing VISTEC university and KVIS school), and Innovation (featuring facilities like the Information Center, Intelligent Operations Center, wastewater treatment plant, and solar farm). It signed an MOU with depa in March 2021, crafting a 10-year urban plan from 2020 to 2040. Awarded smart city certification in August 2021, it prioritizes sustainability, focusing on reducing greenhouse gases and advancing solar energy use.

Government Policy Support: Discussing the Thai government's "Thailand 4.0" policy and how it aims to boost scientific research and innovation in the country by establishing KVIS school and VISTEC university. These educational initiatives received support from the Ministry of Science.

Smart City Development: Emphasizing the development of Wangchan Valley as a smart city using innovative ideas and technologies for infrastructure and public services. Explaining the three main zones for development: Education and Research, Community, and Innovation, detailing amenities and services in each.

Innovation Hub: Describing Wangchan Valley's ambition to become a leading innovation hub in Southeast Asia, fostering collaboration between large companies, startups, and research institutions.

Sustainable Urban Development: Discussing the focus on sustainable development, balancing human-made structures with environmental considerations, aiming for improved quality of life.

Data Platform and Urban Management: Emphasizing the utilization of digital technology and innovation in urban development for efficient city management and improved resident quality of life.

Smart Infrastructure and Facilities: There's a focus on smart technology and energy management, exemplified by initiatives like smart grids, solar energy usage (with the presence of a company named GPSC within their region), and smart mobility solutions for convenience and safety, ensuring equal access and quality of life improvement.

Innovation and Collaboration: Collaboration with both public and private sectors for various projects such as testing unmanned aerial vehicles (drones) with the Civil Aviation Authority, collaborating with scientific agencies for testing radio frequency waves, and exploring various energy management systems and electric vehicles.

Data Gathering and Sharing: Development of a data platform (City Data Platform) to collect and share data among government and private agencies for future development. This platform aims to gather diverse data sets for ongoing innovation and growth.

Economic Incentives: Economic Wangchan Valley offers appealing economic incentives to entities creating research and development centers, such as tax exemptions lasting up to 13 years and Smart Visas for experts and their families. Highlighting Thailand's low personal income tax rate of 17%, the region positions itself as an ideal environment for innovators to experiment and test new ideas within a framework of flexible regulations.

Eco-Friendly Initiatives: The region boasts organic stopover services and promotes experimental zones for innovation, particularly in organic products.

Questions

Could you tell me what the Human Development Index was for Thailand last year, and where does it stand among other countries? What does it mean for Thailand to increase its Human Development Index, especially regarding the people living in smart cities? Should there be a Human Development Index specifically for people in smart cities like Rayong, Hadyai, or industrial estates? How should it be?

Hatyai City Municipality emphasizes the significance of smart people, likening it to schools assessing student performance through various dimensions. They discuss the multi-faceted nature of human development, especially during different life stages, indicating a need for a more in-depth conversation on this topic. The conversation then shifts to the involvement with the local government of Hat Yai, mentioning the “KFC-like” brand of “Hat Yai Fried Chicken” which has expanded to several provinces. They highlight their support for private sector initiatives and online commerce promoting the concept of smart cities. Lastly, they express willingness to assist private entities interested in brand development and hint at addressing other issues while appreciating the diversity of viewpoints. Additionally, they mention the popular trend of “Hat Yai Fried Chicken” being recognized widely and as a soft power in society.



Session 7 “Showcase of Smart Solutions for Thai Cities”

Sessions 7 of the Workshop showcases smart solutions for Thai cities by representatives from MLIT, CTI Engineering, BMA, Thammasat University, Bueng Yitho Town Municipality, and APCD on November 23, 2023, 15:10 – 16:00. The session is moderated by Dr. Tama Duangnamol, Chiang Mai University.

MLIT on Japan’s Smart Cities Initiatives and Smart JAMP

Ms. Shikiko Tatsushima is the Deputy Director of International Policy Division Ministry of Land, Infrastructure, Transport and Tourism (MLIT), the Government of Japan.

Overview of Japan's 60-year Urban Development history addressing challenges during periods of high economic growth, stability, and maturity, and the current focus on compact network initiatives.

Three key urban development concepts have been integrated into smart city development: ecocities for reduced environmental impact, transit-oriented development (TOD), and resilient cities to reduce disaster impact.

The three golden rules for smart city development: city diversification, diverse participation, and ensuring openness and transparency in data use.

Overview of Japan's smart city projects, including the City OS project, with implementations in various locations inside and outside Japan, involving Japan's technology and experiences.

Explanation of the Smart JAMP initiative launched in 2020, aiming for collaboration with ASEAN countries, conducting feasibility studies and demonstration tests for smart city projects.

Examples of studies conducted under Smart JAMP, such as a bus operation management system in Brunei, road management system using air image recognition in Indonesia, Singapore, and Thailand, and river environment monitoring in Johor, Malaysia.

Emphasis on primary promoters and service providers as vital for smart city implementation and Japan's efforts in providing support for stakeholders through business matching opportunities and capacity-building programs.

Introduction of the Asians Smart City Planning Guidebook, prepared by Japan's government to assist urban policymakers in ASEAN cities, showcasing smart city principles and case studies.

Commitment from the Japanese government to continue cooperation with relevant ministries, agencies, private companies, and local governments to advance smart city initiatives, encouraging proposals from Thailand.

CTI Engineering on Cloud-Based Disaster Prevention Information OS

Mr. Go Ozawa is the Project Manager of CTI Engineering Co., Ltd.

Introduction of the presentation titled "Cloud-Based Disaster Prevention Information OS (Riskma)" by Go Ozawa from CTI.

Outline of the presentation focusing on CTI's introduction, the importance of flood forecasting systems and early warning systems, highlighting floodwater hazards and inundation.

Introduction to CTI as the first engineering consultant in Japan, emphasizing their extensive international projects and their dominant share in government sales among consulting engineering companies.

Importance of flood forecasting and early warning systems, addressing issues such as information gathering, separate systems for rainfall reservation, uncertainty about roles and responsibilities during disasters, and the difficulty in accurate flood forecasting due to rapidly changing situations.

Advantages of CTI's Risk Map platform, including integrated browsing of related information, forecasting river water levels and inundation areas, and customizable functions based on client needs.

Examples of Risk Map's system layout for clients, demonstrating features like water level gauge locations, rainfall distribution, CCTV camera monitoring, AI-powered cameras, and flood forecasting systems.

Summary of Risk Map's capabilities: effective information collection before, during, and after disasters, understanding meteorological risks, supporting decision-making for evacuation and Disaster Risk Reduction, and utilization for Business Continuity Plans (BCP).

Successful adaptation of CTI's system through the Smart JAMP initiative in the Philippines, illustrating how the cloud-based mapping platform helped streamline communication and decision-making during disasters.

CTI's market position as a leader in flood forecasting systems in Japan, aiming to expand their platform and services globally, including Thailand, and welcoming discussions for potential collaborations or interests via email or other communication channels.

BMA on Area Traffic Control (ATC) System

Mr. Sayan Thasanakosol is the Director of Traffic System Design Section, Traffic Engineering Division, Traffic and Transportation Department, Bangkok Metropolitan Administration (BMA).

Project Background: the Project for Improving Traffic Congestion in Bangkok through the Establishment of Area Traffic Control (ATC) System is a collaboration between Thailand and Japan, specifically with Alcorp Corporation, was highlighted. The talk delved into the Adaptive Traffic Control (ATC) system, which relies on a network of sensors including CCTV cameras and ultrasonic sensors to monitor traffic flow.

Project Details: BATCP is planned for August 2019 – February 2024. The project has 4 outcomes – (1) ATC system installation, (2) control and maintenance, (3) manual control of the traffic signals, and (4) expansion plan.

Implementation: Vehicle image detectors and ultrasonic vehicle detectors are installed in 13 intersection signals and 4 pedestrian crossing signals around Rama IV, Ratchawithi, Phahonyothin, and Pradibhat Roads. The signals are directed to the Traffic Control Center at the Traffic and Transportation Department of BMA. Before, the traffic signals were controlled by fixed-time signal systems. The data collected by traffic sensors is transmitted via fiber optic networks in Bangkok, then sent to control centers where computations are made for appropriate traffic signal timings and adjustments. This indicates the necessity of additional network expansion for efficient data transmission.

Personnel: Key personnel, including experts and traffic management authorities, are actively involved in the project. The significance of the Bangkok Metropolitan Police's role in utilizing the traffic signal system for efficient traffic management was underscored.

Benefit of ATC (Automatic Traffic Control) System: The ATC system has shown benefits in reducing travel time and distance of queues. Before using ATC, the graph lines were yellow, but after implementation, they turned green, indicating a reduction in traffic queues by approximately 30%.

Sensor Data Utilization: Sensors collect various traffic-related data that can be processed and used to reduce traffic queues. For example, at the Victory Monument intersection, queue length reduced by approximately 20%.

Economic Impact: The economic impact of reduced traffic congestion is significant. For instance, at certain intersections, the economic loss decreased by millions in Thai Baht.

Future Plans and Expansion: There are plans to expand the ATC system to save costs by utilizing existing infrastructure. Additionally, there's a plan to establish a Traffic Technology and Safety Management Center, integrating various data for city management.

Public Feedback:

Motorists: Feedback suggests reduced traffic congestion, allowing vehicles to move more freely during green light periods.

Police: They have corroborated the positive impact of the system, mentioning that if they are freed from certain tasks due to the system, they can focus on other important duties like issuing tickets or addressing criminal activities.

Bueng Yitho Municipality and Thammasat University on SMART & STRONG Project

Assistant Professor Nattapat Salobol is a professor at Thammasat University and MD. Thitinan Nakphu is a doctor at Bueng Yitho Municipality.

Project Summary: Discussion centered around the Smart and Strong project, aiming to integrate services for the elderly through LAO networks in Thailand.

Evolution of the Project: Focus on developmental aspects of the project, its connections with local Thai governments, and its significance in elderly care and community support.

Core Objectives: Three primary goals: creating a knowledge-sharing network, enhancing personnel capabilities, and developing elderly-friendly services adapted to regional contexts.

Collaboration and Exchange: Using Japan's experience in elderly care as a learning platform to improve Thailand's service network via mutual exchange.

Future Development: Focus on networking advancements, service activities, and tailored elderly care suitable for local demographics.

Expansion and Collaboration: Initially involving 8 local areas, expanding to 17 networks across Thailand on July 11th, 2023. The "Strong" model within Bueng Yitho Municipality served as a prototype, integrating knowledge from various agencies to develop shared systems. Collaborations with global organizations for lessons adapted to local contexts.

Core Concepts and Development Areas: Emphasis on software development, community collaboration, and innovation strategies. The project aligns rapid technological advancements with diverse elderly needs, customizing solutions for elderly care while encouraging interaction and exchange of elderly community in identifying their needs for technology development.

Pattaya's Initiatives: Under "Better Pattaya" policy and smart city initiatives, the city developed infrastructure such as the Pattaya Data Center, Pattaya Smart City Hub, Pattaya Connect communication lines, and smart poles with various installed smart devices. Pattaya Smart City also considers the diverse needs of the elderly population, providing suitable amenities and services for them.

Phitsanulok's Initiatives: Phitsanulok is one of the cities that received recognition as a smart city among the top 30 smart cities in the country. The city implemented advanced technologies such as ICT infrastructures, smart sensors, and systems to improve healthcare, elderly care, and senior community engagement. The city has diverse actions such as database development using ICT systems, smart zones covering four areas in the province, leveraging universal design for elderly care, and development of senior care systems or senior complexes.

Emphasizing "Smart Citizen": Transforming elderly citizens into "Smart Seniors" for meaningful participation and addressing real-life issues.

APCD on Diversity/Disability Inclusive Development

Dr. Kenji Kuno is a JICA Senior Advisor on Disability and Development and Mr. Watcharapol Chuengcharoen is the Chief of Networking and Collaboration, APCD.

Smart Means Inclusive and Accessible: smart cities should aim to enhance the quality of life for everyone, considering various diversities like disabilities, communication methods, age, gender, etc. Dr. Kuno also highlights the importance of inclusive and accessible infrastructures, focusing on information and physical accessibility for individuals with impairments.

Why Diversity and Inclusion are Essential in Smart Cities: Disability might not exist in a person but in societal and environmental barriers. Disability inclusion is linked to global agendas such as the Sustainable Development Goals (SDGs) and the United Nations' Convention on the Rights of Persons with Disabilities.

Legal Framework and Importance of Accessibility: Highlights that Thailand has ratified the UN Convention, legally binding the country to ensure accessibility (mentioned in Article 9) and underscores the importance of accessibility in disaster risk reduction (Sendai Framework).

Implementing Inclusive and Accessible Smart Cities:

- Disability Equality Training (DET) for disability awareness and education is implemented in various countries. Spotlights projects like Toyota's Woven City and Tokyo 2020 Games for volunteer diversity training.
- A project in Ecuador focusing on information accessibility of people with disability. Apcd conducted a feasibility survey for deployment of accessible tv set-top-box for persons with visual or auditory disabilities in support of disaster risk reduction.

Inclusive Smart Cities – Examples from ASEAN: An example of a joint initiative between Japan and ASEAN countries (Cambodia, Myanmar, Vietnam, and Thailand) aimed at creating a barrier-free environment and strengthening opportunities for persons with disabilities.

Reducing Risks for Persons with Disabilities in Disasters: Highlights the collaboration between JICA, TICA, and APCD to train ASEAN countries in reducing disaster risks for persons with disabilities. Shares experiences from Phuket, showcasing how smart cities do not leave anyone behind.

Personal Insights on Inclusive Smart Cities: Mr. Chuengcharoen emphasizes the impact of inclusive projects, asserting their importance for the happiness and well-being of society.



Session 8 Closing Session

The workshop closed by closing remarks from representatives of the organizer agencies on November 23, 2023, 17:45 – 18:00.

Mr. Kazuya Suzuki, JICA

Mr. Kazuya expressed gratitude to all participants for their valuable contributions to the discussions on smart cities during the workshop. He highlighted the significance of the event in showcasing practical experiences and solutions from cities of various sizes, aiming to address common challenges and propose new policies and guidelines. Emphasizing collaboration among practitioners and key players from Thailand, Japan, ASEAN, and global partners, he stressed the importance of supporting local governments in reducing disparities and shaping the transition to smart cities.

Throughout the workshop, various speakers shared inspiring examples of collaborative efforts between the public and stakeholders to develop solutions that address real needs on the ground, particularly in the face of urbanization challenges and the impact of an aging society. Mr. Kazuya advocated for the promotion of open, balanced, and people-centric smart cities, leveraging digital solutions for more sustainable and inclusive urban development without leaving anyone behind.

Expressing gratitude for the collaboration and support from domestic and international partners, especially the Department of Local Administration and depa, he thanked all speakers, panelists, moderators, and the secretariat team for their contributions to the workshop's success. He expressed anticipation for continued collaboration and thanked everyone for their participation.

Dr. Passakorn Prathombutr, depa

depa's closing remarks highlighted the key aspects and insights gained from the workshop on smart cities. It expressed gratitude to key figures and organizers while emphasizing important takeaways:

1. Customization: Smart city approaches need tailored solutions for each city's unique context and requirements.
2. Collaboration: Smart city initiatives require multidisciplinary collaboration across sectors and stakeholders.
3. Inclusivity: Ensuring that technological advancements benefit everyone and that no individuals are left behind in urban development.
4. Perpetual Evolution: Smart city projects are ongoing and dynamic, designed to adapt to changing city challenges and technological advancements.

Looking forward to 2024, the speaker expressed eagerness for the next phase of Thai smart cities, implying a continuation of the progress made in the workshop.

Mr. Siriphan Srikongphlee, DLA

Mr. Siriphan expressed delight in participating in the international practical conference on smart cities in Thailand, highlighting the gathering's significance in exchanging ideas and promoting local governance organizations' knowledge on developing smart and livable

cities. They emphasized the importance of current smart city developments in Thailand, aligning with the 20-Year National Strategy and the 13th National Economic and Social Development Plan (the 8th Milestone on livable smart cities). Mr. Siriphan anticipated that attendees would successfully apply the knowledge gained from the regional and global stages to further develop their respective areas, considering local contexts. They thanked the Digital Economy Promotion Agency (depa) and JICA for organizing the conference, acknowledging participants, speakers, facilitators, and organizers. The closing expressed gratitude and wished everyone a safe journey home.



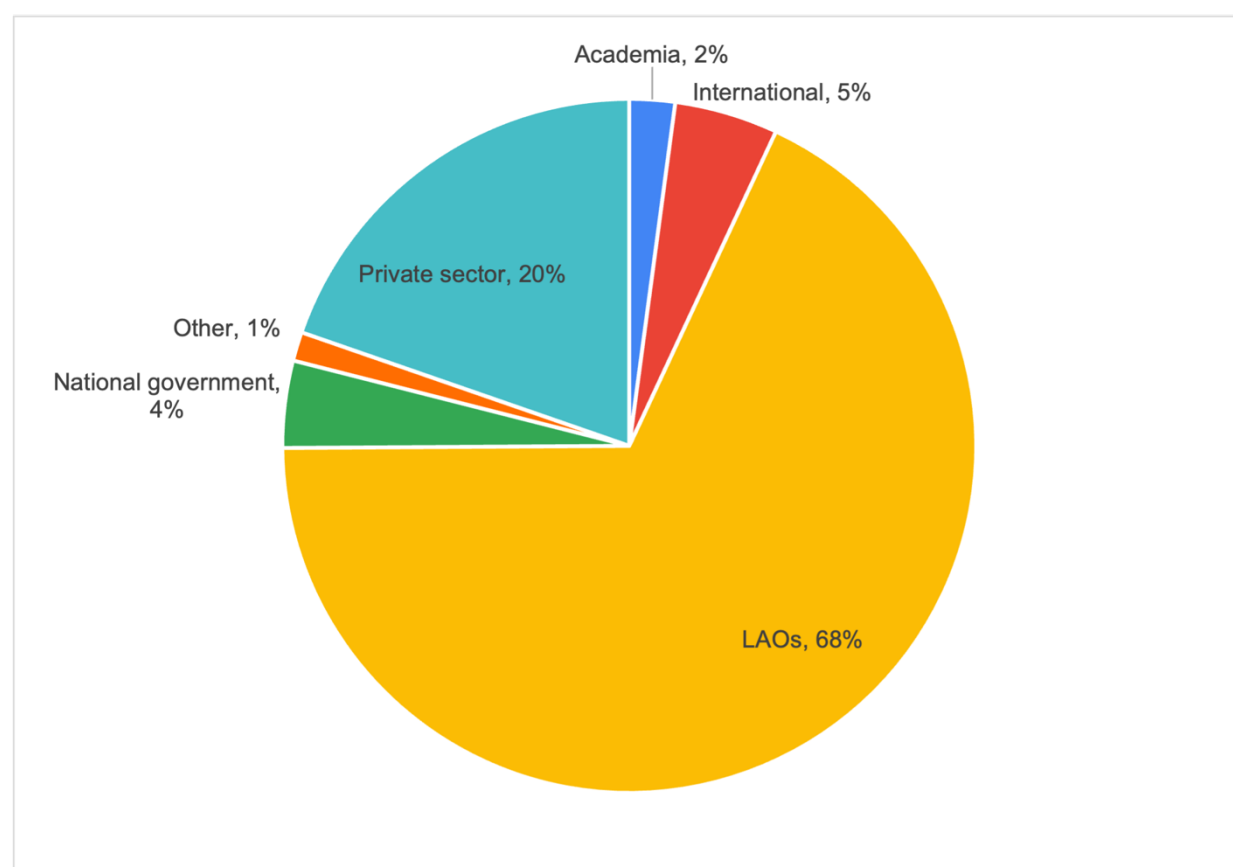
Registration and Attendance

Overview of Registration

Registration has been opened via QSNCC’s official website approximately 3 weeks before the Workshop. In total, there were 518 registered participants – 68% from LAOs, 20% from private sector, 4% from the national government, and 8% from other sectors. The registered participants were also asked about the session(s) they want to attend and the modality of attendance (online/onsite).

The table below is the summary of the total registration as of November 22, 2023, 8:40 AM.

Sessions	Total	Online	Onsite
(2) 14:00 – 15:15 Panel Discussion	393	174	204
(3) 15:30 – 16:45 Panel Discussion	384	179	193
(4) 10:00 – 10:50 Panel Discussion	361	156	192
(5) 11:00 – 12:30 Japanese cities	400	173	211
(6) 15:10 – 16:00 Thai Smart cities	418	190	213
(7) 16:10 – 17:45 Showcase	398	172	211



Overview of Attendance

On the first day of the Workshop (November 22), there were 173 participants onsite and 219 participants online, or 392 participants in total. On the second day (November 23), there were 148 and 40 participants onsite and online respectively. In total, there were 189 participants.

Country	Nov 22 Afternoon	Nov 23 Morning	23 Nov Afternoon
Onsite	173	149	148
Online	219	40	14
Total	392	189	162

Onsite Attendance

Majority of onsite participants were representatives from Local Administration Organizations and DLA staff. There were also participants from other countries such as India, Malaysia, Sri Lanka, Australia, and Germany.

Country of origin	Organization (if indicated)	Number of participants	Nov 22 Afternoon	Nov 23 Morning	Nov 23 Afternoon
Thailand	LAOs*	101	100	96	96
	DLA	14	14	14	14
	Other government agencies	4	3	3	2
	Private sector	27	25	6	3
	Academia	1	1	1	1
	NGOs	1	1	0	0
	Other	6	4	3	4
Japan	Government agencies	4	4	2	1
	Private sector	6	4	2	2
Other countries	India	1	1	0	0
	Malaysia	2		2	
	Sri Lanka	2	2	2	2
	Australia	1	1	1	1
	Germany	1	1	0	0
	International organizations	2	0	2	1
	Other	2	2	1	1
Speakers / panelists		25	10	14	20
Total		200	173	149	148

* Please see the full list of LAOs in the table next page.

Online Attendance

Online attendance is recorded by Zoom application as follows.

Session	Max concurrence views
November 22, 2023, Afternoon	219
November 23, 2023, Morning	40
November 23, 2023, Afternoon	14

Attendance of Local Administrative Organization

101 representatives from 57 LAOs in 31 provinces attended the Workshop onsite. Meanwhile, 28 municipalities in 20 provinces attended online.

Province	Local Administrative Organization	Number of participants	Nov 22 Afternoon	Nov 23 Morning	Nov 23 Afternoon
Kanchanaburi	Kanchanaburi Town Municipality	1	1	1	1
Kalasin	Tha Kanto Tambon Municipality	2	2	2	2
Khon Kaen	Baan Thum Town Municipality	online			
Chanthaburi	Chanthaburi Town Municipality	2	2	2	2
Chachoengsao	Chachoengsao Town Municipality	1	1	1	1
	Klong Takrao SAO	1	1	1	1
	Tha Kradan SAO	1	1	1	1
	Thepparat Tambon Municipality	1	1	1	1
	Hua Samrong Town Municipality	online			
Chonburi	Laem Chabang City Municipality	8	8	8	8
	Ban Kao SAO	2	2	2	2
	Bang Phra SAO	1	1	1	1
	Nong Irun SAO	1	1	1	1
	Panthong Nong Kakha SAO	2	2	2	2
	Bowin SAO	online			
Chumphon	Ban Na SAO	1	1	1	1
Chiang Mai	Nong Chom Tambon Municipality	1	1	1	1
	San Pakwan Tambon Municipality	1	1	1	1
	San Sai Luang Town Municipality	1	1	1	1
Chiang Rai	Pa Hoong TAO	1	1	1	1
Trang	Kantang Town Municipality	online			
Tak	Mae Pa SAO	14	14	14	14
	Maesot City Municipality	online			
Nakhon Nayok	Nakhon Nayok Town Municipality	1	1	1	1
Nakhon Pathom	Naphon Pathom Town Municipality	1	1	1	1
	Phra Pratone SAO	1	1	1	1
Nakhon Ratchasima	Nakhon Ratchasima City Municipality	2	2	2	2

Province	Local Administrative Organization	Number of participants	Nov 22 Afternoon	Nov 23 Morning	Nov 23 Afternoon
	Pak Town Municipality	2	2	2	2
Nakhon Si Thammarat	Phrom Khiri Tambon Municipality	4	4	4	4
Nakhon Sawan	Nongben Tambon Municipality	1	1	1	1
Nonthaburi	Bang Muang Tambon Municipality	online			
Narathiwat	Narathiwat Town Municipality	1	1	1	1
	Lamphu SAO	online			
Nan	Nan Town Municipality	2	2	2	2
Pathum Thani	Pathum Thani Town Municipality	2	2	2	2
	Lam Luk Ka Town Municipality	2	2	2	2
	Bang Koo Wat Town Municipality	2	2	2	2
	Sananrak Town Municipality	1	1	1	1
	Klong Phra Udom Tambon Municipality	online			
	Bang Kadee Town Municipality	online			
	Lad Sawai Town Municipality	online			
Prajuab Khiri Khan	Cha-am Town Municipality	online			
Pattani	Pattani Town Municipality	1	1	1	1
Phra Nakhon Si Ayuthaya	Phra Nakhon Si Ayuthaya City Municipality	online			
Phayao	Mae Ka Tambon Municipality	online			
Phitsanulok	Phitsanulok City Municipality	4	4	4	4
Phuket	Phuket City Municipalitt	1	1	1	1
Mae Hong Son	Mae Hong Son Town Municipality	online			
Ranong	Bangrin Town Municipality	online			
Rayong	Rayong City Municipality	2	2	2	2
Ratchaburi	Potharam Town Municipality	3	3	3	3
Lamphun	Lamphun Town Municipality	1	1	1	1
	Tha Chiang Thong Tambon Municipality	online			

Province	Local Administrative Organization	Number of participants	Nov 22 Afternoon	Nov 23 Morning	Nov 23 Afternoon
Si Sa Ket	Si Sa Ket Town Municipality	1	1	1	1
Songkhla	Songkhla City Municipality	1	-	1	1
	Sadao Town Municipality	2	2	2	2
	Prik Tambon Municipality	1 And online	1	1	1
	Khao Rup Chang Town Municipality	online			
Samut Prakan	Samut Prakan City Municipality	1	1	1	1
	Klong Dan Tambon Municipality	2	2	2	2
	Lad Luang Town Municipality	2	2	2	2
	Bang Pu Tambon Municipality	1	1	1	1
	Thep Ongyai SAO	1	1	1	1
Samut Sakhon	Ban Paew Tambon Municipality	1	1	1	1
	Krathum Baen Town Municipality	3	3		
	Kok Kham SAO	1	1	1	1
	Pan Thai Norasing SAO	1	1	1	1
Sara Buri	Ta Kud Tambon Municipality	online			
Sukhothai	Si Satchanalai Town Municipality	online			
Suphan Buri	Suphan Buri PAO	2	2	2	2
Surat Thani	Surat Thani City Municipality	1	1	1	1
	Koh Samui City Municipality	2	2	-	-
	Wat Pradu Tambon Municipality	online			
Nong Bua Lamphu	Nong Bua Lamphu Town Municipality	online			
Udon Thani	Udon Thani City Municipality	1	1	1	1
	Nong Samrong Town Municipality	online			
Ubon Ratchathani	Ubon Ratchathani City Municipality	1	1	1	1
Total 42 provinces (31 onsite, 20 online)	84 LAOs (77 onsite, 28 online)	101	100	96	96

Organizations of Participants

Sector	Organizations of participants
National and regional governments	depa National Telecom Public Company Limited
Academia	Chiang Mai University Thai MOOC
International organizations	Embassy of Japan JICA Polish Investment and Trade Agency UNIDO
Private sector	ARSWII AWC CPP CTAPPS CTIE FPIT Fraser Loxley Mercuria Millennium IT Sri Lanka Nippon Koei Renault Nissan Technology Business Center India SCIRA Siam Local Sri Lanka Telecom PLC TDEM TDET TL Victoria Holding
Others	SEMERNET Telecommunications Association of Thailand under the Royal Patronage

Post Workshop Survey

Post-workshop survey was distributed to hear feedback from participants. In total, there are 60 correspondents of the survey. Majority of the correspondents are LAOs (71.7% – 36.7% from Town Municipalities, 21.7% from Subdistrict Municipalities, 8.3% from City Municipalities, 5% SAOs), followed by 18.3% from DLA, and others. In terms of participation format, 60% joined onsite and 40% joined online.

Applications of knowledge from the Workshop to their smart city development (30 responses):

- Utilizing the insights gained to formulate future project plans for city development.
- Implementing the knowledge acquired for the smart city development of their local municipality.
- Using this newfound understanding as a foundation to evolve and improve their work and innovative ideas for future development.
- Enhancing their professional development and adapting their ideas to contribute to future advancements.
- Understanding the fundamentals of smart city creation before actual implementation.
- Continuously developing and adapting their ideas and thoughts towards future development.
- Recognizing the importance of personal development in effectively applying knowledge to benefit their respective areas.
- Acknowledging the importance of adapting the knowledge gained to fit the needs and suitability of their organizations or specific tasks.
- Emphasizing that while they can apply the knowledge gained for benefits, it may not cover all aspects comprehensively.

Current smart city initiatives in their LAOs (60 responses):

The responses indicate varying levels of smart city initiatives in LAOs.

- Absence of initiatives currently due to staff shortages.
- Implementation of CCTV systems for community safety and a Smart Help Call Center for emergency assistance.
- Ongoing digital plan enhancements and initiatives in the pipeline, such as underground power lines, livelihood support, and digital citizen cards.
- Utilization of apps for citizen services, with intentions to further improve and develop systems for better service in the future.
- Implementation of GPS tracking for organizational vehicles but facing limitations due to a lack of knowledgeable personnel.
- Aspirations for future projects in smart city development with current efforts focused on planning and learning to gather information for future development.
- Initiatives involving clean energy for environmental care, technological systems for healthcare management, and app development for future implementation.
- Limited current plans or initiatives due to a lack of clear strategies or belonging to specific organizations.
- Initiation of technological systems related to healthcare management and the ongoing development of applications, while lacking specific initiatives at present.

In summary, there are ongoing and planned initiatives concerning security, technology implementation, environmental care, citizen services, and healthcare, though they vary in stages of development, implementation, and clarity of planning.

support needed from national agencies to LAOs in smart city development (24 responses):

The support required from national agencies for smart city development in various Local Administrative Organizations (LAOs) includes:

- Guidance and assistance in establishing smart city projects, particularly in providing data, criteria, and guidelines for promoting smart city initiatives. (Khao Phra Ngam Sub-district Municipality, Lopburi Province)
- Financial support and consultation from the Department of Provincial Administration (depa) for advice on becoming a smart city. (Klong Teng Sub-district Municipality, Chiang Mai Province)
- Budgetary assistance from the central government to drive the actualization of smart city projects. (Chonburi Municipality)
- Access to relevant knowledge and information for decision-making and development purposes, especially in creating municipal data. (Various municipalities)
- Training programs aimed at enhancing understanding among officials and organizations, both public and private, within the region to collectively drive smart city initiatives. (Muak Lek Municipality, Saraburi Province)
- Provision of smart tools and technologies, alongside training initiatives due to budgetary constraints and a lack of specialized personnel. (Bang Kuru Rat Municipality)

Overall, the support sought includes financial aid, knowledge sharing, training programs, technological assistance, and guidance in data management, all aimed at fostering smart city development within the respective Local Administrative Organizations.

Additional Suggestions (11 responses):

- The conference room needs better soundproofing from outside noise to ensure clearer audio.
- There's a desire for training sessions on implementing smart city initiatives locally, specifically for officials to apply this knowledge within the community.
- Continuous promotion of projects is recommended.
- Creation of a public link for local residents to participate in events that would be beneficial for the community.
- Improvements in event preparedness are necessary, including managing excessively loud venues and shorter durations for each topic. Additionally, requesting that speeches given on stage be summarized on the website for better understanding.
- Suggestions to address the noise issue by arranging the conference room in a closed format and ensuring that sound systems don't disturb the surroundings. Also, a request for more Thai language translations or Thai-speaking presenters during presentations predominantly in English.

